

Some Aesthetical, Social and Political aspects of Interactive Media in
relation to *Counter-Strike* and *Block H*.

Table of Contents

P. 4 Counter-Strike as Game

P. 5 Aesthetics

P. 6 Social

P. 8 Political

P. 11 Background, Application and Conclusions

P. 12 Block-H

P. 14 Installation and Distribution

P. 14 Objects Included

P. 14 Future Elements

P. 16 Bibliography

P. 19 Journal List

P. 21 On-line Texts

P. 22 Image Resources

List of Images

1 LAN Parties

2 dead-in-iraq

3 Peaceline, Belfast

Counter-Strike as Game

Counter-Strike (CS) is the most widely played online multi-player, first person shooter (FPS) in the world. Currently over 1 million games per day are hosted per day on dedicated servers with a rough estimate of players online at any given moment ranging between 120,000 and 140,000¹. A modification (mod) of *Half-Life*, *Counter-Strike* spawned into existence in June 1999. Created by Minh Le (alias Gooseman) and Jess Cliffe it was initially released as free software. In 2000 a retail version was released by Sierra Studios and Valve Software.

CS is a semi-realistic game where opposing teams of terrorists and counter-terrorists play for victory by either eliminating the opposing force or completing the specific game objective. The three main goals are: bomb defusal, hostage rescue or VIP assassination. To succeed, players need to constantly vary tactics and strategies of cooperation and competition.

Players are able to buy various weapons recognisable as their real world counterparts. Points (as virtual money) are awarded by injuring or killing an enemy and successfully completing the game goal. It is possible to switch sides between games. Communication between players is usually through an in-game chat system or prescribed commands sent to other team members.

Players can generate their own logo to spray on walls within the map. The sprays are very diverse ranging from political slogans, through popular culture references to erotic pictures. They are often sprayed over a player who has been 'fragged' (killed) by their assassin.

There are a huge number of maps available to play, the majority of which are user generated. Game developers have observed that is important to engage the mod community to ensure the games continuation and popularity and Valve provide the Open Source Software *Hammer*. Heidegger suggests that,

'the ground is that which from beings as such what they are in their becoming, perishing, and persisting as something that can be known, handled and worked upon. As the ground, Being brings beings in each case to presencing. The ground shows itself as presence.'²

We can consider that generating a ground on which to play is the beginning of the creative interactive environment, engendering a free region where relationships are formed and destroyed and meaning generated

¹ http://en.wikipedia.org/wiki/Electronic_sports

² Heidegger, Martin. *Basic Writings*. David Farrell (ed). Routledge. London 2004

AESTHETICS

In *Hamlet on the Holodeck*, Murray offers three aesthetic categories for the analysis of interactive story experiences: immersion, agency and transformation. It is possible to transfer these onto online game aesthetics.

Immersion is related to Coleridge's poetic "willing suspension of disbelief for the moment."³ Though the games essentially occupy no real world space they generate real-time activity. The telepresence of a player is provided by an avatar which creates the experience of embodiment and allows the player to engage with a virtual environment where 'one being mirrors itself in another speculatively.'⁴ This mirroring in play is also seen in the real time chat between players in games such as CS is essential to creating a dynamically immersive experience.

Agency is specifically affiliated with the milieu of empowerment, where a deliberate action by the player results in a specific action in the game. But as Mateas notes it is beyond 'mere interface activity'⁵ (e.g. w = move forward or Ctrl = crouch). Agency is developed with repeated game-play. A 'Newbie' or first-timer is unlikely to know all the keyboard commands or understand particular messages but greater familiarity with a game tends to generate agency.

Transformation relates to several things.

- The ability of the player to take on a new identity within the game as a Terrorist or Counter Terrorist (each have five bots to choose from) and an online name.
- The variation of game experience. There are many different maps to play, thousands of different people to play, each generating a new experience with the possibility to develop new techniques.

These two aspects create personal transformation to a greater or lesser degree.

Rules are essential to gaming. Salen and Zimmerman's proposed three part system of operational, constitutive and implicit rules⁶ create the formal structure of CS.

Operational - complete the game objective.

Constitutive - e.g. if a player suffers an injury to significantly lower their health count then a further 'minor injury' will kill them or if a players team wins a round points get carried forward to the next.

Implicit - e.g. more effective team play to complete the game objective. Effective real-time communication between players creates a more interesting involving game.

³ Coleridge, Samuel Taylor *Biographia literaria* (1817)
<http://www.english.upenn.edu/~mgamer/Etexts/biographia.html>

⁴ Heidigger, Martin. *Basic Writings*. David Farrell (ed). Routledge. London 2004

⁵ Michael Mateas, *A Neo-Aristotelian Theory of Interactive Drama*
<http://www.qrg.northwestern.edu/aigames.org/2000/MMateas00.pdf>

⁶ Salen, Katie and Zimmerman, Eric. "Defining Rules", from, *Rules of Play, game design fundamentals*, The MIT Press, Cambridge, 2004

SOCIAL

A large online community has flourished around *Counter-Strike* with over 200 sites dedicated to user forums. Players share tips, techniques, cheats, rants and showcase new maps they have created. In the offline world LAN parties offer players a chance to step out of the virtual space they usually occupy, meet face to face and play each other. They can range in size from two people to thousands.



fig.1

As both a continuation of offline, real-world and an essentially virtual existence the game environment of FPS multiplayer games can contribute to replicating and contesting daily rules of social relations. Wright (et al)⁷ has studied patterns of behaviour, communication (both verbal, i.e. in-game chats, and non-verbal, i.e. spray design). They note that humour is a fundamental part of the gaming experience and the diversity of communication that exists within it. Players draw from popular cultural references such as the frequently killed *South Park* character 'Kenny' as a name for a player who has a high death to kill ratio, or topical news such as 'Osama bin laggin', a play on the hunt for Osama Bin Laden and a slow or lagging server connection. Names, it seems, serve as 'important symbolic markers, not just for what they communicate about a player's intent, but for what they also communicate about a player's perceived status, interests, age, gender or sexuality.'⁸

Meaning is generated through player communication. This can be understood further looking at one of the emergent properties of CS - clans. Clans provide us with an example of a virtual microcosm reflecting real world activities and interactions.

fig.1 from left <http://www.fragapalooza.com/photos/fp2001/setup/setup09.jpg>
<http://nwanparty.com/images/lanparty3/P1010026.JPG>

⁷ Wright Talmadge; Boria, Eric & Breidenbach Paul *Creative Player Actions in FPS Online Video Games Playing Counter-Strike* <http://www.gamestudies.org/0202/wright/>

⁸Wright Talmadge; Boria, Eric & Breidenbach Paul *Creative Player Actions in FPS Online Video Games Playing Counter-Strike* <http://www.gamestudies.org/0202/wright/>

“Since the beginning of online multiplayer capable games, groups of warriors on the Internet have banded together calling themselves clans. These clans take part in team play on the Internet against other clans.”⁹

Ranging in size from a handful of players to several thousand clans can be seen to define the boundaries between ‘us and them’ further. Hertz notes that

“It is this web of relationships between players that sustains the videogame industry ...These group dynamics are best represented by the vast network of self-organised combat clans that vie for dominance on the internet. No game company told players to form clans - they just emerged ... and have persisted for years.”¹⁰

Clans exhibit a high degree of organisation including arranging specific times to meet online for tactical discussion of play. They also maintain definite inclusion/exclusion-structures. Weak players are considered to be a hazard to the clan’s possible future victories and so potential members are often required to undertake a series of private games with clan members to determine their skill level. Systems of hierarchy exist within them that echo established real world communities and teams. Indeed many clans are highly competitive and play in pro-gaming tournaments. In 2003 the first, known, legally binding contracts in the FPS gaming community were signed between *SK gaming* and five of their clan.

In contrast to this games can offer us a sense of the ideology of fairness. Douglas notes that computer games share the similar characteristics to board games; where players begin in relative equality (albeit dependant on the chance elements of the game) unlike real life where many differentiating and determining aspects of one’s life are established before birth ‘including social and economic standing, political freedom, skin colour, gender, etc.’¹¹

⁹ <http://www.minitrue.nl/essays/nmnc-aa/ruud.html#1>

¹⁰ Herz, J.C., *Gaming the System: Multi-player Worlds Online*. Game On . London: Laurence King Publishing LTD, 2002

¹¹ Douglas, Christopher "You Have Unleashed a Horde of Barbarians!": *Fighting Indians, Playing Games*. *Forming Disciplines* Volume 13, Number 1, September 2002
http://muse.jhu.edu/journals/postmodern_culture/v013/13.1douglas.html

POLITICAL

FPS games have been adopted by the military as both recruitment and tactical training tools. Having created a mod for *Doom II (Marine Doom)* for training purposes the United States military released *Americas Army* in 2002. Financed through US taxes, the game is available for free download through the website <http://www.americasarmy.com/>. There are direct links from this page to the US army website as, in February 2000; The Army Subcommittee Testimony recognised that 'leads produced through website visits yield a higher percentage of recruits than any other method of contact.'¹² This combined with a low certification (13) ensures that the army has access to teenagers and young adults, and the games it produces manifest 'a bold and brutal reinforcement of current American society and its positive moral perspective on military intervention, be it the war on terrorism or "shock and awe" in Iraq'¹³

In the latest version of the game *America's Army: Special Forces (Overmatch)*, the military has added the experiences of nine soldiers who served in Afghanistan or Iraq.¹⁴ This attempt to bring a greater sense of the real into the virtual is quite opposite to the notable lack of blood and guts within the game.

While *Americas Army* and CS are purported to be 'realistic' games they are most certainly not realist, as Galloway notes, realism requires 'a more-or-less direct criticism of current society and morals'¹⁵ and if FPS games are played entirely within the rules there is little to challenge the ideologies they perpetuate.

Joseph DeLappe's, *dead-in-iraq*¹⁶ project attempts to address this imbalance within *America's Army* by typing the name, service branch, age and death date of US soldiers who have died Iraq, into the games instant messaging system for all players to see. Delappe does not actually participate in playing the game, instead he stands in one position until his avatar is killed and types through-out the round. This has generated mixed responses from the gaming and non-gaming military communities from general outrage to curiosity. While Delappes political protest can be construed as noble in its intention that real war isn't recreation and it adds memory and memorial to the otherwise escapist, state controlled experience; it is in essence rather limited to those that are playing in the game he is in (where servers are generally limited to twelve players at a time.)

¹² <http://www.thenation.com/doc/20020902/hodes20020823>

¹³ <http://www.gamestudies.org/0401/galloway/>

¹⁴ <http://news.bbc.co.uk/1/hi/technology/4991306.stm>

¹⁵ <http://www.gamestudies.org/0401/galloway/>

¹⁶ <http://www.unr.edu/art/DELAPPE/DeLappe%20Main%20Page/DeLappe%20Online%20MAIN.html>

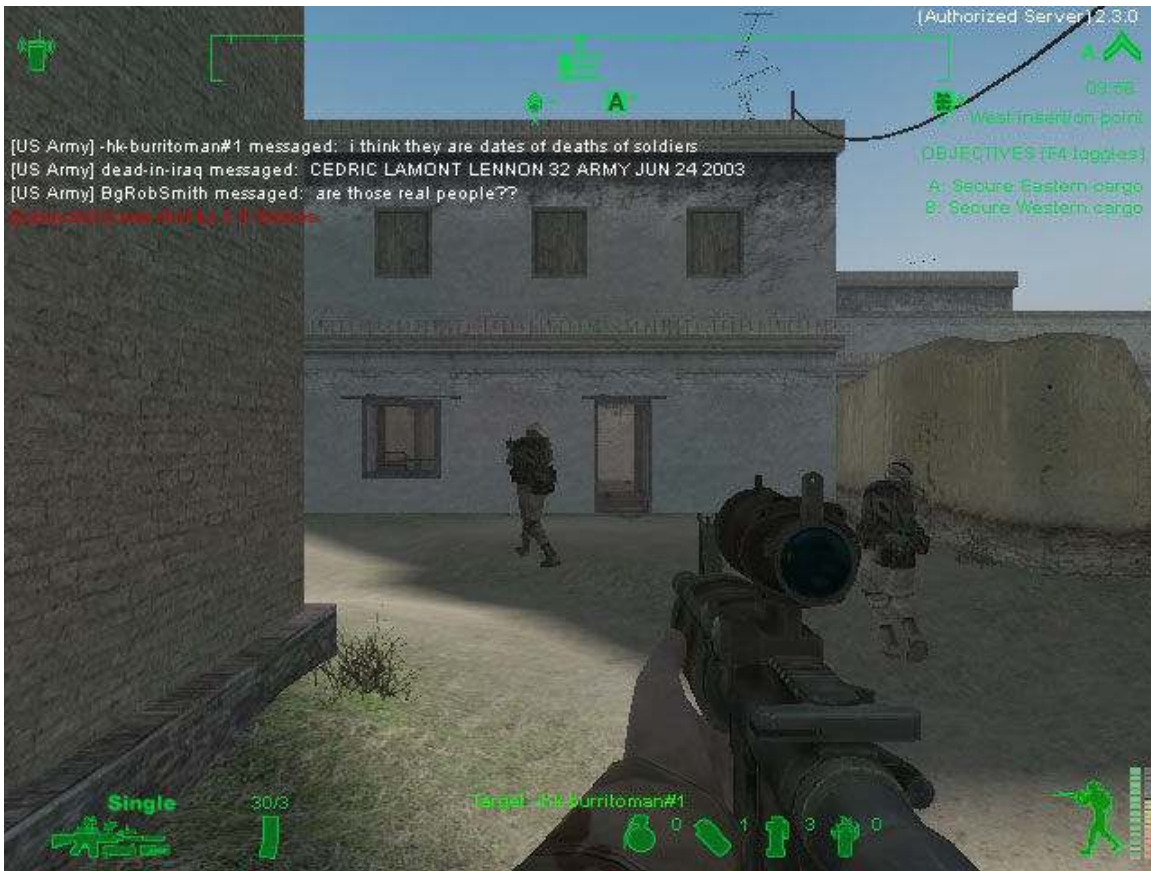


Fig. 2

*Velvet-strike*¹⁷ has generated a range of peaceful or anti-combat sprays and provides suggestions on how to interrupt standard game play, much to the dismay of some CS players. Subversive behaviour is predominantly frowned upon within the gaming community and can lead to a player getting banned (for either a fixed length of time or even infinitely) from servers. This can include, killing off your own team-mates, killing yourself, negotiating with the opposite side or using cheats.

These interruptions lead us to question who has the right to continually participate in a particular online spaces and who gets 'vote-kicked' off. Rules are essential to coherent game-play - the operational rules, constitutive rules and implicit rules - all affect the degree of immersion and interactivity that online games generate. It is the implicit rules that appear to be the most commonly challenged. A certain amount of deviation is allowed particularly if it is to humorous ends but continual upsetting of play is considered unacceptable. The 'public space' of the internet becomes closer to 'public use' where behaviours are more modified and controlled.

fig. 2 http://www.unr.edu/art/DELAPPE/Gaming/Dead_In_Iraq/dead_in_iraq%20JPEGS.html

¹⁷ Schleiner, Anne-Marie. *Velvet-Strike: War Times and Reality Games*
<http://www.Opensorcery.net/velvet-strike/about.html>

There are an increasing number of studies attempting to correlate the link between video games/FPS and violence. While it is still an emerging field with conflicting results, Freedman reviewed every English language media- violence study published by 2002, and concluded that 'the majority of studies produced evidence that is inconsistent or even contradicts the claim that exposure to media violence causes real violence.'¹⁸

It appears that one of the most limiting factors of the research to date stems from the attempts to decontextualise the violence, studied in isolation i.e. there no other sociological factors taken into account (including family and peer relationships, economic standing and mental illness).

While it is acknowledged that violent video games do indeed result in immediate increased levels of aggression there appears to be little evidence that is a permanent continuum or indeed that it leads to real world expressions of violence.¹⁹ Although some would believe otherwise, Jack Thompson vocally expresses his belief in the power of the 'hyper-reality' that many FPS games hold over susceptible teenagers turning them into killing machines. He has repeatedly linked the recent Virginia Tech massacre to Seung-Hui Cho's playing of *Counter-Strike*.

Another game to generate controversy has been Danny Ledonne's (alias Columbin) *Super Columbine Massacre RPG!* which was banned from the Slamdance festival earlier this year. Ledonne wanted too create a socially conscious game rather than providing the user with an escapist experience. Based on the Columbine shooting of 1999 and assembled from memories (diaries, video etc) that Eric Harris and Dylan Klebold left behind, *SCMRPG!* requires us to question the more immediate circumstances and the broader contexts of events in society beyond the current false dichotomies of good and evil and to enter a world filled with 'grey morality with nuanced perspectives of suffering, vengeance, horror, and reflection.'²⁰

¹⁸ Freedman Jonathan L. *Media Violence and Its Effect on Aggression: Assessing the Scientific Evidence* University of Toronto Press, 2002.

¹⁹ <http://gamepolitics.com/2007/02/19/researcher-finds-scant-evidence-linking-violent-games-with-aggressive-behavior/>

²⁰ <http://www.columbinegame.com/statement.htm>

Background, Application and Conclusions

It is necessary to explain very briefly outline some aspects of Northern Ireland before continuing.

Northern Ireland has had a turbulent past with many violent and bitter ethno-political conflicts 'predicated on religious affiliation, but centred on split issues of national determination.'²¹ Heavily planted with British and Scottish settlers in the 17 Century and partitioned from the rest of Ireland in 1921, it still remains under British rule with restoration of the devolved Northern Ireland Assembly due to take place on 8 May 2007.

During the span of 'The Troubles' (late 1960's to 1998) over 3,000 people were killed and many more seriously injured. In an attempt minimize inter-communal sectarian violence peace walls have been erected by the British Government, segregating parts of the population. 'Originally few in number, they have multiplied over the years, from 18 in the early 1990's to 40 today; in total they stretch over 13 miles.'²² While early walls consisted of wood, crates and wire they have become far more permanent structures often over 20 ft made of concrete and steel.



Fig 3

Both loyalist and republican paramilitaries were interred in Long Kesh (HM Prison Maze). It was the site of The Blanket Protest and The Dirty Blanket Protests where nationalistic prisoners refused to wear prison uniforms as they asserted their beliefs in being political rather than ordinary prisoners. Their protest escalated into a hunger strike and 10 men died. The most renowned of these was Bobby Sands who was elected to the British House of Commons three weeks before he died.

Although more civilians were killed by loyalist paramilitary groups, outside of Northern Ireland, the IRA are often perceived as being the predominant terrorist group. This is due in part to the more media savvy techniques used by republicans who created affiliations with world wide repressed peoples e.g. Palestine and Turkey. Some examples of this can be seen in their murals.

fig. 3 <http://www.flickr.com/photos/10278583@N00/379477714/>

²¹ <http://www.mspaceny.com/belfast.study.html>

²² http://en.wikipedia.org/wiki/Peace_lines

Troubled Art

The tradition of mural painting dates back to 1908. It was initially a loyalist activity, done in summer as part of the Battle of the Boyne²³ celebrations. The first nationalist murals began to appear in the early 1980 in support of the hunger strikers and the mural tradition has since developed into a defining part of the culture of Northern Ireland.

The murals create a division of opinion within both communities. They are seen both as an assertion of community and history or as a threat. Essentially territorial, murals strongly delineate between opposing beliefs serving as warning to those who enter their surrounds. Highly visible attempts to demonstrate control over space, memory and identity, murals determine perceptions of the area for both members and non-members of the local community and serve as a form of memory. Memory of achievements and memory of injustices, acting at to generate both emotions of terror and sympathy.

The content of murals varies significantly and their subject matter changes over time as they are replaced. There is still a tradition, although weakened, of touching up existing depictions of King Billy. In the 1990's Ulster unionism underwent a crisis of identity with the signing of the Good Friday agreement and many felt that they had (Unionist Party). This can be seen in how the content of the murals changed becoming far more paramilitary in nature. Representations of guns and munitions became common place and when human figures were represented they were almost always unidentifiable with faces covered by balaclavas. Symbols such as the red hand and the Ulster flag predominated, figures were often totally painted in black (almost as silhouettes) the lack of an appropriate human face to assign to the unionist cause. Alternatively humanoid, rather grotesque, figures were chosen. One of the more frequently imitated artworks is Derek Griggs Cover for the Iron Maiden single *The Trooper*. Variations of this have appeared in several locations across Belfast and Derry. As the loyalist muralists apparently felt threatened by the shape that the political landscape was taking they stepped up their representations of images of fear.

²³ The Battle Of The Boyne took place in 1690 between king William of Orange (a Protestant) and King James II (a catholic) and is a cornerstone of the loyalist tradition in Northern Ireland. While the original battle took place on 1st July, due to the changeover of the calendar, William's victory is now celebrated on the 12th.

Block-H Project

In order to further explore the concepts of art within media cultures and taking interactivity as a starting point, I decided to create a map (mod) emulating common Northern Irish housing estates and a peace line for *counter-strike*. I wanted to consider ways of embodying some of the religious, political, and social aspects of Northern Ireland and how they can be understood as a microcosm of larger, globally shared themes. By creating an environment that allows people to explore, play and talk among themselves is essentially related to my belief of communication being a central crux of interactive media.

I used *Hammer* an open source software provided by *Valve* to generate the map. This involved charting and constructing the map, determining appropriate dimensions, textures, decals and models for the environment.

Taking inspiration from labyrinths and the H-shape I designed a 'peace wall' to separate and encircle the two estates and placed a watch tower surmounted with a large cross in the very centre. Labyrinths are traditionally used as meditation tools where a set path is followed to reach a central point. All play is designed to happen within the central area of the labyrinth - it is an enclosed space without exit.

The H shape represents interconnected communities with opposing beliefs, the 'H-Blocks of Long Kesh (the Maze Prison) where paramilitaries (loyalist and nationalist) were interred. It is also evocative of the regular grid style plan that so many housing estates follow and it exists on its own as an entity as on posters, murals and memorials found in urban and suburban areas of Belfast and Derry.

The watchtower with its cross symbolises how religion is the dominating force for both sides of the cultural divide in Northern Ireland. It is the determining factor for both protestant and catholic communities, serving not to bring them together but rather to divide them straight down the middle. The church and by extension god, are the overseers of these societies watching over both sides. Considering this and believing a bomb defusal map to be the most appropriate echo of The Troubles I chose the bomb plant site to be at the foot of the cross.

Game-play is typically the dominant factor of deciding map structure. While the map I have produced is definitely designed with this in mind I was more interested in trying to create a closed, symbolic space which encapsulates many environments typical of Northern Ireland and also found through-out the world.

Designing a homogenous was essential to stress the similarities between opposing sides. All houses in the estates are deliberately the same, each with a satellite dish to recognise that there is some imprint of the outside world within the communities but outside the environs of home it is largely ignored and that opposing sides often have similar dreams, wishes and desires.

Highlighting the similarities and displaying the differences are the murals at the ends of each row of houses. The more murals with greater antagonistic content face in the direction of the opposing side and the murals with memorial content face out towards the boundaries of the labyrinth. Each player spawns facing a memorial mural.

Installation and Distribution

This project is designed to have several modes of installation and distribution to multiply and diversify its potential audiences.

It will be projected in both indoor and outdoor public space areas within Northern Ireland with the multi-player system set up to allow the public to play each other. I believe that it has a pedagogical aspect providing players with an introduction to the experience of existing in a turbulent environment where great divides exist. Also it has an online presence for on-line gamers to play.

As an open-ended project I will encourage other 'modders' to change or add elements to the map.

Elements and Objects Included

Loyalist murals

Nationalist murals

Peace wall

Watch tower

Houses

Bots/Player models- standard set of Terrorists and Counter-Terrorists

Weapons, low grade weapons such as knife and crowbar, pistols, shotguns, automatics and beyond, grenades and smoke bombs, flash bombs

Objects: burnt-out cars, CCTV cameras, satellite dishes, fencing, and ladders.

Environmental Sounds: on the loyalist side an audio clip of Ian Paisley and the nationalist side a Latin mass plays.

Future Elements

I will continue to work on the map adding more elements including:

Commercial signs and posters commonly found throughout Northern Ireland, focusing on those which display specific allegiances including Chinese take-away signs in Irish or 'Billy's Off-licence' I believe that further investigation into the displayed affiliations with other cultures and causes including: on the nationalist side - the Turkish hunger strikers, the Cuban Revolution, the Basque separatists and Palestine; and on the loyalist

England, Scotland, Canada and Australia; is warranted and I will place murals and posters of these within the map.

Objects to add are: bonfires, barrels, arches, bunting, painted kerbstones and army vehicles including a helicopter and armoured trucks.

Also I will create sprays generated from unsanctioned Northern Ireland street art and graffiti.

This project is an attempt to encourage interactivity between people and hopefully generate discussions about the societies in which we live.

Bibliography

Barclay, Harold. *People Without Government: An Anthropology of Anarchy*, Khan and Averill, 1990

Bateson, Gregory. "A Theory of Play and Fantasy", in, *Steps to an Ecology of Mind*, (1972), University of Chicago Press, Chicago, 2000

Cage, John. "Art and Technology", *John Cage: Writer - Selected Texts*, Cooper Square Press, 2000

Cox, Geoff and Krysa, Joasia *Engineering Culture, on the author as (digital) producer*, Autonomedia (DATA browser 02), New York, 2005

Cramer, Florian. *Words Made Flesh, code, culture, imagination*, Piet Zwart Institute, Rotterdam, 2005, <http://pzwart.wdka.hro.nl/mdr/research/fcramer/wordsmadeflesh/>

Dicks, Bella. *Culture on Display. The Production of Contemporary Visibility*. Open University Press. 2003

Druckrey, Timothy. *Ars Electronica. Facing the Future: a Survey of two decades*, MIT Press, 1999

Eco, Umberto. *The Open Work*, trans. Anna Cancogni, Harvard University Press, Cambridge, 1989

Fuller, Matthew. *Media Ecologies, Materialist Energies in Art and Technoculture*, MIT Press, 2005

Fuller, Matthew. *Behind the Blip, essays on the culture of software*, Autonomedia, New York, 2003

Fuller, Matthew ed. *Software Studies, a lexicon*, The MIT Press, Cambridge 2007, (in press)

Gurionova, Olga and Shulgin, Alexei. *READ_ME: Software Art and Cultures*, Aarhus University Press, 2004

Guattari, Félix. "Machinic Heterogeneities", in *Reading Digital Culture*, David Trend (ed.), Massachussets and Oxford:Blackwell, 2001

Harwood/Mongrel, "Free Media From the Mouth of the Thames", in, Marina Vishmidt et al, eds., *Media Mutandis, a node_London Reader*, London 2006

Heidigger, Martin. *Basic Writings*. David Farrell (ed). Routledge. London 2004

- Hui Kyong Chun, Wendy. 'Refusing Markets', from, *Control and Freedom (power and paranoia in the age of fiber optics)*, The MIT Press, Cambridge, 2006
- Kuzmanovic, Maja, et al. *X-Med-A, experimental media arts*, FoAM / Nadine / okno / iMAL, Brussels, 2006
- Latour, Bruno. *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford University Press. 2005
- Luhmann, N. *Art as a Social System*, trans. Eva M. Knodt, Stanford University Press. 2000
- Manovich, Lev. *The Language of New Media*. MIT Press, 2001.
- Morrison Andrew, Liestøl Gunnar & Rasmussen Terje (eds) *Digital Media Revisited* Cambridge: MIT Press, 2003,
- Norman Donald A. *The Design of Everyday Things* MIT Press 1998
- Packer, Randall and Ken Jordan, ed. *Multimedia: From Wagner to Virtual Reality*. New York: W.W. Norton and Company, 2002.
- Paul, Christina: *Digital Art*. Thames and Hudson. London 2003
- Popper, Frank. *Art of the Electronic Age*. London: Thames and Hudson, 1993.
- Rieser, Martin and Zapp Andrea (eds). *New Screen Media. Cinema/Art/Narrative*. BFI 2004
- Salen, Katie and Zimmerman, Eric. "Defining Rules", from, *Rules of Play, game design fundamentals*, The MIT Press, Cambridge, 2004
- Scholder, Amy, et al *Interaction. Artistic Practice in The Network*, Distributed Art Publishers, New York, 2001
- Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon & Schuster, 1995),
- Shaw, J & Weibel. *Future Cinema. The cinematic Imaginary after Film*. MIT Press, 2006
- Stengers, Isabelle. *The Invention of Modern Science, Theory Out of Bounds*, University of Minnesota Press, 2000
- Sack, Warren & Dumit Joseph, "Artificial Participation: An Interview with Warren Sack, *Zeroing in on the Year 2000: The Final Edition (Late Editions, 8)* George E. Marcus, Editor, University of Chicago Press, 2000
- Terranova, Tiziana. *Network Culture*, Pluto Press, London, 2004

Wardriipp-Fruin, Noah and Montfort, Nick eds., *The New Media Reader*, MIT Press 2003

Weibel Peter, Latour Bruno, eds., *Making Things Public*, MIT Press, 2006

Whitelaw, Mitchel. *Metacreation, art and artificial life*, MIT Press, Cambridge, 2004

Wilson, Stephen. *Information Arts: Intersections of Art, Science and Technology*, Cambridge: MIT Press. 2001

Simon Yuill, "Programming as practice: a comparison of old and new media" in, *Hothaus Papers: perspectives and paradigms in media arts*, Vivid in association with Article Press, Birmingham, 2006

JOURNALS

Bolter, J. David & Grusin, Richard A. *Remediation, configurations*, Volume 4, Number 3, Fall 1996

<http://muse.jhu.edu/journals/configurations/v004/4.3bolter.html>

Douglas, Christopher *"You Have Unleashed a Horde of Barbarians!": Fighting Indians, Playing Games*. *Forming Disciplines* Volume 13, Number 1, September 2002

http://muse.jhu.edu/journals/postmodern_culture/v013/13.1douglas.html

Fishwick, Paul; Diehl, Stephan A.; Prophet, Jane & Lowgren, Jonas *Perspectives on Aesthetic Computing: Leonardo* Volume 38, Number 2, April 2005

<http://muse.jhu.edu/journals/leonardo/v038/38.2fishwick.pdf>

Flanagan, Mary. *Mobile Identities, Digital Stars, and Post-Cinematic Selves* *Wide Angle* Volume 21, Number 1, January 1999

http://muse.jhu.edu/journals/wide_angle/v021/21.1flanagan.html

Haskins, Casey *The Disunity of Aesthetics: A Response to J. G. A. Pocock* *Common Knowledge* Volume 11, Issue 2, Spring 2005

http://muse.jhu.edu/journals/common_knowledge/v011/11.2haskins.html

Hayot, Eric Wesp, Edward. *Style: Strategy and Mimesis in Ergodic Literature* *Comparative Literature Studies* Volume 41, Number 3, 2004

http://muse.jhu.edu/journals/comparative_literature_studies/v041/41.3hayot.html

Legrady, George *Intersecting the Virtual and the Real: Space in Interactive Media Installations*. *Wide Angle* Volume 21, Number 1, January 1999

http://muse.jhu.edu/journals/wide_angle/v021/21.1legrady.html

Lenoir, Timothy *All But War Is Simulation: The Military-Entertainment Complex* *Configurations* Volume 8, Number 3, Fall 2000

<http://muse.jhu.edu/journals/configurations/v008/8.3lenoir.html>

Nechvatal, Joseph *Towards an Immersive Intelligence*. *leonardo* Volume 34, Number 5, October 2001

<http://muse.jhu.edu/journals/leonardo/v034/34.5nechvatal.pdf>

Oenen, Gijs van: *A Machine That Would Go of Itself: Interpassivity and Its Impact on Political Life* *Theory & Event* Volume 9, Issue 2, 2006

http://muse.jhu.edu/journals/theory_and_event/v009/9.2vanoenen.html

Pold, Soren *Interface Realisms: The Interface as Aesthetic Form*. *Postmodern Culture* Volume 15, Number 2, January 2005

http://muse.jhu.edu/journals/postmodern_culture/v015/15.2pold.html

Punday, Daniel: *Involvement, Interruption, and Inevitability: Melancholy as an Aesthetic Principle in Game Narratives* SubStance Issue 105 (Volume 33, Number 3), 2004
<http://muse.jhu.edu/journals/substance/v033/33.3punday.html>

Rossiter, Ned *Processual Media Theory*. sympleke Volume 11, Number 1-2, 2003
<http://muse.jhu.edu/journals/symploke/v011/11.1rossiter.html>

Ryan, Marie-Laure *Beyond Myth and Metaphor: Narrative in Digital Media* Poetics Today Volume 23, Number 4, Winter 2002
http://muse.jhu.edu/journals/poetics_today/v023/23.4ryan.html

Ryan, Marie-Laure *Immersion vs. Interactivity: Virtual Reality and Literary Theory*. Postmodern Culture. Volume 5, Number 1, September 1994
http://muse.jhu.edu/journals/postmodern_culture/v005/5.1ryan.html

Shain, Yossi. *The Role of Diasporas in Conflict Perpetuation or Resolution* SAIS Review Volume 22, Number 2, Summer-Fall 2002
http://muse.jhu.edu/journals/sais_review/v022/22.2shain.html

Strauss, Wolfgang & Fleischmann, Monika *Artistic Practice as Construction and Cultivation of Knowledge Space* Leonardo: Volume 37, Number 2, April 2004
<http://muse.jhu.edu/journals/leonardo/v037/37.2strauss.pdf>

Taylor, Diana *Virtual Disturbance* The Drama Review Volume 47, Number 2 (T 178), Summer 2003
http://muse.jhu.edu/journals/the_drama_review/v047/47.2taylor.pdf

Tierney, Therese.. *Formulating Abstraction: Conceptual Art and the Architectural Object* Leonardo Volume 40, Number 1, February 2007
<http://muse.jhu.edu/journals/leonardo/v040/40.1tierney.pdf>

Online Texts

Brett Schultz *Pissing on Duchamp: Interactivity Gets the Firehose*
http://lucazoid.com/documents/shultz_pissing_on_duchamp.pdf

Duchamp Marcel *The Creative Act*
<http://iaaaa.nl/cursusAA&AI/duchamp.html>

Galloway, Alexander R., *Social Realism in Gaming*
<http://www.gamestudies.org/0401/galloway/>

Huhtamo Erkki. *Seven Ways Of Misunderstanding Interactive Art.*
<http://www.artcenter.edu/exhibit/digital/essay.html>

Jenkins, Henry. *Game Design As Narrative Architecture*
<http://web.mit.edu/cms/People/henry3/games&narrative.html>

Luis O, Arata. *Reflections about Interactivity*
http://web.mit.edu/m-i-t/articles/index_arata.html

Michael Mateas *A Neo-Aristotelian Theory of Interactive Drama*
<http://www.qrg.northwestern.edu/aigames.org/2000/MMateas00.pdf>

Söke Dinkla. *The History of the Interface in Interactive Art*
http://www.kenfeingold.com/dinkla_history.html

Wright Talmadge; Boria, Eric & Breidenbach Paul *Creative Player Actions in FPS Online Video Games Playing Counter-Strike*
<http://www.gamestudies.org/0202/wright/>

Riddell, Rob *Doom Goes To War*
http://www.wired.com/wired/archive/5.04/ff_doom.html

Images

<http://www.fragapalooza.com/photos/fp2001/setup/setup09.jpg>

<http://nwalanparty.com/images/lanparty3/P1010026.JPG>

http://www.unr.edu/art/DELAPPE/Gaming/Dead_In_Iraq/dead_in_iraq%20JPEGS.html

<http://www.flickr.com/photos/10278583@N00/379477714/>

<http://maps.google.co.uk/>