Machinima
World-breaking and World-making in the Cinema of Videogames

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This article aims to investigate the peculiar role of machinima in the construction of new fictional universes out from simulated game worlds. In my vision, machinima represents a double act of world-breaking and world-making that operates starting from the simulated worlds of computer games making new narratives emerge from the deny of interactivity in the system.

Machinima represents a new technique of filmmaking and storytelling that uses the graphical environment of electronic games in order to produce audiovisual non-interactive animations. As correctly stated by Leo Berkeley, machinima is «where 3D computer animation gameplay is recorded in real time as video footage and then used to produce traditional video narratives».[1] Basically, machinima, a word that stands for "machine-animation" or "machine-cinema" means using the graphical engine of a videogame to produce a linear narrative content, making avatars and characters act, transforming the maps and locations of the game in a sort of stage. Berkeley's definition emphasize the role of 3D graphical engine, but three dimensionality is not necessarily a key component of machinima, since films could also be produced using 2D game worlds, as in the case of arcade classic games and retro-gaming demos or in game art experiments like Cory Archangel's modifications of Nintendo 8 bit cartridges.

The key concept of machinima is rather the real time recording of gameplay as video footage, that can subsequently be edited using traditional postproduction tools. Thus, machinima is every kind of gameplay that in some way becomes linear video, i.e. narrative short movies, music videoclips, avant-garde like experimental audiovisuals, and so on.

It is interesting to underline the parallel between machinima and early computer artworks of the Sixties and Seventies. The pioneers of computer art, in order to distribute their audiovisual experiments, were used to film them with traditional cameras, transforming the dynamic operations of an interactive system in a linear narrative sequence. What has changed in machinima is only the technique used to shoot what's on the screen of the computer: in both cases, the audiovisual result of a computation becomes a fixed and immutable trace of a past code performance.

Machinima artworks are usually distributed and exchanged by a growing community of producers on dedicated web sites: the most important one, "machinima.com", collects more than 3000 movies, realized and uploaded daily by fans from all over the world, divided in genres according to the

game used for the production, and represents the most important space for exchanging tutorials, guides and software tools among the community. But machinima is not only a sort of hobby for hardcore gamers: in a very short period this new filmmaking practice has attracted the attention of a growing up audience of film and game theorists, media experts and traditional film producers: in 2002 the Academy of Machinima Arts and Sciences was established in New York City. Exactly like the most famous Academy of Motion Picture Arts and Sciences, it represents a sort of international organization which mission is «to advocate, develop and advance the arts and sciences of Machinima»[2], promoting publications and meetings and, obviously, awards: the annual Machinima Festival constitutes the equivalent of traditional film Oscars, with nominations and categories like "best direction", "best virtual performance", "best cinematography", "best original music" and so on. And of course many other machinima events and awards are starting in other countries: for example, in October the first European Machinima Festival will be hosted by the De Montfort University of Leicester, testifying the mounting interest of academic institutions for the production and study of machinima even outside the U.S.

Besides what we could call the mainstream production of machinima, it is possible to identify other cases in which the boundaries between recognized contemporary arts and game manipulation is even more blurred. This is definitely the case of Eddo Stern, an Israeli new media artist whose first creative use of machinima dates back to 1999, with the work *Sheik Attack*. Stern is not interested in machinima in itself, but uses the medium, challenging and facing its limits, in order to build dramatic collages like *Vietnam Romance* (2003) or to model characters with a strong psychology, like in *Landlord Vigilante* (2006).

Let us now go back to better explain the typical production techniques of machinima. As I said before, machinima movies are made using computer games graphical engines. There are nevertheless many possible levels of user intervention on software behaviors:

On a basic level, machinima can be simply a recorded game session, eventually edited and integrated with postproduction tools. In this case the player uses the recording and capture utilities integrated in the game, or added by a third-part software tool, and makes his avatar perform as a Hollywood actor in the game space. Machinima can also be a collective perfomance, when a group of people acts using different characters in a multiplayer environment.

On a second level, the user can manipulate and customize the items used in the game or virtual world (avatars, environments, buildings, vehicles…), modifying the interface elements of software (what Espen Aarseth would call the "scriptons" of the game[3]).

On a higher level, machinima can be realized using script-driven tools that permit to control in depth everything what happens on the stage: camera movements, characters, effects and so on. In this declination, machinima producers hardly intervene in the software logic, manipulating the so-called "textons" of the game, modifying the basic behaviors of the system. A perfect example of this tendency is the open source software *MovieSandbox*[4], programmed by the machinima artist and theorist Friedrich Kirschner for the *Unreal* engine. In the words of the author, *MovieSandbox* «is a graphical scripting tool that enables users to script their own gameplay elements… *MSB* does not use a timeline, but allows you to link different elements together in a Hypergraph-like fashion».[5] In practice, the tool lets the user decide quite everything that must happen on the stage: every character step and move, every camera zoom and rotation, every single light effect.
In any case, whatever production form is used, machinima is a new media form that operates on an interactive simulated environment to produce a linear and traditional narration. To Berkeley, we can consider it «a strangely hybrid form, looking both forwards and backwards, cutting edge and conservative at the same time».[6] I will come back to this consideration later when I will analyze the relation between interactive games and linear narrative audiovisuals.

The aesthetics of machinima movies is naturally deeply linked to the game used for the production: third person shooters like *Quake*, *Unreal*, *Half Life*, *Halo* (definitely the most used environments), role-playing games like *World of Warcraft*, free-roaming games like the *Grand Theft Auto* series, simulations like *The Sims*, non-gaming virtual worlds like *Second Life*. The technology chosen influences not only the visual aspects of the word, but also the mechanic of filmmaking and audiovisual language solutions that can be adopted by the director. More and more titles are integrating tools for scenes recording and machinima production: the most peculiar case is definitely Peter Molyneux's *The Movies*, a real Hollywood-studios simulation game that permits the user to create easily his own machinima, and distribute them through the dedicated Internet portal "The Movies Online".
As correctly noticed by Henry Lowood in his important essay *High-Performance Play: The Making of Machinima*[7]: «when a computer game is released today, it is as much a set of design tools as a finished product. Game developers often provide software utilities for modifying their own games, sometimes including these tools in the packaged release of the game, or soon after the publication…». Lionhead's *The Movies* represents the quintessence of this attitude, that is strictly linked to the underground world of game modding, i.e. the "do it yourself" customization and programming of extra items and game levels for commercial titles.

The history of machinima is connected on one hand to the practice of developing and distributing new contents for games, and on the other hand to the evolution of in-game tools that permit the player to record and replay his session as a video. Lowood writes that «players soon took full advantage of the ability to record "demo movies" of gameplay. These demos were distributed as discreet files and replayed by other players with a copy of the game». The so called demos (and the extreme version given by the "speedruns", recordings of "perfect sessions" made by skilled gamers) were exchanged among the online community as showcases of the best *Doom* and *Quake* players' abilities, and clearly constitute an archetype of machinima.

Certainly, machinima has many relations with the tradition of game cinematics, openings and cut-scenes: non-interactive clips that quite every game uses as a bridge from a game sequence to another, or as an introduction to the interactive parts. What was commonly considered the peculiar difference between these cinematic aspects of games and machinima, i.e. the fact that the firsts are pre-rendered sequences while the seconds are graphically processed in real time, is no more a valid discrimimant: more and more games render their cut-scenes and non-interactive sequences using their graphic engine in real time, incorporating proper machinima in their tissue. *Grand Theft Auto San Andreas* well represents this new course.

It is not my intention today to trace back a full history of machinima as a new expressive medium, but it is surely remarkable to remember that more than ten years have passed since the release of what is largely considered the first narrative machinima to be produced (*Diary of a Camper*, 1996, realized within the *Quake* game): after a decade, machinima has become a flourishing terrain for independent storytelling, and the "shows" filmed in the virtual game worlds by this time recall the typical division in genres of traditional films and television series: the most typical and practiced format for machinima productions is given by short serial episodes. The most famous example of this trend is certainly the world known comedic series *Red vs. Blue: The Blood Gulch Chronicles*, realized within the *Halo* games.

Let us know question, what does machinima represent for game theory, especially for the age-old debate between narratologists and ludologists, and how does machinima relate to the issue of worldmaking raised by Nelson Goodman[8]?

The young history of game studies has been characterized by the continuous tension between researchers who underlined the narrative importance of videogames, considered essentially a storytelling medium, and theorists that underlined the contingency of narrative elements for the game experience (the previously cited Espen Aarseth, Gonzalo Frasca, Jesper Juul and so on). Games, according to the so-called ludologic perspective, are principally simulated worlds, complex

systems of rules, within which the player experiences the pleasure of understanding the working logic and the hidden structures of the world. If the keyword for narratologists is "story", the one for ludologists is "rule". A possible overcoming of this contraposition has been offered by Jesper Juul. Far from speaking about storytelling as the main characteristic of game design, the Danish game researcher, in his last work *Half Real*, traces a model of interaction between rules and fictional elements in games: according to Juul,

> Rules can cue the player into imagining a world
> Fiction can cue the player into understanding the rules
> The player's real-world actions have a metaphorical relation to the fictional in-game action […]
> The interplay between rules and fiction of video games is what makes them half-real: real rules and fictional worlds.[9]

From this viewpoint, machinima represents the extreme act of playing and cheating the rules of a game in order to create a believable fictional world and to tell a linear story. Juul distinguishes between games of emergence (that set up challenges indirectly because the rules of the game interact) and games of progression (that directly set up each consecutive challenge in a game). It is interesting to notice how machinima constitutes an example of emergent narrative that can be produced using both kinds of systems: movies are shot within the *Sims* series (a typical game of emergence) as well as in linear progressive games (3D first person shooters). Machinima makers use, manipulate, often subvert the rules of a game world to give birth to an independent and different object, that does not depend on the system of rules anymore. An object that denies the potential interactive intervention of other users, that configures itself as a traditional movie that can be watched and understood without knowing anything of the working logics of the original game. Even without owning the game. In other words, the storytelling stands outside the actual game and only implies its former presence as productive platform.

Speaking of "ways of worldmaking", finally, we could say that machinima can be considered the practice of creating new fictional worlds by breaking the basic working rules of another world, the game. To Juul, «a game cues a player into imagining a fictional world. Games can do this in a number of different ways: using graphics, sound, text, cut-scenes, the game title, box or manual, haptics and rules»[10]: to play a game means first of all to believe and accept the axiological universe proposed by the simulated world, in order to learn the best strategies to succeed. Machinima produced within the same game can reverse and subvert the basic rules of the game world; at a basic level, machinima production is an attempt to exploit the system of rules in a different way from the original intention of the designer. At a most complex level, when script-driven tools are

used to heavily intervene in the behavior of world elements (like in the *MovieSandbox* example previously analyzed), machinima becomes a sort of "active fight" against the original artificial intelligence of a system, a work of dismantlement of the basic interactive regime of a game, and of building of a new rules set. In other words, an activity of world-breaking and world-making at the same time. An interactive world made of potential choices and actualized moves leaves the place to a traditional audiovisual narration that relies completely on filmic language elements.

According to Lev Manovich, the characteristic paradigm of contemporary creativity and of its aesthetics is the database: new media are always complex collections of objects (data) on which actions are performed (algorithms). Computer games constitute a perfect example of the database logic of new media: interacting with a complex system of objects and rules, the player actualizes in real time some of the possibilities inscribed in the software, and experiences what we could call his own "version" of the world. Contrary to novels and films, games generate multiple versions of a world every time. To Manovich, database represents a working modality as well as a cognitive model through which we can interpret the complexity of the reality we are living in. In the era of database, the paradigmatic axis of possibilities (the base of data) is something that is *more real* than its potential syntagms, interfaces or significant surfaces (world versions).
Reasoning on machinima from this perspective, we can argue that we are facing a new medium that, working according to the database logic stated by Manovich, creates nevertheless objects that are most linked to the tradition of the so-called textual or narrative paradigm. Linear texts, rigidly organized, that remain fixed in their only possible sequence. Pre-ordered world versions. The revenge of narrative against database, of traditional passive entertainment against interactivity.
Actually, machinima cannot be reduced to a reactionary medium that aims to take us back to the textual paradigm: we should not mistake looking only at the films produced, but especially at the productive and distributive moment that constitute the peculiarity of machinima as a new medium.

In conclusion, I would like to stretch that the interesting side of machinima is its attitude to let the user actively intervene on software mechanics, to break rule-based worlds and make new worlds, to become author of his own stories, to freely distribute and exchange them among the users' community. Machinima, as every manipulation of software, in this declination means regaining awareness of what stands under the codified surface of software interfaces. The practice of virtual filmmaking represents a form of software democracy and openness, and activates new typologies of cultural and social networks.

[1] Leo Berkeley, *Situating Machinima in the New Mediascape*, "Australian Journal of Emergine Technologies and Society", vol. 4, no.2, 2006, pp:65-80.
[2] See www.machinima.org
[3] See E. Aarseth, *Cybertext. Perspectives on Ergodic Literature,* Baltimore and London*,* The Johns Hopkins University Press, 1997.
[4] See http://moviesandbox.com/
[5] See http://www.zeitbrand.net/mediawiki/index.php?title=What_Is
[6] L. Berkeley, *op.cit.*
[7] H. Lowood, *High-Performance Play: The Making of Machinima*, in A. Clarke and M. Grethe (editors) *Videogames and Art*, Chicago, The University of Chicago Press, 2007.
[8] N. Goodman, *Ways of Worldmaking,* Indianapolis IN, Hackett Publishing, 1978.
[9] J. Juul, *Half-Real,* p.196.
[10] *Ibid.*