

The Prosthetic Imagination: Meditations on Virtual Space and
Experience in Single Player Computer Role Playing Games
by

Michael David Brian Taylor

A thesis
presented to the University of Waterloo
in fulfilment of the
thesis requirement for the degree of
Master of Architecture

Waterloo, Ontario, Canada, 2011

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

ABSTRACT

Today's video game players sit in front of their screens immersing themselves within the fictional environment of the video game. They connect their physical self to the game-controller and their cerebral self to the game-world. The video game medium becomes a cybernetic and psychological appendage, a prosthesis that allows game players to share their consciousness across actual and virtual realities. Such an appendage has the ability to expand the personal spatial environment of the game players as they navigate the spaces of an increasingly complex, digitally constructed extension of the imagination.

The thesis begins with an autobiographical summary of personal experiences in the suburbs and the resultant escape from suburbia that video games provide. The thesis then presents a series of experiential diaries generated from gameplay. This is followed by a conceptual analysis that uses six meditations to discuss the spaces and experiences presented in the diaries. The purpose of the conceptual analysis is to investigate how the narrative and spatial experiences of single player role playing video games expand our perceptions of architecture and space beyond the real-world. The spaces of these games represent a new way of thinking about, experiencing and creating architecture.

ACKNOWLEDGEMENTS

To the committee I would like to extend my sincerest gratitude for their support, interest and criticism. Val Rynnimeri, for providing the intellectual insight and tangential thinking necessary in order to build this thesis. Andrew Levitt, for his constant positive reinforcement throughout this academic adventure and the courage to make this thesis possible. Dr. Tracey Eve Winton, for her ability to guide the thesis through labyrinthine thoughts like my own personal Ariadne.

I would like to acknowledge my parents who have been patient and supportive throughout this process.

Many productive conversations took place during the completion of this thesis. For those conversations I would like to thank in alphabetical order: Adam Brady, Emily Cheng, Shane Czypha, Mariana Decola, Caroline Disler, Eric Gertzbein, Kevin Harding, James Harrison, Claudia Hernandez, Mark Hollett, Ian Huff, Ksenia Kagner, Kimberly Kyle, John Lee, Reggie Macintosh, Judith Martin, Sean Martin, Raja Moussaoui, Uros Novakovic, Michael Panacci, Duncan Patterson, Yvonne Popovska, Lisa Rendely, Terry Sin, Christopher Taylor, Brian Torrens and Tyler Walker and Tyler Walker Sr.

Brian Hunt has a special place in this thesis. He was one of the first to ask our undergraduate class the infamous question, “is this architecture?” and providing him with this thesis, I would like to think I can ask him the same question.

I would also like to give thanks for the Internet. Without the collaborative efforts of millions if not billions of people, billions of dollars in information infrastructure and hundreds if not thousands of online articles, videos, podcasts, and other media, this thesis would not have come to fruition.

DEDICATION

For Ray Bradbury who said, “video games are a waste of time for men with nothing else to do.”

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*Will Wright + Brian
Eno Play with Time
2006, bit.ly/14t41s*

PREFACE: A POSSIBLE OPTION

This thesis is interactive. If the readers would like to participate they will need a smart phone, a QR code reader, and access to the Internet. Using the QR reader on their phone, readers can scan the QR code (an example of the code can be found to the left on page xx) and they will be sent to a reference, no typing required. This media may come in the form of TED talks, youTube videos, sequences of gameplay, or other media. These offer the reader some of the thoughts, ideas and inspirations that have fed into the thesis narrative. If the reader does not have access to the required devices, all reference information is accessible from the links located in the captions or in the bibliography. These links can be copied into any web-browser, or if the reader is online already, he or she can click on the hyper link to access the reference. This interaction will help the reader understand some of the reference material more thoroughly while he or she is perusing the written work.



Fig.1

Screenshot from *Fallout 3* (2008).
*The screenshot: a way to view the interactive
world through the lens of the player.*

INTRODUCTION

The video game is not like the typical subject matter of traditional academic studies. It is not a book to be read nor a film to be watched. It is not a tactile sculptural object nor is it a slice of time in the form of a Polaroid. It is an interactive, introspective and individual experience of an interactive world where the actions of the player directly influence the generation of the medium.

In the space of the real-world, the game player sits on a couch or sofa, a lounge or office chair, or even on the floor a few feet away from the screen. From here, they stare into the screen; perceiving, decoding, understanding and experiencing the virtual architecture and space of the game-world. They connect their physical self to the game-controller and their cerebral self to the game-world. In this way, the video game medium becomes a cybernetic and psychological appendage, it is a prosthesis that allows the game player to share their consciousness across actual and virtual realities. When collectively assembled, the spaces of the game-world provide what can be considered a personal, and individualized expanded space for inhabitation by the game player, granting access to the extended realm of the virtual through the apparatus of the prosthetic imagination.

The Electronic Software Association determined that sixty-seven percent of American households play computer or video games in the United States.¹ This shows that these games have become prevalent, important and some would say pervasive, cultural artifacts for the new generation. As the video game medium reaches a state of ubiquity and becomes a new social norm, these games will inevitably transform the way we think about, experience and create architecture. This thesis investigates how the narrative and spatial experiences of the single player role playing computer game open our perceptions of architecture and space beyond the real-world.

The motivation for doing this thesis comes primarily from personal experiences growing up in the suburbs of Toronto. The suburbs provided safety and comfort for the nuclear family. Far away from the dirt and grit of the city, the suburbs represented the ideal place to raise children. Here, parks dot the landscape at municipally-planned intervals, schools are situated to fit the density, everything is planned according to the modern convenience of the automobile. Developers promise everything to the potential buyer: Your own house, your own backyard, your own driveway, your own mortgage. This is the American dream, or in the case of this thesis, the Canadian dream. Unfortunately, the suburbs have become imbued with an inherent lack of freedom, an absence that persists within their planned environments. Here in suburbia, there are brick houses, fenced in backyards, strip malls, big box department stores and incredible amounts of black asphalt paving. The natural environment has been neutralized through the implementation of suburban housing construction and the graded soils and landscapes that are part and parcel. Video games are not like the suburbs. The medium is a space that exists outside of suburbia, it provides what can be considered a personal expanded space for the inhabitation of the individual, granting access to the extended realm of the virtual through the apparatus of the prosthetic imagination.

The title of the thesis is taken from a recent blog by British computer

1 <http://www.theesa.com/facts/index.asp>

games journalist and critic Jim Rossignol dated September 23rd, 2010. “the prosthetic imagination”² was precisely what was missing in my ability to describe the condition of the video game medium in my early investigation of my thesis topic. Rossignol describes his experience of interacting with the video game as that of a cyborg, or cybernetic organism. In order to discuss the technological nature of the cybernetic organism Rossignol uses communications philosopher Marshall McLuhan and the “extension of self” that has to take place in order for the player to push their mind into the virtual space of the game-world. This extension of self into a virtual realm is aptly named by Rossignol as “the prosthetic imagination.” This prosthesis is a cerebral appendage that extends the self from actual real-world reality, into the reality of the virtual game-world. Rossignol’s inventive terminology has been appropriated and fully incorporated into the overall thesis body with each chapter tying back to the notion of the game medium as an apparatus for extension of the imagination. It would be best if readers of this thesis took into account McLuhan’s notion that for the player the video game medium exists as an “extension of self.” This concept enables the thesis to discuss the spatial experiences of the game player in a more fluid way and one that connects the ongoing simultaneous creation of both self-identity and gamespace during the act of gameplay.

Game-world architecture still lacks its Vitruvius, a first theorist of its art. Addressing this absence as a start, this work seeks to create a richer conceptual framework to allow game designers and architects to create gamespace as an extension of a prosthetic imagination that allows the game player to coexist in the spaces of the actual and virtual realities. This thesis also gives an analogical approach that describes and interprets gamespace in a way that allows architects to understand the space of games through more easily accessible material to architects and the academic discourse.

Due to the immersive nature of the video game medium, in many

2 Rossignol, “The Prosthetic Imagination,” on www.rossignol.cream.org, September 23, 2010.

ways it will be difficult for someone who has never played a video game to understand this thesis. To address this, and in an attempt to interpret, describe and analyze the video game medium, a variety of writings and sources from more familiar media have been reviewed in the thesis analysis. There are direct reviews of fictional and non-fictional material, analogies that aim to give the reader a relativistic and comparative viewpoint, game review journals that discuss and interpret the role of architecture in game design, as well as narrative samples of my personal experiences playing the selected game. This thesis also draws on numerous iconographic illustrations, paintings, etchings, images and films that provide analogy or comparative analysis for the content presented in the body of this thesis. In some instances screenshots of spaces within the game-world are presented to give specific examples of architectural conditions as snapshots of in-game experience. The breadth of the material presented in this work is meant to give the reader a glimpse of the experience of playing a game while simultaneously parsing out the vital aspects of the video game medium in terms of its experience as play, ritual and space.

In the manner described by anthropologist and ethnologist Claude Lévi-Strauss in his *The Savage Mind*, this thesis takes on the role of the *bricoleur*, the one who creates the *bricolage*. The *bricolage* is described by British visual semiotician Daniel Chandler as, “the process of creating something [that] is not a matter of the calculated choice and use of whatever materials are technically best-adapted to a clearly predetermined purpose,”¹ but rather as Levi-Strausse describes as a, “dialogue with the materials and means of execution.”² This thesis not only builds an argument using what is available in order to do so, but creates a dialogue between the video game medium and alternative but parallel avenues of exploration. In doing so, the thesis uses multiple frames of reference, each consequent chapter providing a sort of conceptual “reboot” for the thesis.

1 Chandler, “Semiotics for Beginners,” 1995.

2 Lévi-Strauss, *The Savage Mind*, 29.

Video games use designed and constructed virtual spaces, finite boundaries, narratives and other similar architectural phenomena to create over arching gamespaces. Everything in the game is “architectural” because it all must be imagined, designed, sculpted, built, textured, created, implemented and given responsive, interactive, and even emergent characteristics within a spatial and temporal system. Every game consists entirely of designed architectural space; this space just happens to lie within a virtual realm, one situated on the surface of a computer or game console screen and resting on the threshold between the actual and the virtual. The last but most necessary part of the game is the game player. Without the game player, the game could not exist. The player shapes the world around him through the experiences that take place within the space of the game-world.

There are many types of video game that have emerged and evolved during the last three decades. These include but are not limited to: adventure games, first person shooters, role playing games, puzzle games and hybrid combinations of the preceding categories. Most, if not all role playing games have evolved from the game mechanics of a pen and paper based system known as “Dungeons and Dragons” (DnD). This system of game instructions was created by Gary Gygax and Dave Arneson in 1974 under their company Tactical Studies Rules (TSR). Their game structure had been developed from earlier iterations of war games developed by 19th century European militaries where a commander could take control of individual officers in an army brigade.³ What is important to note in this thesis is the experience of playing the role playing game has moved from constructed physical objects in the real-world as in the case of “Dungeons and Dragons,” into the digitally created virtual environment. Physical objects used in earlier games became virtual graphical representations of themselves through a process of software and coding transcription. These graphical representations paired with the game rules of DnD formed some of the

³ This game is known as *Kriegsspiel*.

first computer “role-playing-games” or RPGs of the 1980s. From there video games have come a long way graphically and have paralleled computer evolution as defined by Moore’s law. The narrative complexity and the spatial conventions that govern the game environments, however, have stayed relatively the same as in the early games, and have only evolved to a more sophisticated digital visualization and representation of the game-worlds.

Of all the game type choices available, this thesis focuses on the single player role playing game. This type of game maintains the strongest and most original link between the individual game player experience and the respective game-world. The single player role playing game genre allows the individual to exist outside of a normative reality, ensuring that there is no connection between the player-character of the game-world and existence within her actual world. There, in the space of the game-world, the moral obligations of the player are solely under the scrutiny of the world created by the game mechanics.

The main game precedent used in the thesis is *Fallout 3*. The following is a summary of the setting of *Fallout 3* taken from the website of Bethesda Game Studios, the game developer:

“Vault 101 – Jewel of the Wastes. For 200 years, Vault 101 has faithfully served the surviving residents of Washington DC and its environs, now known as the Capital Wasteland. Though the global atomic war of 2077 left the US all but destroyed, the residents of Vault 101 enjoy a life free from the constant stress of the outside world. Giant Insects, Raiders, Slavers, and yes, even Super Mutants are all no match for superior Vault-Tec engineering. Yet one fateful morning, you awake to find that your father has defied the Overseer and left the comfort and security afforded by Vault 101 for reasons unknown. Leaving the only home you’ve ever known, you emerge from the Vault into the harsh Wasteland sun to search for your father, and the truth.”

THESIS STRUCTURE

This thesis consists of three parts.

Part one is an autobiographical analysis of my experiences growing up in suburbia. The section provides the motivation for the thesis and focuses on the escape from suburbia that the video game provides. The section culminates with how the video game provides an externalized secondary reality and the basis for the prosthetic imagination, outside of the space of suburban life. The video game medium is a self-contained virtual expansion of space-time for the suburban inhabitant.

Part two is a documentation of the experiences intrinsic to playing *Fallout 3*, the precedent video game. In the same manner as Italo Calvino's *Invisible Cities*, this documentation takes the form of experiential diaries that relate my personal experiences to the reader as I progress through the architectural spaces of the narrative construct that I am building through my game experience. These diaries are real accounts of real situations taking place within the fictional environment of the video game that portray the life of Walter the character and myself the game player who play the

game as one entity, immersed within the fictional space of the single player role playing video game.

Part three moves into critical discourse, through a series of essays or meditations that each gives a specific critical vantage of the single player role playing video game. These meditations are interwoven with one another in order to build an analytical framework that is then used to discuss the narrative texts themselves. This is intended to create a higher discourse, a layered palimpsest of game narrative, space, experience and analysis that will give a truer picture of the interactive, immersive complexity of video gamespace and its architecture. In effect, this thesis presents a first attempt at a theory of the virtual architectural space of the game-world within the academic architectural discourse. The list of meditations and a brief description follows:

Meditation One is the prosthetic imagination itself. This essay gives an overview of the video game medium using communications philosopher and guru Marshall McLuhan's notion of *hot and cold media*, the *extension of self* as well as McLuhan's *tetrad of media effects*.

Meditation Two is an examination of the video game medium using the five characteristics of play as they are established by Dutch cultural historian Johan Huizinga in *Homo Ludens*. Huizinga's characteristics form the framework to analyze the psychological connection established among player, avatar and the game environment.

Meditation Three is an evaluation of the traditional mythic rite of passage as it applies to the narrative experiences within the single player role playing game. The essay outlines how single player role playing games utilize concepts established by comparative mythology expert Joseph Campbell to form the model of mythological transformation that characterizes a process of individuation.

Meditation Four examines the game through the lens of semiotician and logician Charles Peirce using his second trichotomy of the icon, the index and the symbol. This level of semiotic application further explores the

notion of “play creates order” as explained by Huizinga in meditation two.

Meditation Five establishes a series of spatial archetypes is breaks down game architecture in a manner similar to architect and urban theorist Christopher Alexander’s *A Pattern Language*. Alexander’s study of architectural patterns serves as the basis for the institution and taxonomy of spatial conditions within the space of the game-world. Spatial archetypes included in this essay are: within, between and within-between. The architectural types included in this essay are: the boundary, the threshold and the bridge.

Meditation Six uses the seminal work of urban theory, *The Architecture of the City*, by architectural urban theorist Aldo Rossi to examine how permanences and persistences exist in the space of the video game world. The notion of the *genius loci* and architectural typology is applied to architecture in the virtual space of the game-world.

The Conclusion and Afterword outlines how the spatial constructs and narrative structure of the video game open perceptions of architecture beyond the space of the real-world. The second part of the Afterword speculates on the nature of mechanically induced altered states of perception and their role in creative thinking. Lastly, the Conclusion and Afterword deals with the idea of the “player-architect.” This is the idea that the architect should in fact be playing and interacting with the notion of the model, engaging in experimentation in continual immersive and interactive spatial iterations.



Fig.2

Eisen, *Frontispiece*, 1755.
The house allows one to dream in peace.

PART ONE: HOME

“I should say: the house shelters day-dreaming, the house protects the dreamer, the house allows one to dream in peace.”¹

Gaston Bachelard

1 Bachelard, *The Poetics of Space*, 6.



Google
Streetview of the
Neighbourhood
bit.ly/fjLRdu

Fig.3

My home in the suburbs, October, 4 p.m. 2010

GARDENS AND STORM SEWERS

Suburbia, the place where millions of kids grow up, where I grew up, outside of the city and outside of reality. Here, nestled within fields of perfect green lawns and two car garages is the house of my childhood. There are many like it but this one is mine.

A garden lines the edge of the sidewalk. It contains a variety of plants and flowers purchased from local garden centres. There are hyacinths, poppies, bleeding hearts, roses, forget-me-nots, chrysanthemums, a blue spruce, some cedars, some tulips, some daisies, a few daffodils and two cedar trees. They are organized with no particular order or structure, but these plants and trees create a small yet definitive barrier between the house and the street. People will walk on grass, they will not walk on a garden. When this garden blooms in spring, the plants bring forth a plethora of colours and life that is invisible and often forgotten during the Canadian winter months. These plots of land are rediscovered at the start of every spring when the snow melts.

This garden provides an identity, a locus for the home that distinguishes it from the other houses in the neighbourhood. In the summertime, a

lush, freshly trimmed mixture of grass, weeds and thistles extend across the front of the property in the spaces that are not occupied by the garden or the walking path, itself composed of a series of concrete patio stones. These concrete stones form an orthogonal route from the driveway to the front of the house. Small bits of greenery can be seen penetrating the crevice-like spaces that exist between them. At the front of the house, there is a porch. This porch is made of concrete; it is of the same concrete that was used to pour the foundations when this house was originally built. The porch is raised and bare with the exception of an object near the door; the welcome mat. The mat is a rectangle of bound straw about two by three feet in size. It is worn down from many wipes from many shoes but still serves its purpose in welcoming visitors to a set of double doors that guard the entrance threshold. The doors are made of steel and painted white.

There is nothing extraordinary about this house. My childhood home performs its functions the same as any other good house built in the past. It shelters its inhabitants throughout the year, keeping the heat in and cold out. The rain is shed from the roof and the lawn is sloped to quickly shed rain water that is then washed into efficient storm drains and sent onwards down the urban watersheds. Wind doesn't penetrate the walls because the bricks, sheathing, framing and windows prevent it from doing so. The house might be the same as all the other houses in the overall city, but what makes this house different is its location, the suburbs.

My neighbourhood is situated on the brink of the city periphery. The built and natural environment here is sparse and bare, each house an island within an infinite sea of finely trimmed grasses. The original rolling landscape of farmers fields and wood lots has been flattened and graded to suit the requirements of the suburban developer and builder of the homes. Asphalt streets bounded by strips of concrete sidewalks wash over the old forests and farms that were here before.

I would like to think that I know this neighbourhood pretty well; the ins and outs, the places to play and places to hide, and I can remember having boundaries here. Boundaries were definitely a big part of growing up in

the suburbs. With every year that I increased in age, the greater the world became as my boundaries were extended from the edge of the driveway to the edge of the neighbourhood. The neighbourhood boundary is the one I remember most vividly. For a long time I was not permitted to cross the major roads in the area. These were Mayfield Road to the north-west and Kennedy Road to the south-west. One was a two lane industrial road and the other a busy four-lane commuter road.

There were some places for adventure for a child in the suburbs: the playrooms, bedrooms, basements and family rooms. These were part of rich, personal histories of the home, but there were other places too. The ravine had bulrushes and geese, great spruce trees that towered over the residents' houses; there was even a pond where neighbourhood kids played hockey in the winter. I found out later that the ravine was owned by the city and managed by the Municipal Conservation Authority. I can remember sitting on the back porch and watching the city workers come to cut the grass beyond the black chain-link fence in my backyard, their tractors tracing the edge of the bulrushes and storing any trimmings within a canvas bag attached to the vehicle. Any space of adventure, however, was not at all created in the original design of the suburb, it was that space that remained after the land had been neutralized, sold, and occupied.

Hacienda Park, also part of the municipal park system, consisted of an area of sand or gravel contained by a six inch wood retaining wall. Within this boundary there was a jungle gym. It was made from old wood and connected by large steel rivets. We could always pretend that the gravel below the jungle gym was lava, or we could play freeze tag; in general we could use the equipment of our imaginations to facilitate fictional environments in our minds.

Spaces like the ravine or park were great for children, but once adolescence came about, the spatial needs of the suburban adolescent changed. Such limited places of play could no longer contain our ambitions within a wood-framed sandlot. We looked for other ways to experience adventure.

Now, as an adult, I walk around the neighbourhood at night, I find my-



Google
map of the
neighbourhood,
bit.ly/fKDQ4v

Fig.4

*The neighbourhood at the corner of Mayfield
and Kennedy Road in Brampton, Ontario.*

self in the same state of mind as Borges when he writes, “the night pleases us because it suppresses idle details.” I try very hard to remember the places of experience in the suburbs and I am confronted with some imagery. An asphalt street that is usually barren, separated by a six-inch elevated concrete sidewalk curb becomes the meandering path of the sidewalk that seemed so great in planning theory, even as an architect describes the process and potential “organic” experiences that a twisting path could bring about as it weaves through a series of houses. Such weaving pathways of childhood “adventure” give way however, to the banal and mundane as I am left with the sad realization that my family had given up the experiences of the city for us before they were even discussed by us as an option. This absence does come with the full knowledge that growing up in suburbia certainly did have some positive influences: the quiet nature of night time in suburbia let me sleep until whatever time I wished on Sunday morning without interruption. I now find myself challenged to fall asleep with the everyday noises of the trains and cars that pass by in the city, and returning home certainly brings back notions of the original purpose of living in the solitude of suburbia.

Still, here in the suburbs, there are no museums or cultural centers, large scale sports facilities or restaurants, art exhibitions, or concert halls; *it's just houses.*

We did have one space for adventures though. This was inside the fictional environment of our video games.

That was our escape from suburbia.



Fig.5

*My brother and me playing a game on the Super
Nintendo Entertainment System, 1991.*

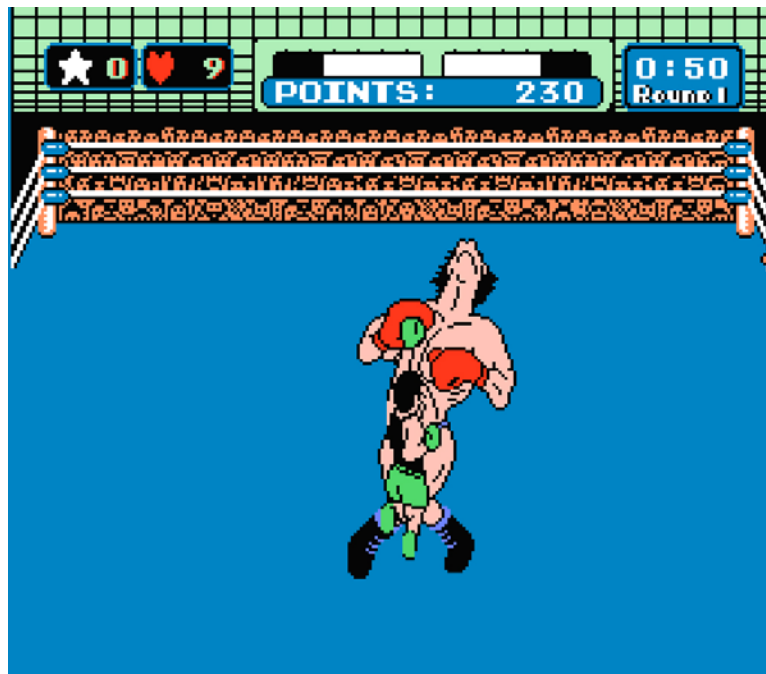
THE ESCAPE FROM SUBURBIA

“The virtual dimension has triggered a decisive cognitive rupture with the very notion and relevance of the Newtonian conception of space. It is a profoundly radicalized break. A break that in many respects is analogous to the space Brunelleschi and others of the Quattrocento opened up in the 15th century by developing the language of linear perspective.”¹

John Beckman

The picture to the left is an indication of the sense of escape felt during gameplay. It seems so obvious now, to look back at a picture such as this and notice the faces of amazement. Eyes fully open, mouths fully dropped and eyebrows fully raised as my brother and me immerse ourselves within the game-world presented to us on the surface of a screen. The world seems to disappear as we blur our existence into the space of the game and become the player, surviving and succeeding, interacting and experiencing.

1 Beckmann, “Merge Invisible Layers,” on Ctheory.net, March 22nd, 1999.



Gameplay
sequence from
"Super Punch-
Out" (1987)
bit.ly/123gcf

Fig.6

Screenshot from *Punch-Out!!* 1987.
The first game I ever played in the suburbs. This is
a fight between Little Mac and Super Macho Man.

My first encounter with video games was in 1990 when my cousin came to stay with the family. The personal computer was still years away from ubiquity and Nintendo Entertainment was at the dawn of its existence. *Mike Tyson's Punch-out!!* (see Fig.6) was the first game I played. You are put in the boxing ring, face-to-face with competitors where a blue surface represents the floor of the ring, skewed to produce a sort of pseudo-perspective. Ropes surround this blue surface on three sides with the understanding that the fourth side is behind you. The ropes establish the boundaries of the game-world.

I found it curious that while holding the controller and moving to the left, I would simultaneously tilt my head, or even my whole body; the same thing occurred for anyone watching the game. The game didn't seem like a game; it seemed real and I feared for the safety of the player on the screen. I didn't want to lose.

Why?

I had become the boxer. I was in the boxing ring and this meant that no matter how many times I lost, my opponent would always exist, waiting for me to return and try again. Some months passed and my cousin moved out. My parents were left with their only option, buy our first game console, the Nintendo Entertainment System.

Over the formative years of my adolescence, the lifelessness of suburban living would incite a hunger for stimulation and interaction. The suburbs lacked any sense of adventure and challenges were needed, the kinds of challenges that were not available in the physical reality of my suburban neighbourhood. Friends began to echo this call, and their parents all did the same thing. They purchased gaming consoles and computer systems. The computers were ostensibly "for school" but the games enabled us to explore simulations of challenge and experience that were no longer physically attainable in any challenging way within the limited environment of suburbia. Instead of venturing past the forbidden boundaries of the highways and farm fields, we entered into the world of the fantastic. We played imaginative, amazing, sometimes violent, sometimes sexual, adven-

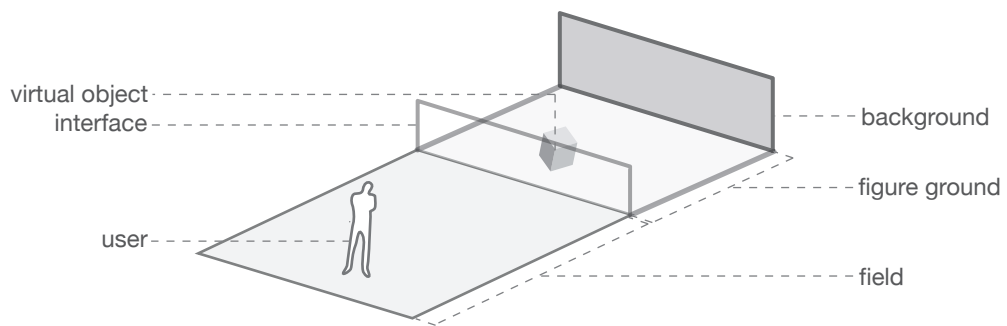


Fig.7

Expansion of space-time for the player via virtual space, accessed through the interface.

ture games, first person shooters, real-time strategy and role-playing video games. All of these games granted us stimulating experiences in an externalized secondary reality of the virtual. An extra bedroom of blank walls in our house was filled by the experiences taking place inside a box, transmitted to our minds through the surface of the screen (see Fig.7).

Here we can take a first step in conceptualizing the architectural spaces of this thesis and it is evident that the architecture of game-world begins in the simple home spaces of the suburbs. Three places are important as the ludic or play spaces of gameplay in the suburban home: the basement, the family room and the computer room.

The first place that my brother and I appropriated for the purposes of video gaming was the basement where my brother and I could avoid our parents. The basement in our suburban home was sparsely decorated. The only room finished at this point was the space of the “play room.” It had a single utility window at the top of the wall of the north side, letting in a trickle of light at certain times of the day. Other than this, lighting in the play room was facilitated by a few fluorescent bulbs overhead set within a dropped acoustic ceiling. A linoleum floor had been laid down. It was beige like most other things in the house. Here in the basement there was a small, old television that no one was using. My brother and I took the effort to hook up the radio frequency adapter to the Nintendo Entertainment System and play on this black and white television: an early computer console system used for 8-bit gaming on a 13-inch black and white television display.

After some time in the basement, we convinced my parents that the family room was an appropriate venue to play video games, so that larger room was taken over for certain times of the day so that my brother and I could play together. As the picture of us in the family room shows (see Fig.5), that room became a place for excitement and adventure while the video game console was fired up. Our faces of childhood amazement in the image are a testament to the ability of a device to take hold of its participants with the full force of play immersion.



Part 1 of "The King of Kong: A Fistful of Quarters" (2007)
bit.ly/coLtys

Fig.8

Still from "The King of Kong: A Fistful of Quarters," (2007).
The escape from suburbia through the arcade interface, taking place in the suburban garage.

The family room itself had a sliding patio door at the back that let out onto the veranda overlooking the ravine. No one really used this porch. Instead, a large upholstered solid-oak chair pressed up against the panes of glass, adjacent to the chair, a long chesterfield upholstered to match. This chesterfield was long and comfy, the perfect space to sit and play video games. This comfort was a bit problematic, however, as most people who play video games will testify, the games are so much better when you are closer to the screen. The proximity of the individual to the interface somehow makes the experience of playing the game better and this leads to the relegation of relaxed comfort to an option only.

The last place of play that became common to my brother and me in the space of our suburban home was that of the family home office. A room meant for speedily completing school work and competently researching information on the Internet via the family computer was transformed into a space of play. Once our homework was done and even when it was not, the home office meant that my brother or I could go into the room and explore virtual environments that were phenomenally more interesting than anything we had experienced outdoors in the space of the suburbs. At about eight feet by ten feet, the room was large enough to house a variety of books, an armoire along with the computer desk and chair, no more comfortable couch. What is curious about this room is that the space didn't seem to matter as much as the interface. Through the frame of the computer screen, we gained the ability to see and experience all kinds of different spaces. This screen combined with the prosthetic imagination led to the escape from suburbia into a self-contained individual space of expanded personal environment known as the game-world.



Fig.9

Screenshot from *Fallout 3* (2008).
The escape and the invisible city.

PART TWO: ESCAPE

“Arriving at each new city, the traveler finds again a past of his that he did not know he had: the foreignness of what you no longer are or no longer possess lies in wait for you in foreign, unpossessed places.”¹

Italo Calvino

The video game medium is a complex system of narratives, algorithms, digital inputs, architecture and an interface that act collectively to allow the game player to immerse himself within the game-world. The medium provides a way to experience, extending the self into the space of virtual gamespace: the game-world.

Invisible Cities, the episodic novel by Italo Calvino presents a fragmented and diverse set of fifty-five narratives taken from the perspective of the traveller Marco Polo. Collectively, these stories are meant to form a collective narrative collage of the city of Venice. Using the same method as Italo Calvino, the experiential diaries tell the story of the spaces within

1 Calvino, *Invisible Cities*, 28.

the game *Fallout 3*. The experiences within the diaries are those of the author and it is a non-fictional diary of gameplay experiences taking place in the fictional and digitally constructed space of the game-world. The diaries bring a palimpsest of layered game player experiences and show them in narrative form through the lens of the game player. This series of narratives from the *Fallout 3* game-world are shown as snapshots of those in-game experiences. As philosopher Gaston Bachelard writes, “real images are engravings, for it is the imagination that engraves them on our memories. They deepen the recollections we have experienced, which they replace, thus becoming imagined recollections.”² The places that the following thesis section discusses are real, I have experienced their spaces; they just happen to exist in the virtual dimension. In this way, these experiences move from being subjective experiences into objective realities, that is that they begin to exist in the memory of the player and it can be argued that they shape the identity and character of the player like any real-world experiences. This is just one iteration of the narrative experiences of a typical game player. The reader must remember that these narratives are part of a larger interactive model-based system and serve to relate and retell my personal experiences taking place within the expanded spatial temporal reality of the game-world, a world that also remains my personal version of that game space.

2 Bachelard, *The Poetics of Space*, 32.



Fig. 10

Screenshot from *Fallout 3* (2008).
A series of blood soaked screen splatterings.

A DIRTY VEIL ON A DEAD WORLD

I turn the system on. I wait for the blue light. I change the input on the television. I pick up the controller. I sit down in the chair. I wait. The game loads. I press start. The game begins. White light.

SUBTERRANEAN CITY

I can see light. It is white and dominates my vision. Next, a series of blood soaked screen splatterings. I can't see anything. This light obscures my vision and I am left helpless unable to move. I have no control, I am paralyzed. All I can do is wait. An object eclipses the light source and a shadow reveals itself. I begin to make out the shape of a face. It belongs to a man. This man is wearing a mask. It is a surgeon's mask that covers most of his face. I can see nothing but his eyes. Beyond the shadow of this man I can see more of those same bright lights, blinding and brilliant. They appear to be connected to some sort of armature above me. The armature is constructed of cold steel trusses and connected to the concrete ceiling above. I can make out thick sheets of aged steel in the distance. These sheets of steel cover the walls that surround me. It is not that these walls appear dirty, but rather old, as if they have existed for centuries. This place is sterile; I think that this must be some sort of operating room. The man is excited. He is praising my arrival. **I realize that this place is not an operating room, but a maternity ward of some sort. I am being born. I am a boy. I am Walter.** My existence is reliant on the birth from this virtual mother, a miraculous feat of immediate self-awareness. **Like Craig Schwartz in *Being***

John Malkovich I have become another.

I begin to hear cries, but even more than cries, they are whimpers. They are coming from my mother. I hear the concerned voice of my father grow ever more unstable as the heart monitor begins to emit a single flat ominous tone. Her heart has stopped beating. The simulated pulsations of reality resonate with my knowledge of the vascular system and I know this tone has become death. My mother has died and with her death I have become real. Life has begun.

Months pass, I have grown into an infant. I quickly learn how to navigate this world. First I learn how to look around, and then how to move. Forward, backward, pitch and yaw, each movement and rotation provides a different vantage from within the space. I have a play pen now. The space of the play pen is dank and cold. It is a boundary made of a series of lattice-like steel structures each set within its own frame. These frames are then connected together at two points to form a barrier that surrounds me. The fences themselves stand about thirty six inches high. This set of fences represents the extent of my potential exploration in its totality. It is safe. Here, within the playpen, there is a big red ball. The ball is large and reflective; perhaps it is made from some sort of bouncy rubber. The floor beneath my feet is shiny as well, luminescent even, having the appearance of thoroughly polished concrete. I can see the reflection of the light above me in the floor below me. The light source emanates outward from its origin bouncing off the walls and floor, through the screen and onto my retinas. The reinforced steel and concrete construction of the room tell me that this must be some sort of bunker. Fluorescent lamps cover the concrete ceiling and I can see no exterior natural light infiltrating the space through cracks, windows or doors so I assume we must be underground. My father enters the room through a steel door opening in the wall and tells me to come out of the play pen and follow him. I see a latch at the intersection of two of the frames in the play pen and I release it. When I leave, I walk to meet him and he tells me that my mother died but that he is happy to take care of

me. On the desk next to the door he points to her favourite bible passage, Revelations 21:6.

“He said to me: “It is done. I am the Alpha and the Omega, the Beginning and the End. To him who is thirsty I will give to drink without cost from the spring of the water of life.”

We are the vault dwellers, the remnants of humanity.

Today it is my tenth birthday. I am greeted by my dad and the rest of the Vault inhabitants in the cafeteria. As a present for my birthday I am given a Vault-tec Pip-Boy 3000 which is basically a small wrist-mounted computer that monitors everything about my person. Things like inventory, status, map information and quest information are all stored within this computer.

The cafeteria is the second place I am free to explore. The room has been fully decorated with a large banner hanging from the ceiling that reads “Happy Birthday.” The construction of this room appears to be similar to my bedroom. The walls and ceiling are constructed of old steel and concrete, with the doorways occupying deep steel cutouts of the wall but the floor takes on a different appearance. It is not of concrete, but of vinyl or linoleum, square pieces fit together on the floor in a checkerboard pattern. There are scattered scratches on the surface from years of use and thousands of dreary footsteps. They represent an index of time and history within a fictional space absent of either. **This place kind of looks like an underground fifties diner.** There are benches, tables, a jukebox and a bar. The benches are constructed of steel frames with red vinyl inserts. They look as though they have been fashioned from cars of the same era. Attached at their backs are a set of colour balloons. These float freely in the air anchored only by their tether. Against the wall I see a jukebox, it looks as though it is still in working order as music pours from the machine. It glows with light coming from the front face with a grill and console to be

viewed in elevation. There is a kitchen and bar in the back that I can see from where I stand. I go over to take a closer look. The bartender is not human, it is a robot. His body is that of a sphere and he has three robotic arms that appear to be making some sort of drink. My father is here sitting at the bar with a coffee. I talk with him. He tells me that I must go to the reactor room to find Jonas because he has a present for me. I leave the cafeteria.

As I pass through the hallways of the vault, everything looks so similar. Steel walls and acrylic windows. Concrete abutments and structural columns. They repeat in the same rhythm and cadence throughout the space of the residential units in the vault. Above me there are signs that denote locations where I must head. A map can be opened using the Pip-Boy 3000 in case I get lost while an indicator on the bottom left of the screen ensures my correct path. I head down a set of stairs and into the reactor room. With every step, the sounds of my feet echo off of the steel framework of the stairway. Pound, pound, pound. At the bottom of the stairs, I enter a room. I am met by my father and Jonas. Jonas gives me a BB gun. He is going to show me how to shoot. I take aim and quickly learn how to use the weapon by firing at a few cans. **Right mouse button zoom, left mouse button shoot.** A radroach shows up. **This is basically just a larger version of a cockroach.** Dad tells me to kill it. I shoot and miss the first time, but I re-steady my aim and shoot again. Dead. Experience points are gained and I go about my way.

On my 19th birthday I am awakened by Amata. She has shaken me into consciousness. Something is wrong. My dad has left and Jonas is dead. I am confused and disoriented. Amata hands me a ten millimeter pistol and a set of bobby pins. She tells me I have to run. The Overseer is blaming me for my father's departure. Security is after me. I quickly move around my room and collect all of my personal belongings. Only the most important items are picked up. I grab my baseball bat and a few other things. I realize that I have no other choice, I have to find my father and escape the vault. I

run.

I realize that I need to leave this place. Jonas is dead. My father is gone. I make a go for the exit. It is at the northernmost tip of this subterranean hideaway. I keep running, running past guards, running past friends and old colleagues. I can hear the overseer over the P.A. system; he thinks that I killed Jonas but this is not true. He tells security that they are allowed to kill me on sight. This is somewhat disconcerting. Those people who serve and protect are now attempting my murder. I continue running. I run as fast as I can. The guards are killing innocent people. As I make my way to the atrium, the security guards spot me and I have to make a run for it. I run and I run, as fast as I can, but the security guards catch up with me. I am left with no other option. I shoot one aggressor with eight shots from the ten millimeter pistol. First in the chest, then the arm, then the head. I kill them.

Gunshots. I run as fast as I can. The sound of footsteps echo off the walls. I can hear them closing in. The ground falls out from beneath me. I stop to check my surroundings. I have made it to the vault atrium. The atrium is composed mostly of steel and concrete. This place is old. It has not been used in a long time. Rust covers most of the interior space. It is mildewy and dark, void of life. The space has large steel grates that cover the floor and a series of concrete columns to support the roof overhead. Ahead there is a large steel door. It looks like a cog from a machine. I search for the button that releases the gate. It is on a podium, raised and about five feet in front of the door. I push the button. The giant door slowly rolls out of its position. This is the biggest door I have ever seen. It must be three feet thick and twenty feet across. A gear-like mechanism rolls the door out of the way slowly. A light turns on. It flashes in circular motion, like that of an emergency light. As the door leaves its original position and moves out of the way, I see a tunnel ahead, carved out of the rock of the earth. I wait for the door to clear completely out of the exit path. I enter into the cavernous space. I begin to see light emerging from a lattice-like wooden door in

front of me. The exit. Then from behind me, voices; I begin to run again. I run as fast as I can into the wasteland, into the desert.

DESERT OF LIGHT AND DEATH

Everything is quiet. As I exit the vault a bright light stuns my senses and I am left blind for but a moment. As the light calms and my retinas adjust to this new place, my eyes refocus and I can begin to make out the landscape. It is a museum of mummified waste. Houses crumble, destroyed automobiles line the streets, trees have yet to regrow their leaves. The space itself contains an absence of objects and most importantly, an absence of people. This place has become death.

I sit on my perch at the exit of the vault and take in my surroundings. The ground is bare of any life and the air is foggy, but not like a fog that has been generated from condensation of water vapour, more like particulates in the air; sandy and stagnant. This air is muddy and devoid of life. Its colour is brown like dirt; a dirty veil on a dead world. The fog settles like a haze on the horizon, creating a blurred boundary of broken objects whose silhouette I can make out in the distance. Dirt hills have reclaimed the Earth as mounds of clay, silt and debris are piled up. I can only assume sandstorms have created this place as they shifted around irradiated soils without the incessant intrusion of man's push brooms and waste disposal systems.

Man-made asphalt roads have been covered with earthen hills with exposed rocks creating mountains and boundaries of movement throughout the landscape. The wasteland is big. It is really big. I can see for miles in all directions. In the distance to the far east I can make out what looks like the White House. The wind rules time in this place. I cannot physically feel it, but I know it is here. Like a print by Hiroshige, the implied exists and resonates corporeally, moving up the prosthesis and reverberating through the screen to my mind and memory, enacting upon it an experience of air blowing over flowing fabrics and vibrating follicles on the surface of my skin. This wind is simultaneously imagined, virtual and real.

I move closer to an object that traces time with its ruin. It looks like the remnants of a raised highway system. The structural supports are slowly fading away into nothing, deteriorating as if it is being eaten, chunk by chunk, as wind, time and an explosion made a dish of leftover scraps, pieces left for one last small bite of time. Columns of this structure stand like soldiers in the landscape, staccatos of steel and concrete repeating their pattern in a series of stale stagnant monuments projecting outward from dirt covered roads and nature's dead floor. I move closer. I look up to see steel I-beam reinforcing cantilevering from the inside edge of the concrete supports; they protrude outward from beneath the cement and aggregate canopy that rests above. Sunlight touches the rust-consumed edges of these I-beams and I am reminded that steel ages just as we do. Slow and seemingly painless, the exposed steel flesh is eaten away through a process of oxidation. The road which this structure supported has all but dissipated into vapour, pieces of rebar stick out of its broken edges suggesting an image of something that used to exist here.

What I find most puzzling yet fascinating about this space is that I am able to get so close to it. In the space of the normal city, the city of my reality, it is impossible to achieve such proximity due to the innate nature of cars and trucks, with their urban ebbs and flows, people from the suburbs and surrounding areas commuting in and out of the city at

speeds that exceed any foot managed feat. Every passenger secluded in a steel safety box launching themselves to work in a constant state of panic, stressful and anxious as they stop and start, pressing the accelerator, pressing the brake, switching back and forth as the gas gauge goes down and the odometer gauge goes up. In the wasteland there are no cars and I am free to venture right up next to the raised highway and look up at its underside. I am free to explore the environment without the hassle of the conveniences that were wrought with the invention of the modern age. Everyone is dead and it seems as though I am my own Henry David Thoreau in this *Walden Pond* of nuclear obliteration. There are no friends to help me build a cabin here, but the solitude of the desert brings peace and meditation as I venture forth, deeper into the wasteland. I have to keep moving. So long highways.

The first city that I was told to go to is Megaton. It isn't far from the vault from which I departed, a few miles to the southwest. I start running in that direction. In the distance I can hear yelling; it is a man, he is grunting loudly. Gunshots. I **guess this isn't that much like *Walden* after all, more like *The Road***. These raiders are not very good at shooting but I am still getting the occasional round fired into my leg or arm. Luckily the ten millimeter pistol still has plenty of ammo left in the magazine. I am forced to kill all three of them, one with two bullets to the head from the pistol and the other two I bludgeon with a baseball bat. My V.A.T.S. system helps me to take aim at my opponents. **V.A.T.S. is the The Vault-Tec Assisted Targeting System**. I didn't expect to kill anyone when I left the vault, but when you're attacked without instigation, there is little recourse. **A solip-sistic experience of survival of the fittest to ensure personal avatar existence is maintained**. Unfortunately this was only my first encounter with the dangerous inhabitants of the wasteland.

Moving along, I am standing next to Springvale Elementary School now. I know its name as there is a steel sign outside at the front that reads "S.E.S. Springvale Elementary School." The top of the school has been torn

off and the brick and concrete is jagged. I'm not sure if I should go in, my health indicator is pretty low. The location has been noted on the map system in my Pip-Boy 3000 and is tagged "Springvale Elementary." Forget it, I'll come back.

I notice something else. There is an object that is flying just south of my position. It is broadcasting something. I can't quite hear it so I move closer. My Pip-boy tells me that this flying object is friendly and that it is called an "eyebot." The eyebot is emitting a series of messages and static radiating from the president of this new world:

Let's talk about government, shall we? Or more specifically, your government, dear America. The Enclave. Just who is the Enclave? Why, now that's simple, the Enclave is you, America. The Enclave is your sister, your aunt, your friend, your, your neighbor...

Excitement. New world order. He says his name is President John Henry Eden.

DISMANTLED AIRPLANES AND UNDETONATED NUCLEAR DEVICES

After leaving Springvale Elementary I travel to Megaton as quickly as possible. I am injured, but hopefully I won't run into any more denizens of the wasteland. I can see crows, maybe vultures, hovering overhead so I must be close to the city now. The vultures are waiting for the starving to die. I arrive at something familiar: the gates of a city. My Pip-boy says I have discovered Megaton. Finally.

Megaton looks strange from the outside, a city unlike any I have seen before. The walls seem to be composed of parts from an old jetliner, or perhaps many jetliners, bits and scraps re-purposed and reintegrated together. Large steel or aluminium trusses and beams create a series of walls that surround the city. These walls make up the scaffolding system for the exterior structural wall. Posts penetrate the ground, some are steel pipes, others have the appearance of metal angles or even hollow steel sections. The infill is composed mostly of scrap metal or corrugated steel sheets that have holes in them from what I can only assume was caused by either rust weathered materials, or bullets. These pieces of scraps are stitched together in a quilt-like structure that has the appearance of a layered stack of papers than of a wall. **The interweaving of the wall is just like Gottfried Semper**

talks about in his *The Four Elements of Architecture* from 1851. Consider that the wall is a lattice of remnants, the abject components of a previous life time that are put to good use. One man's trash is another man's building material. I walk around the city to check it out from the outside. I realize that it is bigger than I thought. The city wall surrounds the innards with an elliptical form, a doubly-curved monumental wall reaches upwards to the sky, in a form that mimics Richard Serra without the weight. The same pattern of weaving walls is seen throughout the construction of the wall as I move around the exterior of the city. I can make out a tightly knit honeycomb structure at the base of the structural lattice that appears to solidify the whole wall as the substrate on which the steel plates and scraps have been implanted. The honeycomb is filigree but important nonetheless as the fine weave stitching that winds the bits together. Pieces of steel jut out at awkward angles stabbing the air and providing the image of resistance and protection. As I continue around the wall I get back to my original starting position at the front of the gates. There is a robot here. It is a Protectron model. Its arms are tubes of metal like air ducts, flexible. It says things like "Welcome." It is a greeter in an oasis of the wasteland, guarding this place against potential intruders. I take note of the entry threshold.

The threshold is big. Four large wings from a deceased jetliner make up the wall that guards the portal and threshold to the city. Two of these enormous wingspans have been turned on their sides and planted into the ground at their widest edge where they would normally intersect the fuselage. They point to the sky. Between the tips of these wings at the top of the city front, a platform extends outward. This platform is surrounded by a railing and a lookout is mounted. He is carrying a rifle that I can see from where I stand. The two other wings sit in opposition to this, placed facing down with their wing tip planted in the ground. These wings form a symmetry for the front of the shelter. They also make up the major structural members of the wall at this juncture. There are ladders that lie crossways between the wings potentially to keep them in a state of lateral stability. Above the threshold rests a turbine. It is large and round, but old and se-

verely weathered. The blades still spin in rapid succession. As they rev up, their sound is vacuous but forceful, the friction of the blades against rust causes them to screech as they increase in rotational force. The horizontal wings at the entrance begin to move upward from the ground, albeit slowly, they retract and rustfully wrench out of the way. The city is opening up its gates for its new inhabitant, me. I enter.

I am confronted with a post-apocalyptic slum. Once I am inside, it is immediately apparent that this city is a makeshift operation. Everything is tightly packed and surrounded by the same corrugated steel out of which the entrance doorway was made. Nothing really makes sense, it is sort of a hodgepodge of architectural fragments. **It looks like the old slums of Kowloon.** The best description I can offer is a series of boxes, stacked, articulated, raised, combined in different iterations and patterns that fit together to form a unified yet disjointed whole. A series of railed walkways on steel tube scaffolds allows city inhabitants to move around the facility between these boxes of inhabitation and business. I can see people shifting and moving between locations above and below me. The first view I have inside the city is of a sign in the distance that says something followed by “Saloon” in capital letters. It is framed against the yellow sky between two large buildings to my immediate left and right. I proceed into the center of the city, walking down a set of stairs made of wooden slabs which impregnate the ground everywhere. They have been stomped in with a foot-powered pile driver, just deep enough into the soil so they will not erode away from the acid rains and footsteps of inhabitants. This place has been built inside a crater, at the very least, some sort of deep earthen dimple. The ground is laden with rusted pipes that feed the water supply to the city and pump sewage out. **These pipes emerge from everywhere and anywhere like ducts in Terry Gilliam’s Brazil.** The tubes go in and out of the ground and buildings and stairs, wherever they please.

The ground is made of mostly compacted earth. Pathways have been formed from the footsteps of inhabitants in this place. They point toward locations that have been traveled to most frequently. These paths are the

most commonly used routes to get from one place to another. The sky above is framed by the continuous wall of steel that surrounds me in an elliptical window upward. I can see those vultures again, floating on thermals, waiting for this population to die so they may reap the corpses. Patience is a virtue.

The residents of Megaton have power. That's good. Adjacent to the sky I can see conduit lines. Atop the roofs of these makeshift buildings I can see power lines connecting the houses to their electricity source. The lines jump back and forth, arcing between houses and businesses, connecting to poles and transformer stations, supplying the infrastructure for lighting the city. There is something else other than wires as well. There are Christmas lights. These are strung alongside the electricity wires in a way that illuminates the city at night. It is simultaneously a testament to power production while facilitating its purpose. The lights are always on in the city, it's as if the city chooses never to turn them off in fear of losing the power forever. Christmas comes early.

There are signs hanging from the doors and sides of the makeshift buildings, one says "Clinic," another says "Supply." There are other signs, but I am drawn away when I notice a large nuclear weapon sitting at the middle of the city. "**Megaton...**" I think to myself, **how clever.** I immediately go to the site of the weapon. It is big and rusted. The device sits in a pool of irradiated water. The water is green and causes radiation damage if I stand too close to the weapon. The built-in Geiger counter on my Pip-boy 3000 makes sure that I know how much radiation I am receiving.

There are people praying to the device, as if it is some sort of god. They call themselves, "The Church of the Children of Atom." I meet their leader, his name is Confessor Cromwell. **Probably a direct descendant of Oliver.** He tells me that they worship the energies that the weapon produces as it slowly emits radiation, heating the pools of water that surround it. I see a sign to my right done with spray paint. It is white and covers the side of a building. Scrawled out in big font, this sign denotes the location where the

zealots go when they aren't praying to the bomb. Beneath the sign, a different sign, the international sign for "Radioactive." **Religious fanatics make me more nervous than undetonated nuclear devices.**

I make my way to the clinic so the doctor can repair my damaged body and restore my health. The clinic is marked by a small sign that sticks out from the side of the building. It looks like chalk on a chalkboard and in plain text the sign reads "Clinic." Immediately adjacent to the clinic is a Brahmin cow. He moos and does the things that cows do. There is a small steel ramp next to the clinic that leads to the entrance and I make my way up the ramp and open the door. The shanty is bright inside. There is a desk and I am greeted by a doctor.

"You look hurt." He tells me.

"I'm hurt, I need help," I respond.

"50 caps ought to cover it," he suggests.

I don't know what caps are, but I figure out they are the new currency that is used in the wasteland now instead of the regular federal reserve bank notes. I barter with the doctor and sell him some things that I have picked up on the way to Megaton. These items are mostly clothes, but I also have some weapons that are worth a bit and I don't mind giving them up. The doctor also sells stimpaks. These are somewhat expensive at 36 caps but I know that they will be worth it if I need to heal myself in a pinch when there is no clinic around. I leave the clinic and search for better weaponry, armor, ammo and anything else I think I'll need, but my monetary reserves are running low. **Private health care sure gets expensive fast.**

I make my way to Craterside Supply. This store is up the set of steel ramps. I can hear my footsteps hit the steel and pound away as I run up the scaffolding and enter through the doorway. Inside I meet a woman named Moira Brown; I explore her store before I ask her any more questions. I move to the back of the store and into a ramshackle double height space that has

a continuous steel mezzanine that wraps around the outside edge of the square building. The roof has holes in it and I can see the light penetrating through. The same honeycomb structure of the lattice-wall that surrounds the city is used in the construction of this place as I notice small hexagons emerging from the sides of the rooftop opening. Light pours down in a fall of shimmering luminescence. It magnifies the presence of dust and particulate in the air and streams down in scattered directions intersecting and illuminating the space. It is beautiful. Broken fluorescents rusted and dead hang from the deteriorating ceiling. I return to Moira. She is the owner of Craterside Supply and stands behind a desk to the right of the entrance. I ask to see her inventory and she obliges. She has much better weaponry and armor than I am currently wearing. She has stimpaks as well as other drugs like med-x, jet, mentats. I buy what I can afford.

Moira tells me she is writing a book: "The Wasteland Survival Guide." She tells me that if I help her I can make some money and earn some experience. I am hesitant at first seeing as how I don't know this person, but I accept her offer. It's not as if I'm not going to need more money; if not for new equipment at least to be healed by the doctor. A new quest emerges in my own journal. I have to go and find if there are food and/or drugs available at an old super market called "Super Duper Mart." It's not far from Megaton city. **Before I start this quest however, I need to refocus on my central mission and find out where my dad is going.** I leave to go and find Moriarty.

More ramps, more steel, more railings. I make my way to Moriarty's Saloon where I am told information can be found about my father's whereabouts but I first have to find Moriarty. He is at the back, past the bar and sitting down. I proceed to go and talk with him. He tells me he wants 100 caps in exchange for the information I require. What a dick, I just spent all of my money on getting healed and new supplies. I tell him I don't have 100 caps, he tells me to come back with 200. I thought the bad guys were outside the city. I leave for Super Duper Mart.

SAVE MONEY, LIVE BETTER

I have become the Lone Wanderer. I have escaped the space of Vault 101 and I am now on my own, living in the belly of the whale, the Capital Wasteland. There are many roads here that I have gone down, hoping to find answers at the end of each path. I need to find my father and uncover the reasons for his departure, for leaving me. The road of trials is long and hardening. These are the trials of the hero, me, Walter.

I reach Super Duper Mart. Well, I reach the outer perimeter of the Super Duper Mart otherwise known as the expansive never-ending asphalt parking lot. The asphalt has been decimated as if a giant has jumped over and over in one place. Pieces lift up and push down, crumbling like a burnt cookie. The light posts reach for the sky but drunkenly lean left and right, bent at their mid points. The tips of the light posts are crooked and have the appearance of palm trees. A lifeless body is suspended from the top of one of the light posts. It is dripping blood. The feet dangle carelessly in the wind, flopping around like a hung piece of meat. Next to the light posts are a series of planters, all the plants that they previously contained have died. **To be honest I expected more shopping carts.** There are two or three

strewn about the lot, overturned and exhausted. I move closer to the front of the building. The building is mostly rectangular with a bulge at the center top. I hate art deco. The building itself is constructed of concrete and has boarded-up windows at the bottom levels. The windows extend across most of the front of the building. At the most left and right sides of the building, there is a set of double doors. These are still usable. Graffiti covers bits and pieces of the facade, tags from people who seek a property marker or piece of art. There are also Nuka-Cola machines situated in front of the building serving as what used to be a source of refreshment. At the center of the building face I can make out the sign for this place: "Super-Duper Mart" spelled out in big block letters, each individual letter occupying its own block. These blocks probably all used to be lit up independently. There is a canopy that extends from the mid-level of the building front. This canopy is made of steel wrapped concrete protruding from pilasters. I can make out some objects suspended from the canopy. These are also bodies, bloodied and bloated. They hang from hooks in their backs, the hook chains extending to the canopy roof. I edge closer to the building constantly looking for raiders or people who are going to attack me. So far so good. I make my way toward the door at the right side. I enter.

Just like Wal-Mart. The inside of this place looks like an airport hanger or warehouse. Gigantic open web steel joists extend across the entirety of the store ceiling. They repeat a linear rhythm to support the roof above my head. The concrete on the inside of this building is as aged as the steel. The paint peels from the walls and flakes away. I hear bad guys.

Bang Bang Bang. These people want to kill me. They don't even know me. I attack one from behind, sneaking up and using the ten millimeter pistol. I shoot him in the back of the head. He dies. I take his weapon which happens to be a ten millimeter submachine gun. It has much better assault power and stopping force. The magazine holding the rounds is also substantially larger. I take out the rest of the gang, killing three or four people.

I have to take cover between the aisles of the supermarket to avoid injury. I wait here for a moment. Getting up and walking out of the aisle I take aim at my opponents. Aiming for the head is the best choice, but occasionally I hit the body or arm bits. Their health bars deteriorate. Once the immediately observable group is dead, I loot their bodies for anything of value. Ammunition is the most important supply.

I take another look around. I'm supposed to be here looking for food but really there doesn't appear to be anything on the shelves. I move up and down the aisles looking for things. There are empty bottles and cans strewn about the shelves and floors but still nothing. There are more shopping carts inside this place than outside. Artifacts from the end of days. They are more of a hassle to get around than serving any useful objective. I notice a pharmacy symbol. The infamous Rx. **Most people don't know what it actually means other than, "pharmacy." It's not really important but Rx is an abbreviation for the Latin word recipere meaning "to take."** Behind the counter there are some frag grenades and ammunition. I quickly pick those things up and turn to head for the back. There is a safe and a door here that is locked. I attempt to pick the lock with a bobby pin and succeed after the third time. Entry.

I see some glowing bottles here. I move closer to see what they are. When I check them out my monitor reads Quantum Nuka-Cola. I might as well pick these up. They look important, not really food though. There is a variety of drugs back here: buffout, jet, stimpaks. These are optional for my quest. I guess it's better to get something than nothing. I move back out to the main room of the supermarket, jumping over the counter and into the central space.

Overall the space is dimly lit. Lights hang from the open-web joists overhead. They glow eerily, their light subdued by the walls of the space. The concrete doesn't so much reflect this light as it absorbs it. This creates a dark atmosphere of death and decay multiplied by the presence of bodies

floating in mid air. The corpses I accumulated through my recent killing have only increased this number, but it was necessary to do so. My enemies' bodies lie wastefully on the tiled floor. With that in mind, I proceed to the other side of the store.

As I move toward the other side, I hug the wall. More voices, shit. Re-arming myself, I pull out my weapon. I can hear them talking to one another. One has a pistol and the other has a larger machine gun, probably similar to the one I am carrying that I ripped off my enemy. I am crouched and hidden from view, the words "caution" appear at the top of my monitor in a red bold-faced lettering. There is a man walking above me on top of the shelving systems. He has a height advantage over my position. I make the decision to get up. I stand and start firing, round after round into their flesh meat sacks. I kill these men. The blood fountains from their decapitated bodies and sprays the floor with red paint. Death pools around me. I make my way through a door and down a hallway corridor. There is a bathroom here. It is dirty. The ground is covered with a series of papers, magazines, and mud or feces. The stalls have their doors falling off as the rusted hinges fail. The toilet is shattered and full of brown residue, two of the sinks have been smashed to smithereens. I take a moment to regain my health by drinking from the sink. I hear the water turn on as I bend over to drink from the tap. Once my health is back to full I leave this bathroom out to the corridor. On to the food search.

I get to the other side of the store. In the back there is a supply room. Bingo. I get into this back room and look around. A fridge. It is still humming so I know it must be on. It is white and square with rounded edges. **The handle on the front reminds me of the bar fridge that sits in the basement of my grandparents old cottage.** I open it. Food. Finally. I grab it and get the hell out of here. Back to Megaton to claim my reward.

THE UNDERGROUND

Moriarty told me that my father has travelled to a place called Rivet City. The location of Rivet City has been marked on the map in my Pip-Boy but the city has been shut off from easy entry. Most of the old Capitol has collapsed after the nuclear attacks of 2077 and the boundaries created by the rubble that remains makes it impossible to navigate above ground. The subway is the only way I can get to Rivet City. I have to find a Metro station. I search for the underground.

Moving through the desert, I can hear the wind sweeping across the floor. I make my way through dismantled houses lying piecemeal by the roadways. Each beam and wooden slat desperately clings to the building it once held up. Wooden siding has the appearance of clapboard barns, it is brittle and barely there. I move through this space, down the trodden pathways and toward the river. I reach the embankment. The retaining wall that I assume used to exist here has all but disappeared. I imagine there used to be a large concrete wall here, reinforced to ensure the water didn't emerge over the edges and into the city. I look down. The water slides to and fro with my movement causing disturbance and interference waves, rippling outward from my existence. I am taking radiation damage though. This probably

isn't the best way to cross. I see a bridge to the north. It appears to be still intact so I will go there instead. As I make my way up the edge of the embankment, I am confronted with the feeling of absence. Death surrounds me. I continue moving northwest toward the bridge. The bridge is still stable and usable. I begin to cross. I hear a beep, then a series of beeps. Explosion. Bright white light sublimates my screen. I sustain massive damage from the explosion. It must have been a land mine. I guess I didn't see it. **Well, I didn't die, so I suppose that's good.** I look down and upon closer inspection there is a series of frag mines on the bridge. They are circular brown metal objects with a single light on the top of them. The light illuminates when I step on them, they blink at me, flashing on and off as an alert to the inevitable explosion that follows. If only I can get close enough, I can disarm them and take them with me. I carefully edge closer to the devices and disarm them. One by one, I inspect the bridge in a meticulous way as to not detonate the devices. I make it to the other side.

In the distance I can see a subway station. It is my only access point to the center of the city and Rivet City to the West, because the boundary of the city has been closed off by rubble. Buildings have been demolished and decomposed, sealing themselves in a solitary state. I must go underground. My Pip-Boy tells me that this is Farrugut Metro West station. It is at the edge of a river. As I approach the stairway, two creatures emerge like dragon beasts. They are enormous. These creatures scream and yell in what seems like English. They are not human, nor animal. A hybrid of skin, bones and flesh, they are super mutants from the wasteland, changed with their exposure to the radiation that is impossible to avoid out here in the desert wasteland. Their skin is yellow like vomit and leathery with the aged wrinkly flesh of a baseball mitt. They carry large weapons and immediately see me as a threat. I retreat looking for cover behind a concrete retaining wall. First things first, maybe an explosion will deter their approach. I throw two frag grenades and wait for the explosion. I equip my hunting rifle and aim for the head. I must kill these monsters. They guard the entrance threshold to the heart of the city. Die beasts! I pump round

after round after round into the hearts and minds of these horrific monsters. Blood spills from their bodies and I am excited to watch it spill as they collapse on the ground and die. Peace. Quiet. Resolve. I get back to work, cautiously passing from the wasteland and into what is left of the old Washington subway system. There is a large steel canopy that overlooks an opening in the ground. The canopy is a series of steel arcs that are held up by smaller tubular steel that is attached to the concrete retaining wall. There are six of these arcs in total. Each arc has an array of eighteen circular holes cut out of its center at about a ten degree interval. There is a trash bin next to the canopy. I search it. Empty. The stairs down to the entrance of the subway are concrete. The stairs are speckled with pits like those of a poorly made stainless steel spoon. Each riser is pock-marked. There are rusty steel railings that extend down the sides of the cinder block walls ensuring pedestrians don't fall to their deaths. I make my way to the steel gate, walking down the stairs into the dark abyss. I enter the labyrinth.

I hear the clank of the doorway shut behind me. I am in. In front of me there is a ramp and as I descend I find it interesting to see the lights still work. This light is dim but it floods the initial area at the concourse level. They are spotlights that extend their light from the ceiling down into the space, ensuring that I don't trip. Debris is scattered about the floor alongside garbage and shit. Newspapers and rubble cover the floors at each side of the concourse tunnel. There are posters on the wall down here. Some advocate I purchase food, others suggest I visit the museum of history. Sounds exciting. I continue down the concourse tunnel and take note of the construction. The walls down here, while at first I thought were made of concrete masonry units, are simply too small to be of such construction. Instead, they are grey modular bricks, staggered and stacked to ensure structural soundness. The ceiling is arched and made of concrete. As I continue down into the space, there is a large hole in the wall to my left. Rebar is sticking out of the sides of this broken wall and the bricks are collapsed and crushed. There is a metal box next to the wall. I move closer. When I look in the box there is nothing useful. I continue down to the subway

platform.

Track level. The subways no longer run here, in fact I can see one of them blocking the tunnel. These tunnels are different when you are walking in them versus riding in the safe confines of the subway car. I turn around. Looking back at the subway platform from track level, the scale of this space is impressive. The space is dark, but not void of light. The space is like the interior of an extruded semicircle and must be at least two hundred feet wide and fifteen hundred feet long. The ceiling is coffered, like a cylindrical Pantheon. The concrete vault is long and uninterrupted by columns. A set of two escalators stand on the platform extending upward to a cross platform. At the center of the space there is an unhitched subway train car that sits upheaved between the track lines, its front mid-air bracing its bottom against the concrete base wall. Light penetrates the space from above. This light is not electrical, but natural. A hole is cut in the ceiling and sun pours through, the bronze light hitting the edges of the metallic frame of the subway car. The box car is illuminated, a monument to destruction. I turn back to the tunnels.

I hear something. It is like scampering. I can hear that it is getting closer and I slow my pace. There are strange noises coming from the tunnel, almost wheezing, not quite screaming, like heavy breathing with razor blades scratching the roof of your mouth. I see something. It is low and thin, a shadow of a body that appears almost human. It is running toward me now. I can hear the pitter patter of its footsteps in quick succession flooding toward my location. Skinless creatures, he attacks, swiping his claw-like hands at my face and body. I take some damage but kill the bastard, two shots to the face with my hunting rifle. There are many more of these as I make my way through the tunnels, each acts in the same way, they attack without instigation, and I react in the same way, killing them without hesitation. The journey through the tunnels is strange as I move through the pathway toward my goal. I exit at Chevy Chase, a different metro stop.

RIVET CITY DEVELOPMENTS

I emerge at Anacostia Crossing. As I re-immense myself into the wasteland, I see the same Metro canopy above me. The subway station typology appear in the same way all over the city. It is a sure sign that there is an underground labyrinth residing beneath and it is my linking point among most points of the impossible-to-navigate city downtown. There are cracks in the pavement here, deep and ominous. There is no need to avoid them, they are impact fractures. The concrete platform sits atop a foundation and will not fall out from beneath me. As I turn around I see a broken down bus to my left, its wheels embedded in the asphalt, either having been melted together or physically impregnated during a nuclear blast. The side of the vehicle reads "City Lines." The windows of the bus have not blown out. I find this curious. Perhaps they are constructed from some sort of explosion proof Plexiglas. This bus adds to the atmosphere of death and decay, an artifact to remind me that this place is a wasteland. The reason I'm here is right in front of me. Rivet City.

An aircraft carrier sits in the harbour next to a concrete retaining wall. This ship is enormous. It must be at least two thousand feet long. The carrier rests in the water, floating but anchored. It does not bob with the waves

or sway with the wind; it is static. I hear the loud cranking of steel in the mid morning air like a slow wrenching doorway, creaking with great density. I must get onto the ship. As I approach the vessel I cannot find any way to board. There is no bridge to cross nor ladder to climb; I am simply out of ideas. I have been told that this is where my father is yet I have no resolution to reach to my goal. I edge along the retaining wall and looking for something that might aid my search for the entrance. The reflection of the ship in the green stagnating water can barely be seen except as a shadow across the surface. Looking closer I can see that the hull of the ship is composed of sheets of steel stitched together with rivets. They are rectangular sheets of differing sizes. Some are as small as two by two feet, others at the hull are as large as eight by four feet. At the seams of these connections, rust is beginning to show. It wraps around the edges of the steel. The grey-blue sheets of steel display themselves in stark contrast to the bits that rot. I know that this place has existed here for some time. The strange thing about this aircraft carrier is that I don't see any aircraft. Maybe they are on the top at the roof deck. Wait, I think I see something.

I don't know how I missed it, but there is a small structure next to the retaining wall. It is about the size of a house. At the entrance of this building I see the marker, "Rivet City." The building has no roof and is mostly composed of steel. Inside there is a stairway that goes up to a platform. As I ascend the stairs, I notice a man lying down. He is injured.

"Water. Do you have any?" He asks me.

"Yes," I reply.

"Thank you."

I gain karma on my monitor. I suppose water donation makes me a good person. I am at the top of the platform overlooking the river and the aircraft carrier across from me. I still don't know how I'm supposed to get to the other side, but there is an intercom here. I try it. A voice responds,

“Okay, stand back and we will extend the bridge.” Finally, a way to board. I hear a cranking noise and an onomatopoeia I cannot define. Whoosh with weight would suffice if it were imagined to represent a swinging bridge of heavy steel beams. I watch as a massive suspension bridge cantilevers from the side of the vessel. The arm is attached at multiple points back to the ship using steel cables. These cables attach at points every twenty feet or so. **As the bridge swings around I imagine the medieval castles with their drawbridges and moat systems to guard against enemy attack. A fitting image for my current scenario. The best protection is a natural boundary.** A loud bang and latching noise establish the bridge in its position. As I walk across the bridge I notice more of its construction. The grates that make up the bridge floor look like subway ventilation shafts grills. I can see right through them to the waters below. I am moving across this bridge at about fifty feet in the sky. The bridge is rigid and does not move as I cross it. I see railings to my left and right to ensure no person accidentally falls into the river below. In the distance I see two security guards dressed in a similar fashion to those from Vault 101 at the beginning of this journey. To my right I notice a plane on the carrier deck. It is a jet plane with folding wings. A white star circumscribed inside a blue circle and accompanied by red stripes decorate the rear portion of the tail. A retired American fighter jet. I reach the other side of the bridge. The door has the appearance of a submarine hatch. The door is sealed and continuous to keep the bulkheads separated in case of capsizing. It is thick and steel. As I unlatch the door by turning a wheel, the pistons squeeze and release the doorway. I enter.

I go into the Marketplace. There is a series of pavilions set up to my left and right. Each has its own sign and characteristic. “Flak ‘n Shrapnel’s,” “Rivet City Supply,” “Gary’s Bailey.” The room is probably five hundred feet by two hundred feet in size. One would think that this room would be dark, but it is filled with natural light. I look up. The roof of this space doesn’t exist. A series of thick steel beams cross the ceiling to support the structure. The largest go from the left to right at the short side of the room. These

support the cross members that appear more like decking, only about a foot deep. From the large steel beams, there are cables that descend down to hold up the ceilings of the individual marketplace pavilions. I move to my first pavilion. This is “Flak ‘n Shrapnel’s.” Right next to the pavilion a fire rages in a garbage can keeping the distributors warm. I guess the smoke and danger doesn’t matter since the ceiling is completely open. On the counters in this pavilion there is a series of guns and ammunition all over the place. They are in terrible condition. There are ten millimeter pistols and machine guns, Chinese assault rifles, hunting rifles and a cash register. I ask Flak if I can see his inventory. He actually has some decent equipment, but nothing that I haven’t seen already. I purchase some ammunition and stimpaks, trade some caps for some equipment I have no use for, these are things like sensor modules, or dart ammunition. I finish business and continue about my way. The other shops sell medical equipment, food, fashion accessories and junk. I meet a variety of people down here. Bannon, Mrs. Cantenelli, Harkness, Bailey and Seagrave Holmes. They all have individual beliefs and interests. I ask them if they have seen my father and if they know where I can find Madison Li, a scientist. I head up the stairs at the back of the marketplace and into the rest of the city.

After the market, the interior of Rivet City makes me feel as though I am in a series of tubes. Each space is governed by a hallway that has the presence of a steel pedestrian connection pipe. There are no portholes or natural light in this space, it is dark and damp. I can hear the ship creak and crank as I move through the bowels of its space. Each person has their own living quarters in this city with the exception of the common room which has a variety of cots for the weary traveler to rest. I head to the common room first. The room is dirty but a series of cots hang from the wall. I go to the back of the room to look for a bed that isn’t occupied. I rest here for four hours so that I can get back up to full health. I go back through the tubes to find the science lab. In here I talk with Madison Li, the scientist I was told to look for. She tells me that the last she heard, my father was looking for a man named Stanislav Braun. He is at Vault 112. I leave.

A DEATH IN THE FAMILY

I have recovered my father from Vault 112 and we hatch a plan to get Project Purity up and running with Madison Li and a group of scientists. We get to the Jefferson Memorial where Project Purity is situated and there is a variety of tasks that need to be accomplished. I am told I need to wipe out any threats that exist inside this place, to kill anything that might endanger the scientists. I leave the team and go forward into the hell zone. The Jefferson Memorial has been retrofitted with a device that brings water up through its center to purify the irradiated water and provide fresh drinking water so that America can restart itself here. This is the purpose of Project Purity. There are all sorts of giant plumbing devices coming out of the north end of the building. I follow them to a set of steel scaffolds and ramps that run up the side of the building. While walking I take notice of some voices. Super mutants again. I arm myself with the hunting rifle and creep up on the monsters. I shoot for the head like always. It takes about three shots in the skull to pop their tops off. I continue moving forward pulling the trigger between sprints. The clanking of my feet against the steel grates is quick as I move around the edge of the scaffolding system toward the old Memorial. I descend a last ramp and see a brown door. The gift shop entrance. I move forward and enter.

First target sighted. A super mutant master. I take him out. This first space is a long corridor with a doorway to the left. This room is also full of super human beasts. I do my best to hide and shoot, waiting for the monsters to emerge from the darkness. I hide behind walls for cover and whenever I can I pop out and plunge two or three bullets into their faces until they collapse on the ground. There are two ways out of this room. One is to Jefferson's Rotunda and the other is to the basement. I make my way through the door leading to the rotunda and I am confronted with two super mutants. I make quick work of them and take a look around. There are no others here. There is however a giant retrofitted building set within the rotunda which surrounds the statue of President Jefferson. It looks like it could be a sea laboratory. Thick sheets of steel and Plexiglas windows encompass a room in the shape of a square-formed toroid. There is a set of stairs to get up to the laboratory level. I ascend. There is nothing in here. I retire back to the gift shop and then head down to the basement. More bad guys. I move around shooting and hiding as I kill and maim my enemies. It has to be safe enough for the scientists to enter.

My dad and I figure out how to get Project Purity up and running. After accomplishing the required tasks, routine maintenance and draining the pipes, I get sealed into the pipeline. I hear helicopters. The Enclave is here. Their leader, Colonel Autumn has my father captive within the operation chamber of Project Purity. He tells my dad that he needs to activate the purifier in the name of the Enclave, and for their purposes only. My dad refuses and Colonel Autumn fires a shot into a fellow scientist and friend Janice Kaplinski, she dies. My dad is left with no other choice. He activates the switch for Project Purity. However, Project Purity is overloaded and starts to release the radiation it was supposed to cleanse from the waters. I watch as my father dies. Colonel Autumn injects himself with something to protect him from the radiation. We have no other choice, Dr. Li and the rest of us make our way out of Project Purity. We escape into the old sewer system through a hatch in the gift shop. These are the Taft Tunnels. We need to get back to the citadel, a safe haven.

LITTLE LAMPLIGHT

I was told to go to a place called Little Lamplight. It is located in the north-western quadrant. I make my way there looking for the location marked on my map. Once I arrive close to the marker I see that outside the entrance there is a wooden cabin. It is made of a yellowish wood that has degraded with time. The door to the cabin has been ripped off. I move to the inside and check it out. It is empty with the exception of a few metal boxes. They contain mostly junk but I grab anything important and go back out. I continue searching for the entrance to Little Lamplight. As I look upward I notice that there are strings of Christmas lights extending from the top corner of the outside of the cabin to a small doorway. The doorway is situated within a cave-like cavity, the door pushing against the edges of rock, the cliff-like rock face. I move toward this doorway. It is made of slats of wood latticed together. I descend down the dirt ramp and approach the doorway. Click. The door unlatches. I enter.

As I descend, I arrive in a space where I see a large wall or fence; a barricade. This barrier is comprised of a series of wooden scraps stitched together. A child calls out to me from atop a platform behind the fence. He wants to know what business I have here. I tell him the reason for my visit

and he tells me basically to get lost. He tells me that he doesn't trust "mungos" which I figure must mean adults. His friends have been taken away by slavers and we reach a deal that if I return them I will gain entry into this place. We agree and I am off to Paradise Falls, the slave camp.

After almost three days of adventuring, killing and slaving (literally slaving), I return to Little Lamplight with Sammy, Squirrel and Penny, the three kids that were taken off by the Paradise Falls slavers. Together the three of them cost me 1200 caps. I managed to arrange to purchase them from a slaver named Eulogy Jones. They thank me for my effort but are still very distrusting, presumably because I, like the slavers that carried them off, am an adult or a "mungo." Once the four of us return to Little Lamplight, I confront Mayor Macready at the entrance. I show him that I have returned the children safely. He agrees and he lifts the gate out of the way. A counterweight slides slowly down as a rope and pulley system lifts the doorway and I am permitted entry. This place is full of children. They are everywhere with no adults to be seen. Mayor Macready tells me that they don't allow adults to live in Little Lamplight because once kids grow up, they turn bad. When any kid reaches sixteen years of age he has to leave Little Lamplight for a different city for grown-ups called Big Town. Exile.

The walls here are made of rock. This is not a man-made place. It has been carved by nature's natural building tools, rivers' waters and subterranean aquifers. The entire city exists underground in a series of caverns that extend through tunnel-like passages into two large rooms. The children here scurry around, running over boards and down walkways. I move toward the general office to the right of the entrance. It is a building made of wood. It looks similar to the cabin that was outside in front of the entrance. I enter. Inside is a long hallway. The first door on my right contains a school room. It has chairs, desk and a blackboard at the back. Apparently a kid named Joseph is the teacher of the kids. I return to the hallway. The next room is full of medical equipment. It is the closest thing to a clinic down

here. There is a surgery table and a set of surgical tubing alongside some stimpaks and the like. There is a banner that sits on the wall that reads “The Doctor is In!” Lucy is in here. She is the city doctor for Little Lamplight. She has brown hair and an olive complexion with a white hair band and what looks like a girl scouts sash. She tells me that she can heal me for 75 caps. Full health and I leave the doctor’s office. I find a set of holotapes titled “Journal of Carrie Delaney.” Holotapes are recordable media much like a compact disk. I play them. I hear the following in a soft, female voice:

My name is Carrie Delaney. I teach fourth grade at the Early Dawn Elementary School, in Washington, D.C. Yesterday, October 23, 2077, half the school went on a field trip to Lamplight Caverns. We were packing up to leave when everything went crazy. The caves started shaking, the lights went out, the kids started screaming. My God... Mister Pollack went outside to see what was going on. When he came back in, he told us what he saw. Clouds. Mushroom clouds. It’s finally happened. The end of the world.

I play the second holotape:

We’re all okay. If you can call being stuck in a cave with eighty-two terrified kids okay. Alive, anyway. But I don’t know what the hell we’re going to do. It’s been four days. Claudia went out this morning to look around, and never came back. Then Mr. Cob went out to look for her, and HE never came back. So now there’s only me, two other teachers, two of the parents who were chaperoning, and a few of the cavern staff. And all these poor kids. We’ve got enough food and water to last for awhile, I guess. But after that? I just don’t know. We can’t stay in here forever. Can we?

This is some scary shit.

I wander around for a bit. I leave the office portion of the caves and move into a tunnel. There is a series of signs in front of me. One says to my right

is the souvenir shop, another signs says that the great chamber is to the left. First I head to the souvenir shop. It is in a space that must be fifty feet high. A large cave structure. At the center of this space is a cabin made of dark wood. The cabin sits on pylons made of heavy timber. The cabin is raised about fourteen feet in the air. I can move underneath it. In order to get up to the shop above there is a set of wooden stairs. I move up the stairs and enter. Inside there are scattered papers on the floor. At the end of the rectangular room there is a desk. I inspect everything in this space but there is nothing of value. The owner of this shop is Knick Knack. Most of his inventory is trash. I find another set of holotapes in here. They are from a kid named Jason Grant. I play "My diary, by Jason Grant - Entry 1":

Umm... I guess this thing is working. I'm Jason Grant. I'm ten years old. I'm in Ms. Delaney's class, Early Dawn Elementary. A month ago a big war came and everything was destroyed. Except us. We're still OK in these caves. Kinda. Ms. Delaney went out this morning to get help and she never came back, but the other adults never came back either. So now it's just us kids. A lot of the others still cry every day; they're really scared. I'm not. There's nothing to be scared of, as long as we don't go outside. Nobody else wants to be in charge, so I'm gonna try. Most of the kids listen to me already, so it should be easy.

The second entry has a similar tone:

It's been almost two months, and we're all doing pretty good, even if we are all alone. There's a door that leads to a Vault, right here in the caverns. Every day we bang and bang, but they won't let us in. We can hear them in there! One time, a guy on the other side told us we were dead already. Fuck those grown ups. Fuck them all. We don't need them ever again.

It's good to hear that the kids have survived this long. It's too bad about the grownups. I have to find this Vault entrance. I leave. Descending the stairs I head back out to the fork in the tunnel path. This time I go to the left.

The first space that I encounter is probably two hundred feet long. It appears to be a restaurant. The ceilings are at least forty feet high. Small pockets of water dot the rock floor. There is a pool, almost. Scattered throughout the restaurant are tables, chairs and some small wooden platforms. Hung from the ceilings are sets of lights that descend and droop into the central space. A few of the kids are eating in here. I make my way to the bar where I see a kid wearing a top hat. His name is Eclair. I check out the menu, but there is nothing that is worth eating. I move through the pathway to the end of the restaurant. The door says "The Great Chamber." I enter.

I emerge into The Great Chamber where I am confronted with the image of an underground tree fort. The space must be two thousand feet long. The kids all run around on a series of interconnecting walkways, suspended between the stalactites that push downward from the rock ceiling. The wooden walkways are constructed piecemeal from wooden scraps, tied together with twine or rope and bolted to the rock roof. The pathways extend across massive spans, suspended and connecting inhabitants to their sleeping quarters. It is a great sleeping chamber. This underground city rests in the air above a cavern below. I can feel the faint presence of dampness in this dark place. It is not touching my skin, but the surfaces are wet and stagnant, like the interior of a freezer after it has been unplugged for days; slimy and slippery, cold and wet. I move forward down the ramp as children run screaming by me. These kids range across age. I move between what appear to be makeshift homes constructed from scraps and soldered, stitched or nailed together. Most have the appearance of tree houses in the cavern sky. They rest on makeshift wooden platforms that extend to the ground or are suspended from the rock ceiling. I cross a bridge to investigate one of these tree forts. Inside are mattresses that lay in no particular order across the floors. A variety of junk; tables, desks and trash infringe upon the interior space. No one is sleeping now. The kids don't seem to have a sleep schedule as there is no natural light that penetrates this space.

Instead of natural sunlight, there are more Christmas lights. **These are not for decoration. They have a purpose.** The strings of lights hang suspended in arcs, drooping from the ceiling into the space. Each one is bright white, lighting up a small portion of space. Larger spherical lights hang within nets from the ceiling above. These are five feet across and light up a substantial amount of space. The lights float like lanterns in the subterranean sky, illuminating the underground.

I remind myself that I am looking for a way to access Vault 87. In Vault 87, there is a device called a G.E.C.K. or Garden of Eden Creation Kit. It is the last thing needed to restart humanity and has the power to run Project Purity and restore the Earth to a livable environment. The elixir of life. When I ask Mayor Macready he tells me that in order to get to Vault 87 I must go through a place the kids call Murder Pass, he takes me to the entrance. We pass up and down and through and across a series of cave tunnels until we finally arrive at a large wall barricade. It is similar in nature to the one at the entrance of Little Lamplight. Mayor Macready says it is in place so that they can keep out the super mutants that kept coming out of murder pass to kill the kids. Now they can protect themselves with this physical barrier and a set of laser rifles and other such weapons. They have been killing any super mutants that come out of murder pass. I am told it is dangerous so I ask Macready if there is another way to get to Vault 87 because of what I heard from Jason Grant on the holotape about the alternate entrance. He tells me that a kid named Joseph, the teacher and smartest kid in Little Lamplight had been tinkering with a different doorway, but the kids didn't know how to hack the computer. I leave the entrance to Murder Pass and search for an alternate route. I have to go find Joseph and this second back-door entrance.

I search everywhere for Joseph. I run around the suspended bridges looking into every makeshift house that is around. He is nowhere to be found. I even make my way out to the offices at the front of Little Lamplight since I

know that he is the teacher of the students and may be in the classroom. No luck. With no other alternative, I decide to go back into the great chamber. Instead of moving around, I stay in one spot. I wait. Many kids run past me. I wait an hour. More kids. Another hour. More kids. One more hour. Finally I see Joseph. I ask him about the door. He tells me that he has had no luck opening the door but that he can power it up for me to see if I can get in. We travel to the back of the Great Chamber and enter a small cavern. Within it there is a steel structure. It is man-made. A Vault-tec vault. There is a computer next to the doorway. I hear the power turn on and Joseph tells me that everything is good to go. I hack the computer and hear the click of the door as it opens up for my entrance.

I enter the Reactor room. The G.E.C.K. is almost mine.

CAPTURE AND RELEASE

I awake in a place I have never seen before. I am strapped in. I cannot move my arms or legs. Everything has been stripped off my body. This room is round and encompassing. It is steel and authoritative. This must be the base of the Enclave. I have been imprisoned here and I can do nothing to stop them from taking the G.E.C.K. Autumn, that bastard. He wants the access codes to Project Purity. I don't give in to his demands. He is infuriated. I decide that I will give him a false code to start project purity, 7-0-4. Autumn issues the instructions to one of the members of the enclave over the intercom. The soldier is killed instantly. Ha, vengeance. I can hear the President over the intercom. He tells Autumn to leave him and me to talk privately. It's strange, the President does not seem hostile at all, he seems rational. I talk to him briefly, and he releases me from my cell. Strange.

I leave the cell and wander around the base. It is composed of labs and cells, each with its own purpose in re-establishing society in the greater area of the Wasteland. I find myself being randomly shot at by base personnel but eventually President Eden issues the order that I am not to be attacked. I am still confused as to why the President has let me leave after all the

trouble that I have caused in the lives of these soldiers, but I realize that he wants to meet with me in person and I make my way towards his location. I walk around the base and I find Colonel Autumn's room. In it I discover what looks to be labelled a "ZAX auto-destruct code." I pick it up anyway, it sounds useful. I continue and find a long steel-columned corridor. At the end of the corridor there are two sentry guards. I approach with caution.

I open the door and move in. I look for a man. Where is the President? There is nothing here... but a computer. A voice booms over the intercom; President John Henry Eden is the computer. I talk to him. He wants to restart humanity just as I do, but he wants to 'cleanse' the capital wasteland of all the super mutants and detritus that have come out of the nuclear apocalypse. He tells me that I can insert what is called an FEV or Forced Evolutionary Virus into the water purifier. This will help to eradicate any of the mutants, ghouls and others that have been affected through the radiation of the nuclear holocaust. They are no longer human anyway, so what is my hesitation? The President is the leader of the Enclave, he has trapped society and killed my father. It is through his doing that all of this world has become hell. I do not know what to do. I take the virus. I continue to talk to Eden after confronting him about the whole situation with the Wasteland. He has caused so much damage to society and I convince him that he needs to die. He initiates his own self-destruct sequence. This is the ultimate boon. The destruction of the power that has complete control over the wasteland. I have little time to escape this place. It is time for my departure.

I've killed him. The President is dead. It is time to start the return. To go home so that we can restart humanity. I find it strange though, not knowing what the future holds for the rest of humanity. I must leave Raven Rock and report that I've killed President Eden. This is a rebirth that we can all share in. However, I need to return to the Citadel to the Brotherhood of Steel so I can tell them of my quest. Eden told me before he died that he

would protect me as best he could as I make my way out of this place; Raven Rock. The sentry guards are now attacking soldiers. The guards are being gunned down by robots. I must make my flight out of this place. Thank God Eden has assisted me, I am running low on ammo and supplies. I run through the corridors and up and down stairways until I reach my exit. The place is falling apart even as I exit the final doorway toward fresh air. I can see the vertibirds, a type of helicopter attempting to take off. The pilots and passengers must have realized that the self-destruct sequence has been initiated and are making a run for their lives. I laugh as their vessels explode in the sky and are returned to the Earth as boxes of incinerated steel, lifeless and vacant. Destruction.

I find Fawkes, he is armed with what looks to be a large gattling laser. This should come in handy. A bodyguard helper who will assist in getting me back to the Citadel, my supernatural aid and my magic flight back home. There are many battles on this flight as well, but they are short and quick as I navigate my way back to the safe haven of the Brotherhood. I finally make it to the Citadel. I cross the threshold and I am returned to safety.

DEATH ON A HILL TOP

I am ready. I go with the small army of the Brotherhood of Steel. We are assisted by a large robot named Liberty Prime. He towers over the spaces of the Wasteland, destroying enemies as he laser cuts the flesh from their bones. We make it to Jefferson's Rotunda and to Project Purity. Autumn is here. I kill him and his body guards. I hate them. I wish I could have felt this earlier. Retribution. I head up to the control room. Dr. Li seems panicked. She tells me that severe damage has been done to the purifier and it will soon self-destruct. One of us must go in to disarm and activate the water purifier. It must be myself or officer Lyons. This is a very difficult decision. It will result in one of our deaths. I volunteer. I think this is how it should happen. I slide into the capsule of the control room and type into the control circuit, 2-1-6, enter. The verse from the Bible that my dad used to read to me way back when I was growing up in the Vault. The radiation soon takes hold... I am taking heavy damage, I cannot escape, I am sealed in. Minor radiation poisoning, advanced radiation poisoning, critical radiation poisoning... There is nothing I can do. I die.



Fig.11

Screenshot from *Fallout 3* (2008).
The path to enlightenment as player navigates the underground.

PART THREE: MEDITATIONS



Robbie Cooper
"Immersion"
bit.ly/enNHu6

Fig. 12

Cooper, *My Game Face*, from the *New York Times*, 2008.
Cooper provides an insight into the expressions of players while they immerse themselves within the space of the game-world.

ONE: MCLUHAN, ROSSIGNOL AND THE PROSTHETIC IMAGINATION

“The wheel is an extension of the foot, the book is an extension of the eye, clothing, an extension of the skin, electric circuitry, an extension of the central nervous system.”¹

Marshall McLuhan

As was emphasized in the first sentences of this thesis, video games are not like other mediums. This particular meditation is central to understanding the video game medium itself. Many times before when trying to explain the video game medium in critical discussions with colleagues, the terms “disembodied” and “self-projection” kept coming up during conversations. In addition to this lack of precision, I was never satisfied with my previous efforts to describe the experience of “entering” into a video game. Typically, the discussion went something like this: in order to access the space of the game, the player must reach a disembodied state of suspended disbelief, trust the game system and project his “self” into the game-world.

1 McLuhan and Fiore, *The Medium is the Massage: An Inventory of Effects*, 26.

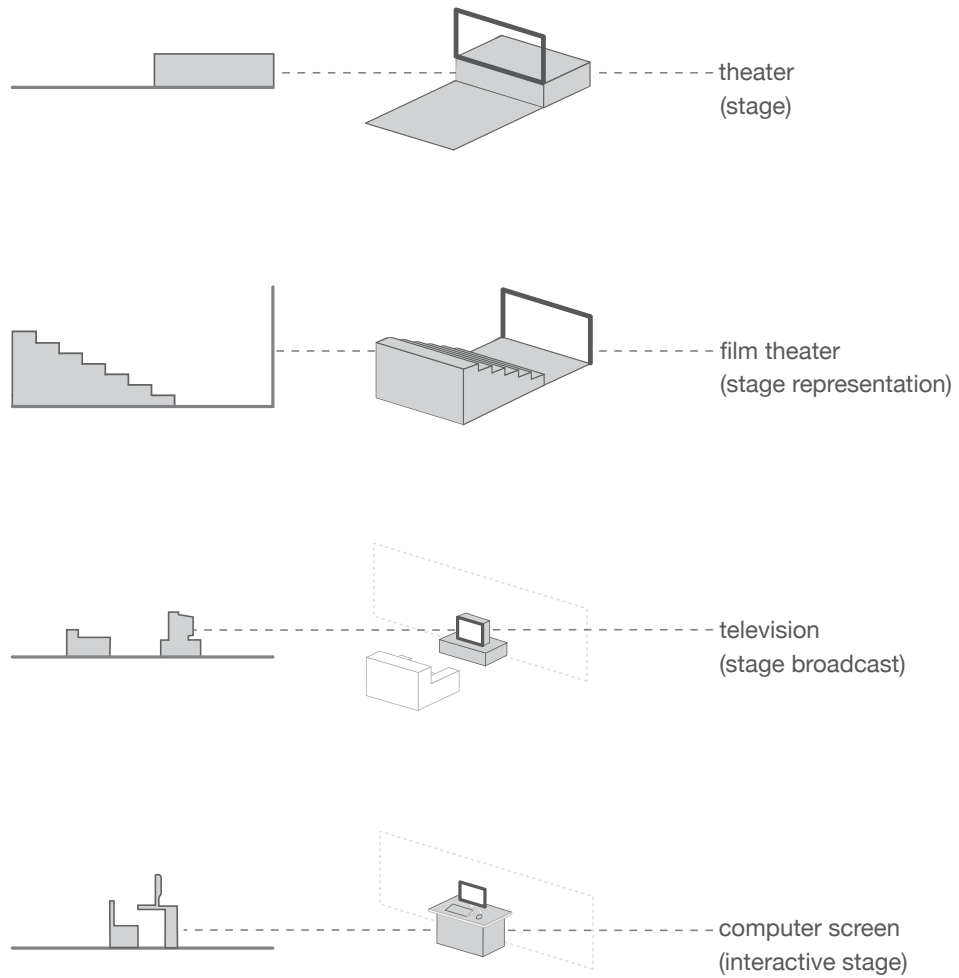


Fig.13

The interactive stage of the virtual.

This self is usually represented by the avatar, an object or person within the game-world that the user controls. The avatar is the vessel through which the player can vicariously experience the space and narrative that the game-world provides. While this may satisfy some readers as a valid description of entering a video game, it misses some important aspects of the experience. In response to the dissatisfaction on my part of the easy explanation above, I would like to use communications philosopher and guru Marshall McLuhan's notion of *hot and cold media*, the McLuhan notion of *extension of self* and the McLuhan *tetrad of media effects* as well as writer and game-critic Jim Rossignol's notion of *the prosthetic imagination*, to offer a more nuanced explanation of the nature of connection between player consciousness and player character within the environment of the video game medium.

First and foremost, as McLuhan outlines there are two categories of medium: hot and cold. A hot medium is that which is high in data but low in participation whereas a cold medium is low in data but high in participation. McLuhan expands on the hot and cold medium in the following excerpt from his seminal work *Understanding Media: The Extensions of Man* (1964):

There is a basic principle that distinguishes a hot medium like radio from a cool one like the telephone, or a hot medium like the movie from a cool one like TV. A hot medium is one that extends one single sense in 'high definition.' High definition is the state of being well filled with data. A photograph is, visually, 'high definition.' A cartoon is 'low definition,' simply because very little visual information is provided. Telephone is a cool medium, or one of low definition, because the ear is given a meager amount of information. And speech is low definition, because so little is given and so much has to be filled in by the listener. On the other hand, hot media do not leave so much to be filled in or completed by the audience. Hot media are, therefore, low in participation, and cool media are high in participation or completion by the au-

dience.¹

McLuhan's explanation of hot and cold medium is not necessarily to be understood as a dichotomy, but as a useful conceptual continuum by which media can be compared in the amount of information passed through the degree of involvement of the participant. When McLuhan's relationship of hot or cold medium is applied to the video game, some difficulties surface in describing a typical categorical condition. The typical game is neither a hot medium, nor is it a cold medium. This is because the game though rich in visual information like a film, simultaneously requires player input in order to generate the output of the medium itself. This is an example of "immediacy." It could be said that the video game medium is in fact a contemporary example of a hot *and* cold medium where the user of the medium must actively participate and experiences the medium simultaneously. The participant and audience are superimposed into a singularity that exists in the space of simulation.

Theater, film, and old versions of television are all passive medium. Within the video game medium, however, the stage of action is transformed from a passive, scenographic image found in a film, into an active, participatory, interactive experience. As Marcos Novak writes:

Though we learn about much of the world from the media, especially cinema and television, what they provide is only a passive image of place, lacking the inherent freedom of action that characterizes reality, and imposing a single narrative thread upon what is normally an open field of spatial opportunity. However, now that the cinematic image has become habitable and interactive, that boundary has been crossed irrevocably.²

The interactive stage of the game-world offers a foundation for the indi-

1 McLuhan, *Understanding Media: The Extensions of Man*, 24-25.

2 Novak, "Transmitting Architecture: The Transphysical City," 2.

vidual to experience an alternate space outside the actual world. The player creates an extension, a prosthesis that allows the player to, through the act of conscious imagining, place himself within a space that is real, though not at all actual. This extension what game theorist Jim Rossignol calls the “prosthetic imagination.”³ Rossignol’s concept is understood as a response to the McLuhan notion of the medium as a means of extending the self outlined in *Understanding Media: The Extensions of Man* (1964). In that work McLuhan classifies media as “any extension of ourselves.”⁴ Using the example of the phone, it is the voice that is extended. In the case of the car it is the foot that has been extended. Regardless, whether this extension comes in the form of a cell phone, an Ipod or a laptop, each of these devices helps to extend the “self” in some way. These technological devices become appendages, they are prostheses that enhance, encourage and change our perception of the actual world.

The video game, however, is not as obvious as such an extension. It does not serve to extend our voice as in the cell phone, or our hearing as in the Ipod, but rather extends our imagination, which is a far less clearly bounded extension. Rossignol describes that he feels as though his mind is being “taken over” by the video game,⁵ however, more than this, it is also the human player who must form their own, personal extension of self into the virtual space of the game-world; a virtual, psychic prosthesis. Through interaction and participation with the game-world, the player becomes part of that virtual space. This is the “extension of the self,” the prosthesis that extends our being from the real-world, into the virtual realm of the game-world. This extension functions in the same way as the typical technological appendage, but it is a version that is more enhanced, the game video medium allows the individual to share their consciousness across ac-



“Play: Future states.” Kaplan and Zimmerman
bit.ly/9FQx56

3 Rossignol, “The Prosthetic Imagination,” on www.rossignol.cream.org, September 23, 2010.

4 McLuhan, *Understanding Media: The Extensions of Man*, 8.

5 Rossignol, “The Prosthetic Imagination,” on www.rossignol.cream.org, September 23, 2010.



Tool Sequence
"2001: A Space
Odyssey"
bit.ly/PJZVb

Fig. 14

Still from 2001: A Space Odyssey, (1968).
Technology becomes an extension of man.

tual and virtual realities, in a constant exchange of information between user, player and environment.

In “The Prosthetic Imagination” blog article by Jim Rossignol, American cultural critic Steven Shaviro describes the condition of the technological appendage as it applies to the cybernetic organism where, “we tend to equate virtual with disembodied, even though it would be more accurate to use it as an equivalent for *prosthetic*.”¹ This description of the appendage leads to a contextual framing that changes the viewpoint of any virtual medium. As Rossignol explains, “by replacing the word virtual with prosthetic, the implications are immediately evident. For games the ramifications are pretty obvious: prosthetic reality, prosthetic worlds.”² Once the game medium is thought of as a prosthesis for the self and its imaginative expansion, rather than a projection, the notion of “entering” the video game is changed. Instead of two realities existing separately, one real and the other virtual, the prosthetic imagination allows for the superposition of real-world player and game-world character, or avatar. The medium gives the audience a role in the play, a role in the film, a role in the show. As Rossignol writes, “the imagination is extended into this space, it spills back and forth from technology to mind. You can see this happening when you watch players at work. Their thinking is right there on the screen.”³ This imagery can be plainly seen in Robbie Cooper’s art installation of “My Game Face” (see Fig. 12). In this way the player and his avatar are the same, thus becoming the player-character. This “self” just happens to exist in an extended realm of the video game-world, controlled and experienced by the player in the physical dimension through the apparatus of the prosthetic imagination. This extension of the self also echoes the ideas about play as expressed by cultural historian Johan Huizinga in his book *Homo Ludens*

1 Shaviro, *Connected, or What it Means to Live in the Network Society*, 104.

2 Rossignol, “The Prosthetic Imagination,” on www.rossignol.cream.org, September 23, 2010.

3 Rossignol, “The Prosthetic Imagination,” on www.rossignol.cream.org, September 23, 2010.

which will be addressed further in the next meditation.

Before that meditation, this discussion of the imagination leads us to an obvious question: why do humans imagine in the first place? Evolutionary biologist Richard Dawkins believes that to have an imagination is an exercise in mental fitness. It is a way to test without testing; to image, or simulate something and predict the outcome without physically doing. It is through the device of the imagination that the individual can simulate a situation that may be precarious. In his journal article “The Evolved Imagination,” Dawkins uses the model of a baboon and a banana:

Find a steep cliff in a mountainous area of Ethiopia inhabited by hamadryas baboons and place a plank so that it sticks out over the edge of the precipice, with a banana on its far tip. The center of gravity of the plank is just on the safe side of the edge, so that it does not topple into the gorge below, but if a monkey were to venture out to the end of the plank, it would be enough to tip the balance. Now we hide and watch what the monkeys do. They are clearly interested in the banana, but they do not venture out along the plank to get it. Why not?¹

Dawkins gives three outcomes to this situation. The first is that the baboons have an “instinctive” fear of heights and will not venture out onto the plank as they possess a genetic tendency that indicates an innate aversion to cliffs and high places. The second is that as the baboons grows up, they fall down small cliffs and hills and experience pain. They know that if they fall down larger cliffs they will inevitably experience greater and greater pain in accordance with the height of the cliff. The third and optimal bet for both food and safety is that the typical baboon has a model of the situation in its head. It is a virtual simulation of the plank, the cliff and the banana. It runs the simulation in its head into the future, imagining the outcome of the situation. As Dawkins outlines, “just as the arcade comput-

1 Dawkins, “The Evolved Imagination,” 9.

er simulates the racing car passing a tree, the baboon's computer simulates his body advancing toward the banana, the model plank teetering, then toppling and crashing into the simulated abyss. The brain simulates it all and evaluates the results of the computer run."² Dawkins points out that the human mind, like a computer, is constantly simulating scenarios to determine the outcome of a situation. This is accomplished only through the evolution of the imagination in terms of biology. Without imagination, we could not simulate and our chances for survival would be reduced.

A video game itself is an active simulation, a virtual technological appendage that allows the individual to test a situation through the prosthetic imagination. Games are creating what Jim Rossignol calls, "the new human which is emerging from the flows and processes that our technologies are surrounding us in [and] is projecting itself into inner space, via physical space."³ Through the space of the video game the player gains free will within a secondary external prosthetic environment. Game players have the ability to explore and experience vicariously through the vessel of the player-avatar.

With this rich new concept of the prosthetic imagination, we can now return to McLuhan's *tetrad* concept to examine some expanded conditions of the video game medium. The *tetrad* is comprised of four idioms framed as questions. These idioms are:

1. What does the medium enhance?
2. What does the medium make obsolete?
3. What does the medium retrieve that had been obsolesced earlier?
4. What does the medium flip into when pushed to extremes?

The first question is "what does the medium enhance?" As established pre-

2 Dawkins, "The Evolved Imagination," 9.

3 Rossignol, "The Prosthetic Imagination," on www.rossignol.cream.org dated September 23, 2010.

viously, the video game medium serves to extend the self into the imaginary construct of the game-world. In this way the game could be seen to enhance the ability of the player to access space. The game medium can be seen as a coupling of extension and enhancement occurring simultaneously. The game's enhancement of the imagination is similar in nature to Dawkin's extension of the baboon imagination, only that the latter serves for the purposes of access to possible scenarios in the world itself, and the former serves to change and transform the imagination, creating experiences that are not available in the space of the actual world. In this way, the imagination is enhanced and the ability of the individual to access fictional, even non-worldly environments is created.

The second McLuhanite question is "what does the medium make obsolete?" For the telephone it is the carrier pigeon. For the car, it is the act of riding a bike, or even of walking, that becomes unnecessary. For video games, this question raises significant issues. It could be said that the real-life experience of an event or experience itself has in fact become obsolete, that real-life experience could become secondary to the virtual game experience. This makes defining what sort of obsolescence video games bring about difficult to specify. It could be argued that what the video game is attempting to replace is something that does not exist anymore in the neutralized environment of contemporary culture, in particular the safe but non-stimulating suburb. Civilized first-world nations have no steady, obvious danger in their soporific culture.

The video game could also be seen as making the common notion of personal identity obsolete insofar that video games have the imaginative ability to transcend gender and identity structures. In "The Cyborg Manifesto," feminist philosopher Donna Haraway uses the cyborg trope as a way to demonstrate an equalized humanity. In her analysis, Haraway alludes to the dualities of self/other, mind/body, culture/nature, male/female, reality/appearance. Haraway believes that mankind must destroy these dualities in order to be free. Thus, she presents the model of the cyborg. The superimposition of man and machine begins to blur the boundaries that

had been created by society to categorize the individual. To date, the video game seems humanity's best shot at emulating this cyborg condition. In the game-world, there is no difference between you and me and everyone we know, we are all virtual equals. As an example, anyone playing the game can become the Hero regardless of their gender, ability or culture. The one who plays the game becomes a kind of virtual cyborg, accessing the space through the prosthetic imagination. The video game medium provides a space where a single typified personal and social identity is not the dominant metaphor for one's existence. The game provides a space for simulation, experimentation and integration of that individual identity and experience, taking it into liberating places.

McLuhan's third question asks "what does the medium retrieve that had been obsolesced earlier?" Using the example of the invention of the telephone, it is convenience of the reinvention of direct communication by speech that is established. This had been bypassed by the technology of the letter and mass postal services. For the car this is the expansion of the individual travel boundaries of horse and carriage but now at a speed and distance offered by train travel. The video game medium functions as a virtual means to retrieve adventure in a mass society, a gamespace to imagine, explore and experience what is lost from our safe communities. Considering these examples, it can be argued that the video game medium provides a space for adventure, a prosthetic imaginative reality so to speak, but now with the added safety and comfort offered by mass society in developed countries. You could die in the virtual space of the game-world, but not really. Today's video game medium is a safe substitution for these experiences of adventure and danger that no longer exist within the neutralized soporific society of the suburb.

The fourth question is "what does the medium flip into when pushed to extremes?" The over-extension of the phone creates the need for solitude. The over-extension of the domain of the car fuels the yearning for a slower, more personal, pedestrian culture. The often obsessive over-extension of video game use might or should cause the individual to long for

the original experience, the experience of real-life adventure, however, as was discussed above, the game medium rather than acting as that which has been made obsolete, is in fact acting as a substitution for that which no longer exists. It is the promise of adventure that lies in the heart of the simulation, but that adventure can become an alienating obsessive activity causing an abandonment of reality. This can be considered the video game addiction that has been so readily utilized to oppose the importance of the medium within contemporary culture. Perhaps rather than examining the culture of video games as addiction, society should be examining the desire for such extended periods of time spent escaping from the reality of the real-world.

Finally, the video game is a complex medium like opera in the 19th century or architecture in all periods. The medium encapsulates many other mediums; speech, history, art, architecture, music, typography, mechanization and automation. It appears that the message of the complex medium is that it is a container of all mediums, it constantly searches to subsume all other mediums in a macrocosm of every simulated medium, a world simulation that represents any situation accessible through the apparatus of the prosthetic imagination.



Robbie Cooper
"Alter Ego:
Avatars and Their
Creators" (2007)
bit.ly/Kwfea

Fig. 15

Cooper, *Alter Ego*, 2007.
Professor Seang Rak Choi is Uroo Ahs.

TWO: HUIZINGA AND THE CHARACTERISTICS OF GAMEPLAY

“Inside the circle of the game the laws and customs of ordinary life no longer count. We are different and do things differently. This temporary abolition of the ordinary world is fully acknowledged in child-life, but it is no less evident in the great ceremonial games of savage society.”¹

Johan Huizinga

The video game medium cannot exist without player participation. This essay examines video games using Dutch cultural historian Johan Huizinga’s five characteristics of play developed in his book *Homo Ludens* (1938). The notion of play is intrinsic to understanding the role of the video game medium and the relationship between play and prosthetic imagination. The participation of game player with game-world is necessary for the existence of the game medium itself. Without the player, the gamespace exists in a dormant state. The medium responds immediately based on game player input and presence. Understanding the role and characteristics of

1 Huizinga, *Homo Ludens*, 12.

play are useful to help the reader understand the relationships among player, real-world, avatar and game-world.

The five characteristics of play discussed by Huizinga in *Homo Ludens* are:

1. Play is freedom.
2. Play is not “real-life.”
3. Play is distinct from the ordinary.
4. Play creates order.
5. Play is connected with no material interest.

“Play is freedom” is the first characteristic of play outlined by Huizinga. Gameplay grants the freedom to simulate any experience possible, with any physics possible, in any environment possible. As game theorist Espen Aarseth explains, “[the video game medium offers] omni-potential for simulation [meaning] that computer games can portray in principle, any phenomenon we would care to think about.”¹ A typical game-world presents the opportunity to express the inherent wants and needs of an individual by retracting the laws of police or ethics of man, the physical and mental limitations of strength or intelligence and it eliminates the social judgment of his peers. This is akin to the ideas discussed by Haraway in “The Cyborg Manifesto,” and is outlined in the last section where Haraway proposes that the cyborg typology presents an elimination of the rules of identity creating an open platform for experimentation. This experimentation may take place in single player computer role playing games through the virtual manipulation of space, identity, or experience. In the space of the game, the player still maintains his own free will. He has choice within the space of the game-world and those choices are the interactive elements that directly contribute to the generation of the medium. Still, despite this relative freedom, a video game medium is not completely free of all rules. As with any system, rules are necessary to understand the space of play itself. It is in a

1 Aarseth, “Methodological Approaches to Game Design,” 1.

more psychological and sociological way that the video game medium is a space of freedom. The individual game player is free to exist as himself, or to become someone different in a space that is outside the physical limits of normative actual reality.

Such freedom is a commonplace in today's popular media. The film *The Matrix* gained widespread popularity and prominence by creating a compelling narrative in a film environment that gave the film's characters the ability to alter the rules of what appeared to them as the physical world. Many questions can be generated out of the seemingly solipsistic universe of *The Matrix*. How in fact do we know that our reality as we perceive it is our own? How do we know we exist or at least have autonomous freedom of action in a real-world? *The Matrix* is the ultimate cyborg film. In the film, every human is plugged into a computer simulation that is processed over a network that we all experience simultaneously as reality. The ability of the hero and the other characters, good or evil, in "The Matrix" is not a manipulation of environment, but a manipulation of their position and consciousness within that environment, which then in turn appears to alter that environment. The hero's acts are a kind of an introspective manipulation of the user himself. The ability to fly, move quickly or jump incredibly for the characters in *The Matrix* was focused on an egocentric experience through control of the self at an ontological level and this was also the type of training the hero/characters undertook in the film's narrative; this training took place in the space known as "the construct." This notion of the plugged-in cyborg is important when looking at how one interacts with the space of a video game. This is because the rules of physics don't necessarily have to apply; the game-world can act in a separate reality. In addition to this, user interaction with that reality can also change. He may in fact be able to control his environment through the use of virtual devices or otherwise. It is a sense of freedom and free will that acts at an ontological and epistemological level.

Huizinga's second concept, "play is not real-life" also has resonance in *The Matrix*. In the film the protagonists "really" exist in a horrific reality,

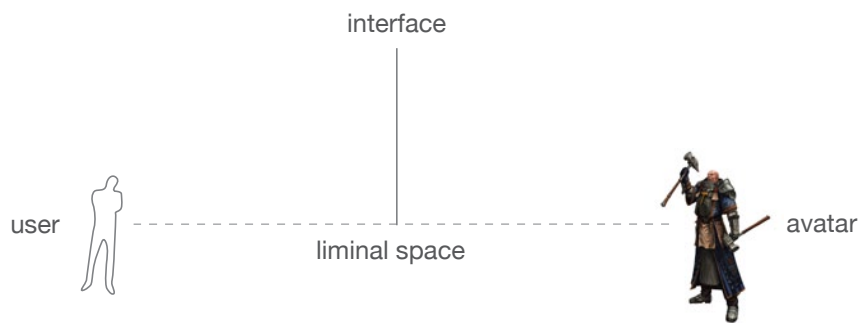


Fig. 16

The user becomes avatar by transgressing liminal space.

where humanity is enslaved, attached to machines as a power source. The hero though, and his cohorts, have freedom of play to rebel inside a virtual existence through the agency of their virtual selves. Applied to the video game medium, “play is not real-life” can be considered as the relationship of player to his virtual existence. Through the window of the screen, the player gains control over the central cast member of the game-world. This means for this is the avatar (see Fig.16) who represents the player within the space of the game-world. Originally of Sanskrit origin, the word *avatara* can be broken down into the root words *ava* and *tarati*. *Ava* means to off, away or “down” (descent). *Tarati* denotes “the act of crossing over” (crosses). Together *avatara* is understood as the “descent of god” into our real-world, much like Jesus descending to this earth in Christian belief systems. The avatar is the agent of the game player that represents his virtual “self.” It is through this being, that the player becomes a puppeteer who superimposes his virtual self into the space of the game-world. This space of “becoming another” is known as liminal space. Author Robert Shields points out, “A liminal zone provides the potential for assuming new identities, and thus the virtual became a liminoid space; not one directed at rites of passage, but rather at experimentation.”¹ Through the virtual system, Shields argues that one can experiment with personal identity in liminal zones of identity transformation. Shields further points that, “these [liminal zones] are zones outside of the equation of both public and private duties. As such they offer the opportunity for escape and the possibility of experimenting with alterative social norms.”² Such liminal space is the psychological transition distance that exists between player and avatar. The user projects his “self” into a vessel—the avatar—and enters into the separate reality of the game-world. There are some further interesting notions about the video game medium, however. As stated earlier in meditation one, instead of virtual disembodiment this process can be considered as

1 Shields, *The Virtual*, 14.

2 Shields, *The Virtual*, 101.

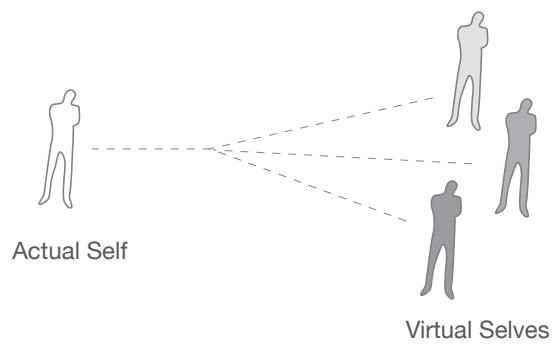


Fig.17

Stereo-reality: the notion of having multiple identities in different realities.

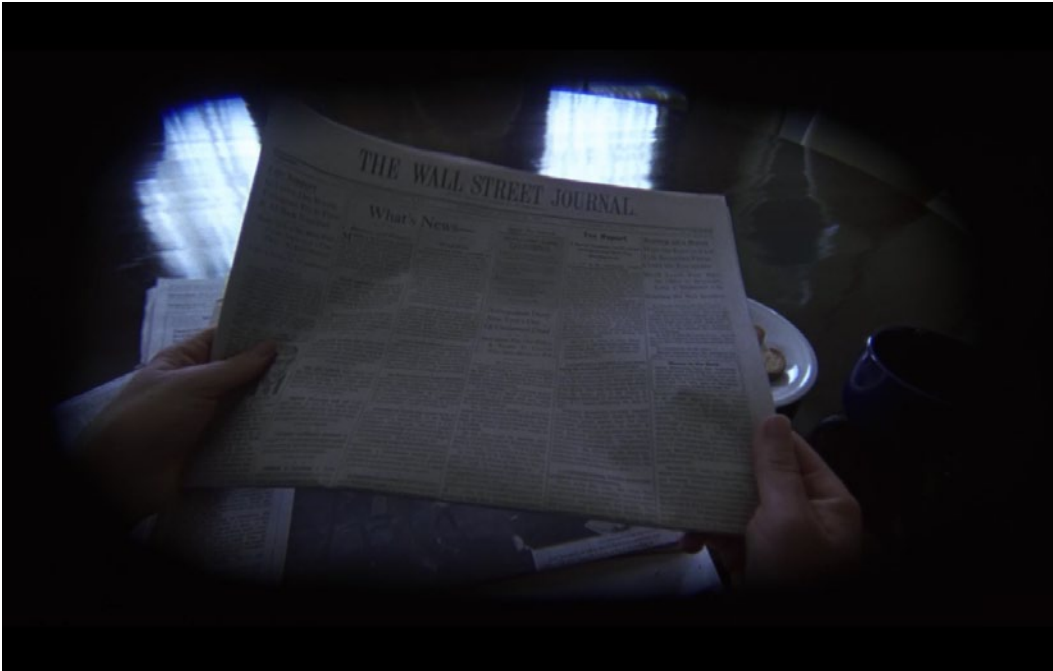
prosthetic. It is a superimposition of the self into the game-world that is achieved through the prosthetic imagination outlined earlier. Player and avatar coexist simultaneously, not really puppeteer and puppet, but rather within the space of the prosthetic world, existing in a state of super-position, thus creating the “player-character.”

Becoming the avatar is also the act of dressing up, a ritual of becoming something different through the way the individual is represented. Huizinga describes, the “‘differentness’ and secrecy of play are most vividly expressed in ‘dressing up.’ Here the ‘extra-ordinary’ nature of play reaches perfection. The disguised or masked individual ‘plays’ another part, another being. In that play, he is another being.”¹ This process establishes the idea that there are then two identities for the player: one in the virtual, one in the actual. Despite this seeming polarity, while it can be said that player and individual consciousness are superimposed through the interface using the apparatus of the prosthetic imagination, the avatar remains a distinct body that the user must become when he enters into the prosthetic reality of the video game. The avatar is different and has its own clothing, race, and hair colour and the sum of these and more differences is the prosthetic identity.

The player’s duality of actual-virtual identity then is established through the creation of the avatar. This result is something that French cultural theorist and urbanist Paul Virilio calls “stereo-reality” in his book *The Information Bomb*.² Stereo-reality is characterized as the formation of two (or more) distinct user identities: one in the actual reality, and one (or more) in the prosthetic reality. The virtual identity of the user offers the opportunity for personal experimentation and transformation. Game theorist Edward Choy comments about the nature of the role-playing game player-character:

1 Huizinga, *Homo Ludens*, 13.

2 Virilio, *The Information Bomb*, 15.



Sequence from
"Being John
Malkovich," 1999
bit.ly/2iZTHC

Fig. 18

Still from *Being John Malkovich* (1999).
The game player becomes puppeteer and
sees life through the lens of another.

The character may be called a creation or an extension of the player, but is never the player proper. RPGs are thus mirrors that reflect a fantastic self to the player, a self that is controlled and can be watched by the player ... by allowing players the experience of living and acting as another being, albeit in a dimension of reality separate from our own—the player is actor and spectator simultaneously.¹

The avatar and the user have both a symbolic and a symbiotic bond. They are simultaneously the same person in consciousness, in desire and in identity. These identities are typically achieved through the notion of “becoming your avatar.” This echoes what American mythographer and author Joseph Campbell describes in *The Hero With A Thousand Faces*:

Only birth can conquer death—the birth, not of the old thing again, but of something new within the body social, there must be if we are to experience long survival—a continuous ‘recurrence of birth’ (palingenesia) to nullify the unremitting recurrences of death.²

This stereo-identity does not necessarily mean that a player must maintain a single identity in the game. If the game is replayed, a player may play as a different identity and test the way that the game responds to this new player character identity. As author John Beckman states, “it is no longer enough to venture into cyberspace with your own personality. You need to cultivate multiple yous, viable doubles and partial derivatives.”³ It is in this creation of multiple identities that the individual can experience multiple iterations of his own identity and thus multiple experiences of space based on the choices made within different personas.

While there are no real-world repercussions for the decisions a player

1 Choy, “Tilting at Windmills,” 57.

2 Campbell, *The Hero with A Thousand Faces*, 16.

3 Beckmann, “Merge Invisible Layers,” on Ctheory.net, March 22nd, 1999.



Fig. 19

*Player Perspective on the game-world.
Top: viewer-centered,
Middle: object-centered
Bottom: world-centered*

may make in the game-world, there are ultimately implications that change the outcome of the player's story in that space of the prosthetic reality. These can be decisions as simple as saving or killing an enemy, but they can also have implications on the outcome of the player's prosthetic identity, however, unlike in real-life, that gamespace decision can be replayed over and over, simulated in different iterations like one of Dawkin's baboons, tested from different vantage points, ultimately leading the player to experience different types of identity, experimenting through the act of virtual role play.

In the same way that a player in a game has to become his avatar, the notion of distanciation comes into play, the act of distancing "your self" from your current objectives and perceptions. In the simulation of identity in the prosthetic reality, this notion comes fully to fruition. As live action role play theorist Pohjola says, "by immersing into the reality of another person, the player willingly changes [their] reality."¹ The player viewing the fictional world through the diegetic frame becomes part of that environment through the act of play. In this way the player becomes an actor and spectator together.

The film *Being John Malkovich* serves as a useful analogy for the avatar-user relationship. In the film the puppeteer (Craig Schwartz) takes control of the another's body seeing through the eyes of actor John Malkovich, a real actor in Hollywood (see Fig. 18). This act of ironic puppetry serves as an analogy for the way that the player views the virtual world through the lens of the avatar. Video games typically use one of three points of view to allow the player to comprehend the gamespace. The view point chosen gives the player a sense of scale and interpretation of his virtual surroundings in a game-world. These three viewpoints are:

1. Viewer-centered.
2. Object-centered.

1 Pohjola, "Autonomous Identities," 84.

3. World-centered.

Fig. 19 shows how these different points of view operate in the game. Viewer-centered is the closest to reality representing the avatar as a projection of self. The object-centered viewpoint is disembodied, relatively close in, and directed at a character object within the environment that is most often the avatar. The last is a world-centered view that focuses on the world itself: the house, city or world. In this view the user is an omniscient external observer required for manipulation of the world from a relatively static viewpoint. This differentiation between viewpoint types is necessary in understanding the notion of “disembodiment” that was mentioned above in the discussion of the player “becoming” the avatar. In the first instance, the player *is* the avatar. She sees the world through the eyes of the player. This is arguably the most immersive of the types. The player sees the world from within the space of the game-world. In the second type, the disembodiment of the game player is more evident. One can see the game-world from a third-person perspective. The game player manipulates the character in a marionette-type fashion. The game player can see the arms and legs move on her avatar in the game-world as if strings are attached at points on the avatar body. When certain keys are pushed on the keyboard, the player can manipulate the movement and actions of her player-character. The third type of viewpoint is even less personal, the player is permitted to control the events of a world from a god-like perspective.

Huizinga’s third characteristic of play is that *play is distinct from the ordinary*. Huizinga uses the idea of the ‘circle of play’ or the ‘magic circle’ to describe a separate space that is demarcated for the player by a set of boundaries that represent a space outside real-life, but also the space where one participates in the game. There are many such boundaries to look at when examining the space of play of the video game. There is the boundary of the room in which the game is played, examples of this are the living room, the arcade or the office. Secondly, there is the boundary of the interface; examples of this are the television, the monitor, or the Iphone. Lastly,

there are the broad spatial boundaries of the video game itself much as “the world” is depicted in the illusion created by the machines in *The Matrix*. As Huizinga points out, “One of the most important characteristics of play was its spatial separation from ordinary life. A closed space is marked out for it, either materially or ideally, hedged off from the everyday surroundings. Inside this space the play proceeds, inside it the rules obtain.”¹ This marking out allows for the player to become immersed within the secondary reality of the game without interference from actual reality. Thus, the video game is a self-contained, independent circle where the governing principles of ordinary life no longer matter. Through the video game, the individual gains the ability to experience a separate hermetic space and often the space of play required for the single player role playing game is a solitary one. This is as Johan Huizinga outlines in his description of “the circle” that is so fundamental to our imaginative life:

Inside the circle of the game the laws and customs of ordinary life no longer count. We are different and do things differently. This temporary abolition of the ordinary world is fully acknowledged in child-life, but it is no less evident in the great ceremonial games of savage society.²

As the interface of game design continues to change, the immersion of player within the respective game-world is also changing. This is brought about by the evolution of game interface technology, the device through which an individual accesses a distinct gamespace that exists separately from his reality. Whether the interface is an oscilloscope as in the past, or the rooms and screens of the suburban home described earlier in this work, or a mobile handheld device that one can take anywhere in the world, people will find a place to play games. As author and associate professor at Claremont University Thomas Horan points out in *Digital Places: Building*

1 Huizinga, *Homo Ludens*, 38

2 Huizinga, *Homo Ludens*, 31.

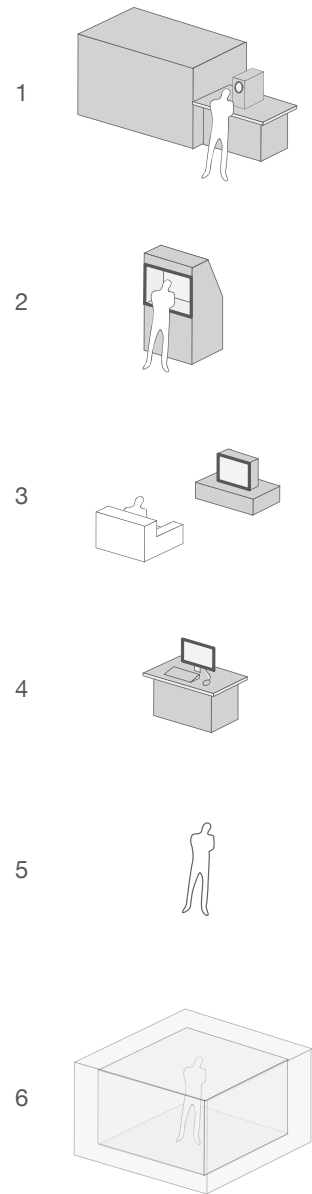


Fig.20

Types of interface as they apply to the video game.

our City of Bits:”

Threshold connection is not the style of the room or screen design, however, but the relationship between constituent parts: where the user sits (eg. solitary or group environments); what the user interacts with (text-based, two-dimensional, three-dimensional virtual representation); and what combination of activities—real and digital—are made possible in the ‘interspace’ between the physical and electronic.¹

Fig.20 shows some examples of the types of interface on which an individual can access the space of the video game. The oscilloscope (1) was the first instance of the video game interface. The games played in laboratories were and *Tennis for Two* on an analog computer using an oscilloscope display in 1958 or *Spacewar* on a PDP-1 in 1962. With growing popularity, video games began to need larger, more complex interfaces and would be heralded by the invention of the arcade box (2). In this format a video game monitor sits within a cabinet found in a public place like a game arcade or even a donut shop where the player stands or sits in front of the console with a coffee and donut to play the game. Currently, the most ubiquitous interface is that of the home television screen (3) or computer (4). Examples of newer interfaces are the mobile handheld device (5) where a player can in fact bring her game ‘anywhere.’ The last iteration under development is the CAVE or Cave Automatic Virtual Environment (6). This is the most complex of the interfaces. It uses stereoscopic imaging, combined with vision and motion tracking that simulates a world on six sides of a player’s perceptive field.

Recalling that “play is distinct from the ordinary,” and while the psychological or liminal transition between actual and virtual reality has long been established, the last item open to discussion here is the method by which a player interacts with the space of the prosthetic reality. This con-



“Tennis for Two”
(1958) Designed
by William
Higinbotham
bit.ly/5YktG



“Space War!”
(1962) Designed
by Steve Russell
Play it at:
bit.ly/W0Gat

¹ Horan, *Digital Places: Building Our City of Bits*, 18.



Play sequence
from *Fallout 3*
2008
bit.ly/gKjJ7X

Fig.21

Screenshot from *Fallout 3* (2008)
The complex nature of the game-world.

trol is effected through the game interface and some sort of external device is usually used as an input of player instructions for the system. This input can come in the form of a mouse, keyboard, touch, glove and so on, and this is the device that allows the player in the actual world to communicate with the space of the game and become the “control mechanism” for the player’s avatar in the space of the game. As the game is played, it generates a response from that player input, and this comes back through the device of the communications interfaces in the form of visual, audio, or sometimes tactile cues. The process is then repeated in a seamless exchange of player instruction and game stimulus.

Through the device of the interface, the player can sink into the gamespace and narrative flow, escape the banal environment of suburbia, and participate in a series of adventures and mythological narratives without the involvement or hindrance of the conditions prevalent within the suburban home. The safe, suburban streetscape is replaced with roads of missions and trials; the fields of roadways and networks of highways are replaced by endless deserts; and the vast Walmart shopping plaza parking lots are replaced by fantastic cities with rich histories and iconographies; extraordinary fictional devices of architecture that provide the substitute spaces in the virtual game environment and as Huizinga would note, “distinct from the ordinary.”

Huizinga’s fourth principle is that “play creates order;” as the player plays through the space of the game, he discovers the rules of the system. This is also how game-world architecture operates, as a system of signs that establish the archetypal patterns of the game world and, in doing so, creates the explicit and implicit spatial structure of the game-world itself.

Architecture in the real physical world consists of elements like beams, floor slabs, walls, windows and doors and these are the basis of higher systems of spatial order as architecture responds to situations of greater personal, social and economic complexity. Such spatial elements are easily reconstituted as objects in a typical game-world bound by the rules of the separate virtual dimension of space-time. There is one major difference be-



Mark Pensky
Games that Teach
to.pbs.org/3JxKgP

tween real and virtual. Video games have no physicality in the space of the video game because gamespace exists in the digitally created dimension; that is to say there are no real and pressing, externally originating “natural” elements that an avatar must be protected from—no natural environmental conditions of wind, rain, cold, and heat. Virtual architecture not needing to protect the inhabitant in a literal sense, must serve a different purpose: a symbolic, metaphorical purpose.

This is not to say that gamespace must be a crudely simplified form of real-world architecture, in fact, it is quite the opposite. The complex nature of gamespace can at first be ominous and overwhelming. The player is allowed to exist in a place where one would never physically go. The gaming environment needs signs in order to train the player’s mind to allow the player to decode and interpret the surrounding virtual environment. In this, video games need to maintain a common bond between the virtual and actual realities. This is achieved through the codification of appropriated architectural forms from the real-world. The game medium must seek a connection that brings the user into the gamespace in a way that familiarizes him with his new environment. It is through the act of play that architectural and environmental signs of the game become ordered and encoded so that the player can understand the space of the game. This is the connection the thesis seeks to make between architecture as a cultural device, the prosthetic imagination as an extension of the player’s mind into a new world, and the potential role of the architect as the creator of virtual gamespace; in a similar way to the architect as conceptual framer of architecture in the real-world.

This concept of order is what Robert Shields describes as, “the space of metaxis; the operation of the imagination which connects the perceptual environment with the virtual and abstract world of meanings which over-code our perceptions.”¹ Architecture is such a regulator of fictional environments. It normalizes virtual space enough to allow the game player

1 Shields, *The Virtual*, 39.

to comprehend spaces that otherwise could be unfamiliar or unknown. With the use of images and constructions of seemingly real-world artifacts, normalization can be established. Door, window, wall are all physical elements that have been appropriated from physical reality and transcribed into the gamespace to conceptually shape movement of the player through a space in the virtual domain. In this way gamespace can be considered as an environment of signs. The player must learn either through personal recall to the real-world or through creative interpretive ingenuity, how to decode and interpret these signs in order to move between spaces and play the game. That gamespace is ultimately a space of signs and syntax where each object and architectural element is connected in meaning to its real-world counterpart.

In order to maintain the fragile condition of suspended disbelief of the prosthetic imagination, a player's corporeal sensibilities must resonate with the architectural elements that constitute the game-world. This allows the player to establish a place for herself within the narrative framework. It makes the space believable through use of a player's intuited responses and memory of an actual space. A door lets you enter a space. A wall controls the movement through and around a space. The window lets you see into a virtual space, creating boundaries of visible virtual space. Game critic and author Jacob Boron outlines, "without the use of real-world metaphors, gameplay would be vague and ambiguous."² If the architectural elements of the game operate in contrast to the player's expectation of an appropriated sign, movement and experience of the game can be counter-intuitive to the progression of the game narrative and confusing for the player.

Architecture functions as a sign that signifies the spatial construct for the inhabitant—the player-avatar—of the game-world. Without architecture, there would be no way for the player to understand the space of the game. The "function" in this context is that while architecture may be irrelevant insofar as the architectural objects themselves have no "production"

2 Boron, Jacob, "A Short History of Digital Gamespace," 26.

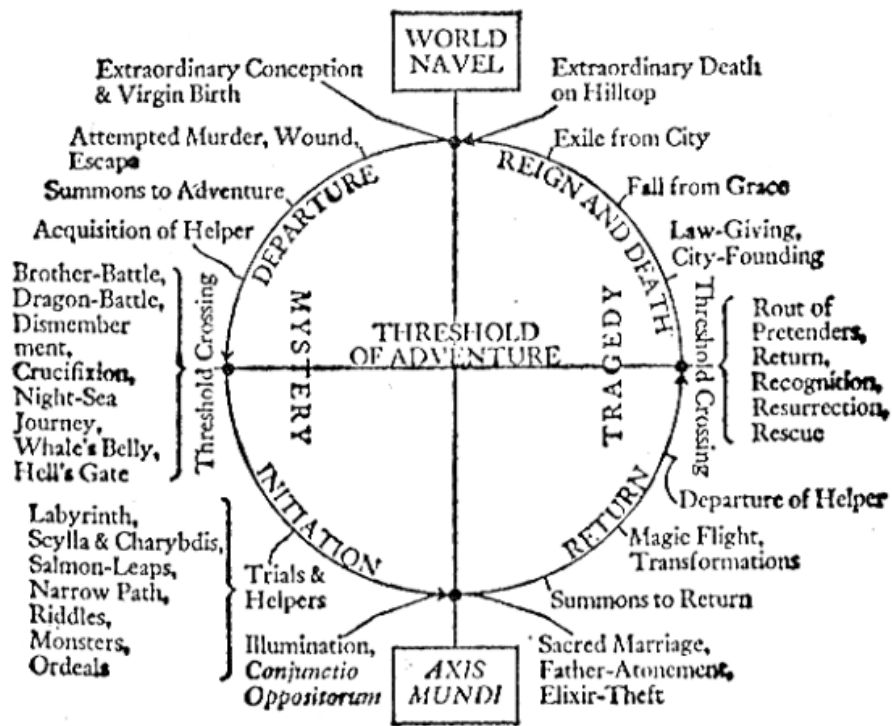
or “function” in terms of their physicality, they are in fact real to the player, and they are vital to familiarizing the game player with their environment. Since the spaces need to appropriate examples of real-world architecture in order to achieve this phenomenon, architecture is a profound link between the actual and the virtual dimensions, a device that serves to anchor the player-avatar in the space of the game-world and to give visualization and form to the prosthetic imagination.

The last principle from *Homo Ludens* is that “play is connected with no material interest.” There is an emerging problem with this principle when it is applied to video games: one where the separation of the two worlds is challenged. The notion of virtual game commodities while not actual, have become most certainly real. These virtual commodities may come in the form of reward; they can be a prize or boon that serves as a token of achievement in the prosthetic reality of the video game world and more recently they can be purchased from online retailers.

While this thesis deals specifically with single player role playing games, there is an example of a different game typology in which Huizinga’s characteristic can be seen as clearly faulty. In the game *World of Warcraft*, a currency is supplied that forms the economy structure of the game-world. This currency takes the form of “gold.” This is problematic as this notion of reward exists in many types of contemporary games and has evolved to have an actual presence in the real economy. While the “gold” itself has no actual value, the value of virtual currency has taken hold of dynamics of play in the game-world. *World of Warcraft* virtual currency has taken on the characteristics of real-world currency. Now, online, a player can purchase a set amount of “gold” using real dollars, a credit card, or PayPal account which can then be applied in game play in the game-world. In the world of the game, this is clearly a “cheat” but it still occurs as a slippage of the prosthetic imagination, which destroys play.

This issue of commerce has a much harder job to corrupt the pleasure of single player play since there is no social cachet in victorious play. The single player knows they have cheated and this knowledge clearly destroys

the pleasure of success. Not so in social gaming and possibly this is where cachet trumps the personal expansion offered in the single player game. The difference could be seen as analogous to the difference between religious practice and spiritual practice. You can dissimulate the former but there is no point in feigning one's own enlightenment.



Myth As the
Mirror for the Ego
Joseph Campbell
bit.ly/eBklWa

Fig.22

Diagram of the hero's journey as described by Joseph Campbell.

THREE: CAMPBELL AND THE ROLE PLAYING GAME AS A GUIDE

“The large human brain, with its capacity for unforeseen experience and unprecedented thought, and the long human infancy which, is longer far than that of any other species, have endowed our race with a capacity for learning that greatly exceeds that of any other creature, and with a danger thereby of disorientation. One of the chief concerns of the ritual lore of primitive and developed human groups, therefore, has always been that of guiding the child to the adult state.”¹

Joseph Campbell

A survey conducted between November 2007 and February 2008 combined the telephone responses from a sample of 1,102 young American people, aged 12 to 17, and their parents. The survey found, “ninety-seven percent of young respondents play video games. That’s 99 percent of boys and 94 percent of girls, with little difference in the percentages among vari-

1 Campbell, *Creative Mythology*, 674.

ous racial and ethnic groups and incomes.”² This shows that these games have become prevalent, important and some would say pervasive rituals for this demographic.

The video game medium provides access to spaces of freedom, adventure, and the contemporary mythologized rituals that characterize a process of individuation. The purpose of this meditation is to determine how contemporary single player role playing video games might inform adolescent maturation by examining how narrative structure and space within single player role playing games support player participation in the mythologized rituals that serve to fulfill the psychological transformation that characterizes a process of individuation. Using the lens of Joseph Campbell, this meditation explores the rich and complex way that single player role playing video games have become important and pervasive rituals in the process of individuation for young individuals.

The spaces and experiences that these games provide act as a substitute for the ritualized experiences that previously experienced in the older primitive and then agricultural cultures of societies. The single player computer role playing video game is among the last spaces of adventure within an industrialized contemporary society that has over the last century destroyed clear rites of passage.

Joseph Campbell suggests that myth has four functions. These functions are the mystical function, the cosmological dimension, the sociological function and the pedagogical function. Of these functions, the pedagogical function is most important to this thesis and probably to the anxieties of identity tormenting our safe suburban youth. The pedagogical function outlines “how to live a human lifetime under any circumstances.”³ These are the deep structures of mythological teachings. The other three functions have no meaning without being coached in the daily concerns of living a human lifetime. The experiences of narrative mythology provide

2 Lenhart, “Teens, Video Games and Civics,” 2008.

3 Campbell, *The Power of Myth*, 39.

important lessons in the maturation process of the adolescent. The experiences of the myth narrative help the individual in their search for self-identity through the rituals that enable mythological transformation. Rituals of older cultures in the process of initiation are often mythologically grounded in the killing of the childhood ego and bringing forth the adult state.⁴ This is as Campbell outlines:

It's important to live life with the experience, and therefore the knowledge, of its mystery and of your own mystery. This gives life a new radiance, a new harmony, a new splendour. Thinking in mythological terms helps to put you into accord the inevitables of this vale of tears. You learn to recognize the positive values in what appear to be the negative moments and aspects of your life. The big question is whether you are going to be able to say a hearty yes to your adventure ... the adventure of being a hero - the adventure of being alive.⁵

Video games have knowingly, maybe even unknowingly since they are so deeply rooted, appropriated these ritual scenarios and introduced them into the game narratives as participatory mythic structures. As Campbell points out, "Man is the animal that doesn't know what to do with itself. The mind has many possibilities, but we can live no more than one life. What are we going to do with ourselves? A living myth presents contemporary models."⁶ Campbell believes that the mythological model can offer a set of rules or rituals for the individual to understand and interpret the world that contains him. This ensures the presentation of a model of morals and ethics through which to interpret and experience life. This is humanity's attempt at upping the imaginative ante on Dawkin's baboon, in effect creating a superstructure into which to fit those first imaginative insights.

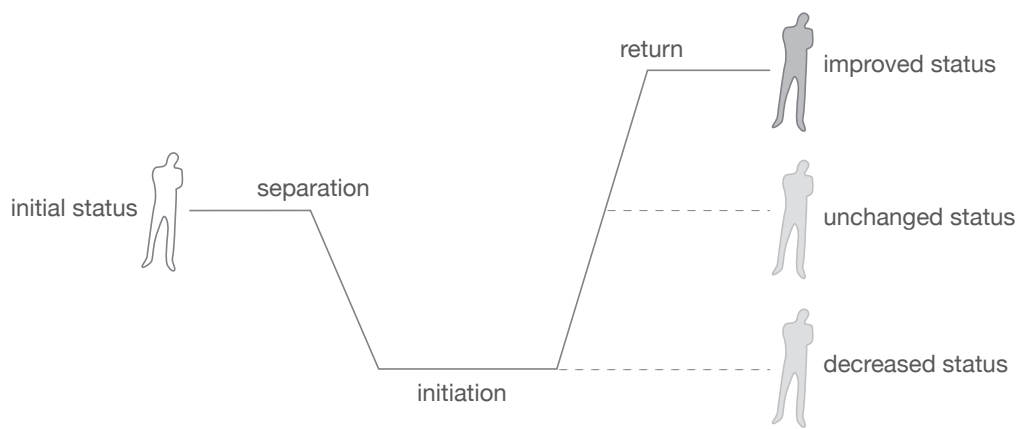
4 Campbell, *The Power of Myth*, 138.

5 Campbell, *The Power of Myth*, 162.

6 Campbell, *The Power of Myth*, 186.



Ali Carr-Chellman:
"Gaming to re-engage boys in learning,"
bit.ly/fv1ZCz



On Becoming an Adult, Joseph Campbell
bit.ly/cMJGDA

Fig.23

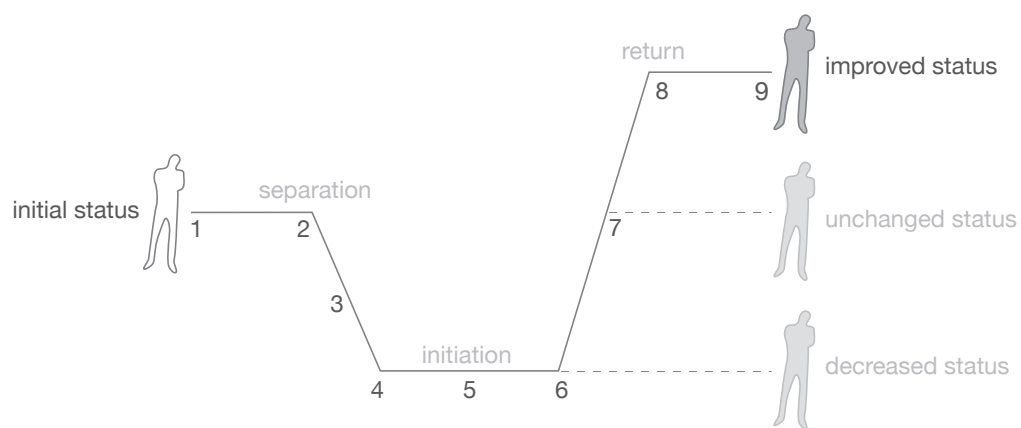
The three stages of rite of passage.

To establish the characteristics of this model, Campbell describes a universal pattern that underlies many mythological narratives. This is the universal pattern of seventeen archetypal events in what comparative mythology expert Joseph Campbell calls the Hero's Journey (see Fig.22). Many single player computer role playing game have appropriated this pattern of transformation knowingly or unknowingly as the organizing principle of their gameplay and narrative structure. The game's code, story and visual architecture contain the narrative clues that help the player navigate the game-world and succeed in the hero's journey, integrating player with her game-world. Again, whether this is a conscious appropriation or whether game designers are moving along deeper psychological paths without self-reflection is an open question here.

Campbell argues that this organization of archetypal patterns has been embedded within the psyche of culture and serves to inform a process of psychological transformation known as individuation, the process of bringing the collective unconscious into consciousness. It is vital for the lessons of the individual and the transitional stage that brings the state of childhood into the adult state. The hero cycle itself is a rite of passage that helps to fulfill this process of individuation. It is important to understand the conditions of the Hero Cycle. This allows the thesis to discuss the act of playing the game as a ritual process. Campbell claims that, "the standard path of the mythological adventure of the hero is a magnification of the formula represented in rites of passage: separation-initiation-return: which may be named the nuclear unit of the monomyth."⁷ The single player role playing video game changes the relationship of mythology and individual in that instead of a reader or watcher of myths, the player becomes a creative participant. The game player must take on the symbiotic and corporeal status of player-character using the prosthetic imagination, immersing himself within the game-world and becoming the hero.

Campbell shows the hero's journey as a three part system (see Fig.23).

7 Campbell, *The Hero with A Thousand Faces*, 30.



- 1 Player as self
- 2 Player leaves reality
- 3 Liminal space
- 4 Player enters gamespace
- 5 Trials and rewards provided by game
- 6 Player leaves gamespace
- 7 Liminal space
- 8 Player returns to the suburbs with new knowledge
- 9 Player re-integrates with society

Fig.24

The rite of passage as it applies to the narrative experience of the video game.

The sequence of these takes the form of three parts:

1. Separation.
2. Initiation.
3. Return.

Separation is the experience of the hero before the quest. This is the state of society and the hero before he sets forth on adventure. In the space of the game-world, the separation stage is an important starting point for the player within the space of the game-world. The separation stage introduces the spatial and narrative framework of the prosthetic world to the player. This stage allows the player to learn the ability to move and look around within his respective environment including the primary codification of architectural symbols needed to navigate the virtual space of the game. This is also the first step of utilizing the prosthetic imagination. The game player must become integrated with the game narrative and his player character to resolve the boundary of the screen and symbiotically and corporeally connect with the player-character. In order for this to happen, the player must shed his original identity in an attempt to free himself into a virtual one. This separation introduces the player to the state outside of normal consciousness as he gains entrance to Huizinga's "magic circle" in order to become something that takes place outside reality in a space that is "not real life." As an example, in Part Two of this thesis, the player narrative titled "Subterranean City" shows the emergence of the hero into the game-world through the birth of the player-character. These first steps of "growing up" in the environment of the game-world allow the player to understand the basic concepts of the in which now he exists and integrate himself within the game narrative and game-world.

Initiation is the state of transition for the hero. It deals with the adventures and trials of the journey. This is the transitional state of the hero. The player-avatar must transgress the first threshold and enter the space of danger, adventure and unknown in the space of the game-world. Here, she

must learn how to navigate and comprehend the space of the game in order to fulfill the role of the hero. This role is the purpose for the player existing in the space of the game-world in the structure of the narrative. This purpose is often denoted as the killing of an enemy, the capture of an item or some other boon. As an example from *Fallout 3*, the narrative of the road of trials is that of gaining experience as the player-character travels through the environment of the wasteland uncovering the secrets and information leading to the recovery of the G.E.C.K. or Garden of Eden Creation Kit. The G.E.C.K. is in essence the same as the elixir of life, the holy grail, or the ultimate boon.

The return is the re-integration of the hero into society. This includes the incorporation of new skills and experience that were acquired on the journey. This is the state of the hero after she has captured the boon in the previous stage. During this stage, the hero is often weakened after the journey. This stage often takes the form of a magic flight in which the hero is helped by a supernatural force in order to navigate the exit back through the threshold of safety. At the end of this stage, the hero can sometimes be exiled from the city or even killed. As an example in *Fallout 3*, the return threshold for the main quest narrative is that of the Citadel. The player returns with the help of Fawkes, one of the game's supernatural helpers, and the player experiences what could be called a magic flight back to safety. At the end of the game, the player must make the ultimate sacrifice and choose to enter the code to activate "Project Purity" which will save humanity, but cause the player-character to die.

Together, these three stages form the basis for the hero's journey. For Campbell, these stages form the foundation for a model of handling the development of adolescence:

If the story represents what might be called an archetypal adventure—the story of a child becoming a youth, or the awakening to the new world that opens at adolescence—it would help to provide a model for handling this de-

velopment.⁸

The single player role playing game provides the narrative structure of myth to the player adolescent as a method to provide a model for handling this development. In effect, it could be said that a new supernatural helper has been provided to the adolescent to help in the transition between childhood and adulthood. The question could then be presented, what does the player bring back with her when she returns to reality? It could be said that the game teaches a sense of morality to the player, choosing the paths that separate good from evil. It might also be said that the game represents a way of testing these paths, to simulate what the feeling of evil might be, even though the player knows what is morally right. The player might return with an understanding of mortality and the knowledge of the finite nature of life itself. Even at a level of self-sufficiency and survival, the game presents a model for dealing with dangerous situations; these are the trials and adventures that take place within the space of the game-world. At the heart of the video game medium it can be said that the simulation of time and space of the game world, combined with the apparatus of the prosthetic imagination, creates a safe place for experimentation and testing of self and experience of the game player and individual.

The single player role playing game provides the narrative structure of myth to the adolescent as a method to provide a model for facilitating the development of adolescent into mature adult. The player becomes directly integrated with the myth and is responsible for the actions of the hero. The game player is the hero. In "Beyond Role and Play," author Martin Ericsson points out in his article "Play to Love:"

The aim of a truly liminal rite is to ensure the stability and continuation of established norm patterns and to teach the initiates the mythological deep structure underlying those patterns. These are mandatory activities that must

8 Campbell, *The Power of Myth*, 167.

be performed by every member of society at preordained times during their life to make sure society stays the same for generation after generation.⁹

This process of individuation can be achieved through the ritual experiences of the game player, accessed and expanded by the virtual space through the prosthetic imagination and enacted through the mythological transformation of the hero as the game is played out to its end. The hero figure itself serves to facilitate a connection between game player and his status as hero within the game world mythology. This connection can serve as the guiding force of the real adolescent as he moves through the threshold of childhood into the realm of adulthood. Thus, the game itself can become a supernatural helper, a shaman, like Merlin of the Arthurian legend, who assists in the processes that characterize individuation. This is as Campbell states:

The myths and rites of which they were the masters, served not only the outward function of influencing nature, causing game to appear, illness to abate, foes to fall, friends to flourish, but also the inward work of touching and awakening the deep strata and springs of the human imagination; so that the practical needs of living in a certain specific geographical environment - in the arctic, tropics, desert, grassy plains, on a mountain peak or on a coral isle - should be fulfilled, as it were, in play: all the world and its features, and the deeds of man within it, being rendered luminous by participation in the plot and fabulous setting of a grandiose theatre piece.¹⁰

The game spaces of the single player role playing video game provide the symbolic and mythological obstacles that give the hero a kind of ritual purpose and achievement thus leading to a state of initiation for the adolescent individual. The prosthetic imagination expands the player's world and allows the player to take on the role of the hero and participate in the experiences and mythological rites of passage necessary for personal trans-

9 Ericsson, "Play to Love." 21.

10 Campbell, *Creative Mythology*, 384.

formation (see Fig.24). The interactive nature of the video game gives the central role to the active participant or the player. Due to this interactive nature the player gains the opportunity to become the hero. The player is in fact participating in mythological transformation through the act of gameplay much as a child in an older culture was isolated as his coming of age, and moved through carefully crafted theatrical experiences in their rite of passage to adulthood. Campbell points out, “the one who watches athletic games instead of participating in athletics is involved in a surrogate achievement.”¹¹ The video game stands at the opposite pole; instead, the single player role playing game ensures that the player is in fact experiencing the role of the hero in a participatory way. The surrogate role of the player-character is inseparable insofar that the player and character exist simultaneously as part of the McLuhanite extension of self. In the space of the game, the player-character takes on the characteristics, roles and responsibilities of the hero in the space of the game-world. In this way video game narrative represents what is becoming an important ritual for the adolescent in the process that characterizes individuation. The single player role playing game is one of the few remaining places in our rationalized and safe society that provides the space of a mythological rite of passage, one that is created through the participation of player within environment. Except for the still available entry into a military branch at eighteen, with the risk of real death in some dangerous place in the world there are few other “safe” options to stimulate the adolescent psyche and challenge his skills, decision-making, and ultimately, values. Unlike the books and mythic narratives that he uses to describe the ritual processes, the game takes on those characteristics and the player must act out those same processes. The player must take on the role of the hero through the apparatus of the prosthetic imagination.

11 Campbell, *The Power of Myth*, 160.



Fig.25

Screenshot from *Fallout 3* (2008)
The re-creation of architectural phenomena through the use of signs.

FOUR: CONSTRUCTION OF GAME SIGNS THROUGH PEIRCEAN SEMIOTICS

“I had observed that the most frequently useful division of signs is by trichotomy into firstly Likenesses, or, as I prefer to say, Icons, which serve to represent their objects only in so far as they resemble them in themselves; secondly, Indices, which represent their objects independently of any resemblance to them, only by virtue of real connections with them, and thirdly Symbols, which represent their objects, independently alike of any resemblance or any real connection, because dispositions or factitious habits of their interpreters insure their being so understood.”¹

C.S. Peirce

This meditation uses the semiotic concepts of the sign as they are constructed by semiotician and logician Charles S. Peirce and applies them to the model of the video game medium. As mentioned previously, gamespace uses signs to normalize space for the player inhabitant. This is the “play creates order” as outlined by Huizinga. As the player plays the game, she gains

1 Peirce, *A Sketch of Logical Critics*, 460.

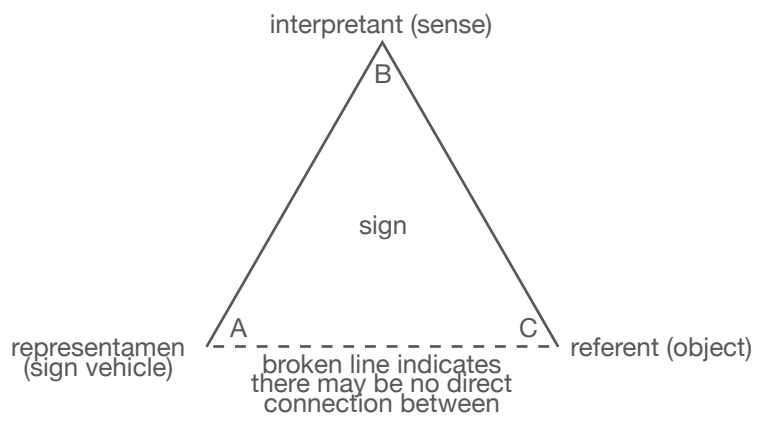


Fig.26

The first Peircean trichotomy of representamen, interpretant and referent.

the ability to decode the signs and understand the personal expanded virtual space of the game-world. These signs are made up of many types, but architecture is prevalent as the environment that forms the primary foundation of the world itself.

The term semiotics is defined as “how meanings are made.”¹ Charles Sanders Peirce developed a taxonomy of signs and created a logic to categorize all signs and their meanings. Examples of this categorization are the following two Peircean trichotomies. The first trichotomy is made up of the representamen, the object and the sign. The second trichotomy is made up of icon, index and symbol.

The triadic relationship of Peirce’s first trichotomy states that there are three parts to a sign. The elements that make up this trichotomy are the representamen, the interpretant and the object (see Fig.26). The representamen is the form which a sign takes, the interpretant is the sense made of the sign, and the object is the end result of the sign; a response. The interaction between these three terms is known as semiosis. An example is a red traffic light. In this sign, the representamen is the red light, the interpretant is the “idea” that a red light indicates vehicles to stop, and the object is the vehicles stopping in reality.²

The earlier meditation on Huizinga established that play creates order. This order comes from the codification of the game-world from the perspective of the player. This codification of signs is important as it allows the player to understand the architecture and space from her personal subjective viewpoint. This is as Finnish game researchers Lopenen and Montola state, “interpreting the symbols is based on understanding of the codes, genres and contexts of the sign use. Codes are systems of signs, enabling us to understand the connection of the sign and its object.”³ In this way this meditation attempts to parse out relationships of the signs in the game-

1 Chandler, *Semiotics for Beginners*, 1995.

2 Chandler, *Semiotics for Beginners*, 1995.

3 Lopenen and Montola, “A Semiotic View on Diegesis Construction,” 40.

world as a way to categorize and give examples of their semiotic qualities. This is purposeful for the reasons British visual semiotician Daniel Chandler indicates:

Studying semiotics can assist us to become more aware of reality as a construction and of the roles played by ourselves and others in constructing it. It can help us to realize that information or meaning is not 'contained' in the world or in books, computers or audio-visual media. Meaning is not 'transmitted' to us - we actively create it according to a complex interplay of codes or conventions of which we are normally unaware. Becoming aware of such codes is both inherently fascinating and intellectually empowering. We learn from semiotics that we live in a world of signs and we have no way of understanding anything except through signs and the codes into which they are organized. Through the study of semiotics we become aware that these signs and codes are normally transparent and disguise our task in 'reading' them.¹

Forming a critical model to interpret the semiotic environment of the game-world is important as it creates a method to use when discussing or designing the qualities game-world signs and their interpretation by the game player. Such a framework is useful in that it identifies and parses certain qualities while attempting to bridge the relationship between the object's specific reality and the reality that the sign retains, or perhaps even transforms once it has been transcribed into the virtual space of the game-world. This is where the classification of what game-world is used as precedent in this thesis is important. Each and every game will have its own series of codes and signs to unravel and determine.

The second trichotomy by Peirce forms a typical dynamic mode of relationship among signs themselves. These concepts are:

1. Icon

1 Chandler, *Semiotics for Beginners*, 1995.

2. Index

3. Symbol

Peirce's icon is a situation where the signifier resembles or imitates the signified or is similar in containing some of its qualities. Peirce's original definition for this was "likeness." Examples of such an icon is the portrait or cartoon. In the space of the game-world, architecture is such an icon that serves to normalize virtual space and create familiarity within new surroundings or environments. This has already been discussed in previous meditations in the thesis, especially the meditation on play. In order to accomplish this familiarity, video game environments typically appropriate iconic real-world architectural building and urban typologies that are routed through the game narrative to form a system of iconic signs for the player. Architecture appropriates iconic images to give context and familiarity to the game-world. The ability of the game to provide a clear iconic portrayal of a physical object that allows the player to understand that object within the space of the game-world is central to game dynamics. Because the digital reality of the game-world cannot reproduce something in an exact way, the iconic quality of the virtual architectural object often fills the "gaps" of reality. These are the gaps that make an architectural object appear as if it is not real, however, as marketing professor Kent Grayson explains, "instead of drawing our attention to the gaps that always exist in representation, iconic experiences encourage us subconsciously to fill in these gaps and then to believe that there were no gaps in the first place."² Even if a thing is lacking in its specific reality, the player will fill in the gaps that are presented within the iconic sign. These gap-fillers for the game's iconic sign may come in the form of game player memories or experiences of similar building types in the real world. This echoes a quality that Peirce believed existed within the iconic role in paintings. Peirce, quoted in Daniel Chandler's *Handbook of Semiotics* states:

2 Grayson, "The Icons of Consumer Research," 41.

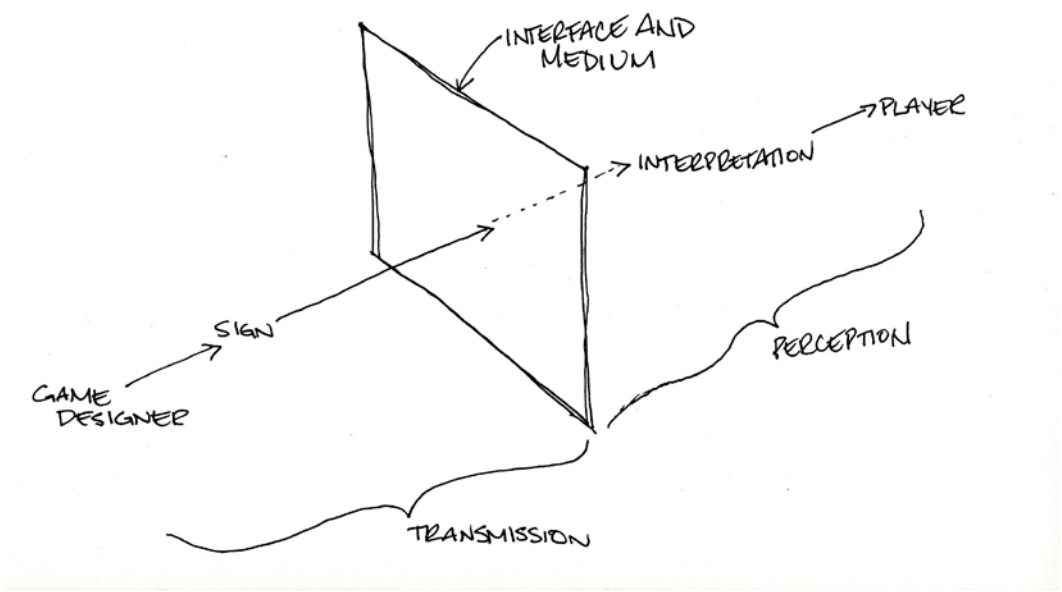


Fig.27

The interpretive model of semiotics in the space of the game-world.

In contemplating a painting, there is a moment when we lose the consciousness that it is not the thing, the distinction of the real and the copy disappears, and it is for the moment a pure dream—not any particular existence, and yet not general. At that moment we are contemplating an icon.¹

The example of the painting is a useful, however, once this notion of the icon is brought into the realm of the game-world, the painting icon is still not sufficient to describe the condition of sign as icon within the game-world. This is because instead of existing as a passive and static medium, the video game is immersive, interactive and dynamic in its spatial and iconic representation. An example of the icon in *Fallout 3* is Rivet City (see Fig.29). This city takes the form of an aircraft carrier. It has airplanes on its deck, it is floating in what appears to be water, the doors of the city are composed of steel and are not really doors at all, they are hatches that can be sealed shut, however, we know that the aircraft carrier icon cannot be an actual air craft carrier; instead, it is a series of geometrically extruded virtual volumes that have texture and normal mapping on the digital geometric volumes to create the image of “real” surfaces. However, through the lens of the player the image of the overall world certainly appears to be true. The diegetic frame of the game-world offers the ability to create a virtual continuum of meaningful icons in a manner that supports a continual state of suspended disbelief for the player. Additionally, the player contributes his subjective diegesis within the space of the game-world using his memories and experiences of what an actual aircraft carrier looks like. This is accomplished through the apparatus of the prosthetic imagination, as the individual shares his “self” with the virtual environment of the game-world. Spaces become real depending on the ability of the game icons to cue those experiences in the mind of the player.

Building on Peirce’s definitions, a different notion for the creation and

1 Peirce, 3.362



Fig.28

*Top: Portrait of Lincoln's Memorial
Middle: Screenshot of Lincoln's Memorial
Bottom: Photo of Lincoln's Memorial.*

codification of signs within the game-world can be proposed. Because the game-world exists in a separate frame of reality—the diegetic frame—all signs contained within this frame could be identified as iconic. This is because they are not “real” things but virtual geometric and textural constructions in a digitally configured gamespace. It is not until the player steps into the diegetic frame do these signifiers take on their signified as the game narrative begins. An example of this is the in-game portrait of the Lincoln Memorial in *Fallout 3*. In an extra-diegetic state, the portrait is a representation of the icon in the form of a digital object that represents an icon. This means that it is an icon of the real icon of the Lincoln Memorial, however, once within the diegetic space of the game, when the player is within the game-world, this icon simply exists as itself. This is because the icon belongs to the game diegesis.

The second element in Peirce’s second trichotomy is the index. An index is a situation where the signifier is not arbitrary but is connected to the sign in some dynamic way. The index may be either physically or causally connected to the signified. Examples of the index include footprints, thermometers and voice recordings. The categorization of the index within the space of the game-world presents some problems. This is because the index is very difficult to separate from its inherent iconic function. Take for instance the “holotape” in *Fallout 3*. The holotape is an audio journal that tells a history for the player so that he may interpret and understand a part of the game narrative that is not immediately obvious that has occurred in the past, unfolding. While the diary is seemingly indexical, indicating and giving voice to a set of histories, its iconic quality as a “tape” is intrinsic to its quality as index. In addition to this, the information that the tape contains is symbolic in that it is a set of words recorded on an indexical medium.

Another example is the role of the player journal. In most role-playing games this is the “quest journal.” It gives a series of goals or quests for the player to complete. As an index it serves to show the progress of the player through the game-narrative and the goals that she must accomplish in or-

der to further this progress. However, the symbolic quality of the journal more fundamental to its existence is an image of symbols in the form of words and that makes the journal inseparable from its symbolic quality as index. The exception to this rule of the pure index could be the existence of time within the game-world. Time does not exist as a symbol, nor does it exist as an icon. The game exists in its own time-scale and is indexical only in terms of player movement through space. The relationship of player to the space of the game is also an indexical relationship as the player changes location within that environment and the relationship of player to environment is inherently indexical. She is the only party responsible for changing the environment of the game-world and thus are the key to interaction and to the indexical change that is caused throughout the narrative and ripples through changes in the game-world as it is digitally represented by the game coding.

In looking at the architecture of the game-world, some interesting notions about architecture as index arise. Index is that aspect of the sign which in architecture can be attributed to the evolved history, or palimpsest, of a architecture and buildings as the residue of all the changes, additions, transformations and demolitions that have occurred. As stated previously, the architecture of the game-world exists as an icon. It is a representation of an object and its specific reality taken from the vantage of the player in the game-world. The indexical quality of the icon as an element of gamespace architecture comes from the use of an implied history in terms of establishing a history and identity for the space of the game itself. The architecture and buildings may take on the attributes of a specific iconography, history or identity, and in doing so, they create an index for the player suggesting who is inhabiting the architectural space, be they friend or foe, as well as the contextual identity for the player to integrate himself within the reality of the game-world. This is as professor of cultural history Anne Bordeleau states, “the use of index enables the consideration of architecture at the level of the immediate encounter, as something that unfolds in time, but

which already has history,”¹ In this way, the game implicitly unfolds in time for the player, presenting the player with a pre-game historical narrative as well as creating a layered history of gamespace and player identity, and its iconographical significance that links the player to the reality of the game through the use of the prosthetic imagination. The cues engendered by the index bring about relate to the player through a dynamic relationship with the game playing by the player. A doorway opens, allowing entrance to the next space or episode as a direct result of the player “opening” the door; the opening of that door contributes to an overall index of the player existing within the game-world. In this way, small effects take place that change the reality of the game due to the influence, hence index, of a player existing within that environment.

The third element of the trichotomy is the symbol. The symbol is the signifier that does not resemble the signified but is part of conventional understanding inasmuch as the relationship must be learned by experience. It is the symbolic representation of something. Examples of symbols are language, numbers, traffic lights. The easiest symbol for the player to understand in the game-world is the spoken word or language, usually an effective way to convey information to the player.

The connection between symbol and icon in the space of the game-world is something that is worth being examined. Just as Saussure believed that languages are always in a process of moving from icons to symbols, so does the language of signs in the game-world move from icons to symbols. This process occurs as the player decodes the signs of a game-world to create order out of a complex unfamiliar system. Because the objects, architecture and many of the designed components of the game-world all exist within the virtual game-world, it is reasonable to assume that all of their characteristics as signs must begin as icons. This iconic identity should be immediately evident to the operator of the game, the game player. This means that a door functions as a door, a wall functions as a wall and the

1 Bordeleau, “An Indexical Approach to Architecture,” 86.



Fig.29

Screenshot from *Fallout 3* (2008).
*Rivet City: The aircraft carrier has been appropriated
from the real-world and re-instituted as a city.*

architectural qualities of each element exists and operates in the same manner they would if they existed in the real-world. What is interesting is that once this iconic condition has been realized, there are certain symbolic qualities that begin to take shape. Using the example of Rivet City in *Fallout 3*, the interpreter can see that the icon of Rivet City is a retired aircraft carrier (see Fig.29), however, before she enters the city, she cannot be sure of its symbolic quality. This may be a space of safety or danger, information or misinformation. As one plays the game, the iconic quality of the gamespace's representational architecture begins to evolve and transform into a symbolic system that denotes and then shapes the usefulness of that architecture in respect to the game narrative. In this way the signs of the game are moving from an iconic to a symbolic state. As these relationships are established within the diegetic frame of the game-world, the icons are transformed into symbols: the museum represents knowledge and information, the hotel represents rest, the bar represents food and information.

Our pre-conceived notions of icon are also something to consider when it comes to space and experience within the game-world. The example of Rivet City can be used here again. At an iconic level, this is simply an aircraft carrier, however, the game appropriates this sign and revises its iconic quality to fit the necessary amenities of the city by providing a market, a museum, a tavern, a hotel and living quarters. In doing so the player understands these icons as appropriations of their real-world counterparts. The perceptions of what an aircraft carrier "could be" are changed using the notion of iconic representation and appropriation. This presents a new way of thinking about the architecture of the original vessel using the apparatus offered by the game's role as an expansive prosthetic to the player's imagination.

In a game, instead of an image relying purely on the senses of the individual, the image is created and textured to meet a criterion that might spark some sort of broader memory and imagination in the player playing the game. Philosopher Gaston Bachelard points out, "the imagination can never say: was that all, for there is always more than meets the eye. And



Fig.30

Screenshot from *Fallout 3* (2008).
*Wayfinding signage in the game-world helps
the player navigate his surroundings.*

as I have said several times, an image that issues from the imagination is not subject to verification by reality.”¹ The image in the gamespace of the prosthetic imagination while taking its cues from appropriated architectural paradigms, may not necessarily have to be verified by reality, because it is not reality. As stated above previously, it exists in the prosthetic reality of the game-world. This echoes the belief expressed by semiotician Alan Grayson, “symbols form a bridge between our consciousness and the world beyond it.”² The space is a simulacrum. Each and every element is designed and implemented in its readied state of interaction. It is a surface image of the original that achieves reality. Coincidentally, Bachelard also points out, “every great image has an unfathomable oneiric depth to which the personal past adds special colour.”³ This is a useful analysis of the image in video gamespace as it emphasizes the effort of the intuited response of the player playing the game. This player may not necessarily need a full simulacrum of space in order to decode and interpret that space for his experiences since the space is “filled in” by previous experiences of similar familiar spaces.

1 Bachelard, *The Poetics of Space*, 86.

2 Grayson, “The Icons of Consumer Research,” 28.

3 Bachelard, *The Poetics of Space*, 33.



Fig.31
 Screenshot from *Fallout 3* (2008).
 Map of all locations available in *Fallout 3*

FIVE: A PATTERN LANGUAGE FOR THE GAME-WORLD

This meditation is an expansion of the codification and implementation of architectural signs discussed in the previous meditation. It breaks down the spaces of the game into patterns that exist in video games similar to architect and urban theorist Christopher Alexander's *A Pattern Language*. This shows how those signs are used to enact the framework of virtual gamespace, however, because the video game-world exists in the virtual dimension, the creation of gamespace is limited only by the dimensions that the game designer has established. The construction of virtual spatial boundaries serve as containers of finite amounts of virtual space. They are an invisible boundary that contains a set amount of inhabitable, interactive, virtual spaces. Outside this spatial realm is an inaccessible void. It has no exterior. The elements of basic working spatial forms to be established within this discussion are: The Boundary, The Threshold, and The Bridge.

To begin, game theorist Ernest Adams defines critical framework for the function of architecture in video games and uses Christopher Alexander's work of architectural theory, *A Pattern Language* as a critical filter to examine the role of architecture in virtual environments, specifically in the game *The Sims*. Adams outlines the role of architecture:

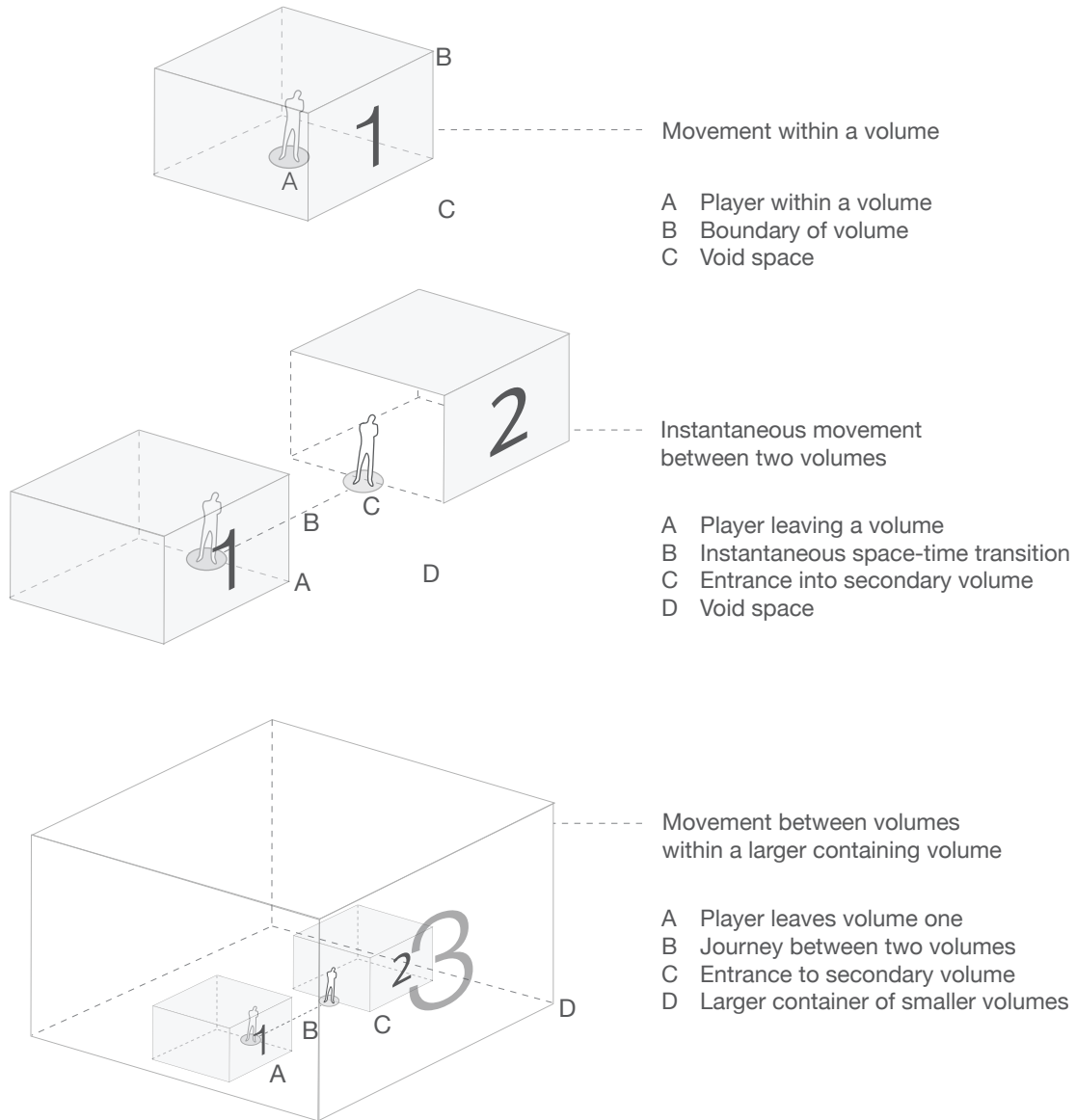


Fig.32

Types of movement.
Top: within
middle: between
bottom: within-between

The primary function of architecture in games is to support the gameplay. Buildings in games are not analogous to buildings in the real world, because most of the time their real-world functions are either irrelevant—the real-world activity that the building serves isn't meaningful in the game—or purely metaphorical.¹

Buildings, environments, objects in games don't necessarily contribute anything in terms of real-world purpose, but rather as mentioned in the previous meditation on Peirce, serve as a series of signs that guide the player through the game narrative by offering him choices within, through the procession of that narrative.

Using some of Alexander's ideas, Fig.32 outlines the operation of a spatial framework that clarifies the operation and framework of virtual space within the space of the game-world. This framework has been developed to diagram the spatial movement in a game-world and serves as a theoretical context for how space governs that movement in and between the spaces of the game. The three distinct architecturally mediated operations that these volumes of virtual space perform are:

1. Within
2. Between
3. Within-between

The first operation is movement within a volume of space. In this situation a player is aware of the interior surroundings of the volume that they inhabit, and that is all. There is no "exterior" to this space.

A second operation typical of the architecture in gamespace is that of instantaneous movement between two isolated volumes. It facilitates a connection between two spaces without actually traversing any amount of

¹ Adams, "The Role of Architecture in Video Games," 2.



Fig.33

Screenshot from *Fallout 3* (2008).
*The boundary prevents access and routes player
through to the correct narrative path.*

virtual space and is a mode of instantaneous travel where a player steps out of a volume and is instantaneously transported inside a secondary volume that can be anywhere within the spatial construct of the game. This movement is commonly used between stages of the game.

The third architectural operation in gamespace is slightly more complicated and involves the navigation of virtual space between two volumes within a larger volume. When a player leaves a volume, she is transported to an interstitial space that exists to facilitate movement between two smaller volumes. In this scenario the player must navigate a space similar to the first example, but with the knowledge that she is “going” into the space of a second virtual volume. With this example, the first space that the player inhabits has an exterior. It can be seen once the player leaves the volume. This is an example of movement between two volumes within a larger containing volume. The reason for movement between spaces is articulated by the structure of the game narrative and enacted through the choices that the player-character makes while she is in the game-world. An example of this type of space is the “Capital Wasteland” of *Fallout 3*. The Capital Wasteland serves as the larger containing volume with finite boundaries in a space of sixteen virtual square miles. It is the ultimate finite dimensions of the overall gamespace. Outside the Capital Wasteland is a void. Within this space is a series of smaller volumes that one must enter. The Capital Wasteland is the large interstitial space like that of the lobby.

As well as positioning in space, there are multiple conditions to organize the movement of the player through the game narrative. These are:

1. The Boundary
2. The Threshold
3. The Bridge

The most obvious of architectural conditions in the game is the boundary. It is the simplest way to designate a volume of space. A game-world, although theoretically infinite in its potential space uses boundaries to define



Fig.34

Screenshot from *Fallout 3* (2008).
The threshold separates two volumes of space. Player must transgress this threshold to enter new space.

a limit on the size of a space. This is typically due to constraints of the software or the hardware, or if it is integral to the game design simply to keep a player focused on their objective. Such a virtual spatial construct needs a visible metaphorical container to convey to the player that there is a limit to movement within this volume. This is often denoted by some sort of architectural framework or element that “contains” the space. Obvious examples are walls and fences, but more complex or unexpected iterations of boundaries can be the rubble from a destroyed building, fallen trees, overturned subway cars, and other varieties of objects that are placed in such a way to denote a limiting edge within an architectural environment. An example of this can be seen in Fig.33 taken from *Fallout 3* where the player must find a way around the broken subway cars. Environmental boundaries may be generated from water bodies, cliff edges, mountain ranges or in some instances, floods or fires. Often, an objective of the player within the game narrative is to find the threshold connection between these boundaries that serves to provide movement in the gamespace and access to new spaces, and to continue the narrative arc.

Some spaces in the game-world may be unreachable or forbidden. The role of the boundary in this scenario is to prevent the player from exiting or entering into what is in the prosthetic reality, an inaccessible volume of void space. Beyond this boundary there is nothing, really meaning no geometry. An example of this is the “edge” of the map of the Capital Wasteland in *Fallout 3* (see Fig.31). Players may be able to see this edge but a boundary or an “invisible wall” prevents access.

Threshold spaces, the second condition, are typically indicated by the existence of a familiar architectural element. These elements are usually appropriated from the real physical world and are typical entities that indicate an opening into another differentiated space. Examples include but are not limited to: the door, the window, the vent, the portal or the gate. They provide the game player with signs allowing him to understand that through this architectural object he can enter into a new virtual volume in the game-world. Just as in the physical realm, doors give one access to



Fig.35

Screenshot from *Fallout 3* (2008).
The bridge connects two volumes of space.

space; their purpose in the prosthetic virtual reality mimics precisely their purpose in the real-world. Christopher Alexander specifies, “if the point where the path crosses the boundary is invisible, then for all intents and purposes the boundary is not there. It will be there, it will be felt, only if the crossing is marked. And essentially, the crossing of a boundary by a path can only be marked by a doorway or gateway.”¹ The doorway threshold in a game represents a metaphorical image for the purpose of entry into another volume of virtual space. The door is a necessary architectural element that gives significance to the transition between volumes by using an architectural sign. An example is the subway entrance doorway in Fig.34 taken from *Fallout 3*.

Additionally, thresholds can be used to limit the progression of a player through a space, constituting a boundary by giving her a pause. That is to say, similar to a locked door, the architectural element can prevent player access to a space and this serves as a boundary condition that a player must overcome through the use of a lock pick, activation of a switch, or use of some other device or ability. The ability of the player to access the space may be dependent on the “level,” or skill buildup of a player when she needs to access a space. In this way, the player is protected from experiences for which she may not yet be ready.

The bridge, the third type of condition, connects two volumes of space. Examples commonly used for this type are: the elevator, the bridge or the taxi. The bridge spaces themselves can be represented in three distinct architectural scenarios. The first is as the interstitial space that separates two volumes. The second is as a virtual bridge where a player exits a volume from a threshold, and is instantaneously transported to a second volume without knowledge of the void space that separates them. The third is more representational and acts like an actual bridge in physical space. It serves visually to connect two spaces together. This may be a lobby, or tunnel, it is an interstitial space that links other spaces together.

1 Alexander, *Pattern Language: Towns, Buildings, Construction*, 277.

The first bridge scenario can be described using the example of the interstitial space in *Fallout 3*, the Capital Wasteland. In order to access the game objectives that are required as part of the game narrative, the player must use this bridge space to travel between volumes.

Secondly, the door type of bridge may serve as an access point that transports an individual between two volumes that are incredibly distant; a virtual teleporter or wormhole through virtual space. Through the door, the player gains the ability to access the bridge space and is transported instantaneously between the two volumes.

The third bridge scenario can be explained using the tube forms from *Fallout 3*. The subways of *Fallout 3* connect spaces together that are otherwise blocked in the surface interstitial space of the Capital Wasteland. In order to access much of the downtown, the subway is used as a facilitator of movement. It is an underground network that connects volumes to one another through more volumes of interstitial linkages.



Fig.36

Screenshot from *Fallout 3* (2008).
The electrical infrastructure remains as monuments to a previous civilization: the urban artifact remains when all else is destroyed.

SIX: ALDO ROSSI AND VIRTUAL URBAN ARTIFACTS

Expanding the more personal scale described by Christopher Alexander, this meditation uses the lens of architectural urban theorist and architect Aldo Rossi as a method to understand and interpret the architecture of the game's virtual city in the same way that he analyzes the real-world city in his book *The Architecture of the City*. This meditation allows the reader to understand how permanences and persistences, two key concepts in Rossi's theory of the dynamic evolution of urban form, operate in the cities of the game-world.

For Aldo Rossi, the city is made up of an urban framework or skeleton and building typology. The urban skeleton is a collective artifact that is generated through two processes. The first is as a manufacture (manufatto) or artifact, in other words the construction of the city at the hands of man. The second is transformation through the process of time, the process that shapes the city through its history and memory. Rossi classifies such permanences into two architectural types: pathological and propelling. Pathological permanences are those preserved presences that serve to identify important events of the past. They are in effect mummified in their original state. Propelling permanences by contrast bring the past into the



Fig.37

Screenshot from *Fallout 3* (2008).
The maintenance room in Megaton shows the decay of time and the penetration of light through a broken roof.

present and continue to function as a record of time as they evolve and transform alongside the city. Games use urban artifacts in much the same way that Rossi describes them in *The Architecture of the City*. Urban artifacts in a game provide an iconographic identity for the game that also serves a purpose in the evolution of its inhabitant; in this case the player-character. Urban artifacts are important in developing the major elements of the spatial language of the game-world and connecting them to the narrative ideas of the game like those articulated by Campbell in his notion of the hero's journey. (See page 136).

The urban memory or *locus solus* of a city in the real-world is the relationship of its urban artifacts to the urban site, event and historic signs. The *genius loci* is in Rossi, "revealed through monuments, the physical signs of the past, as well as through the persistence of a city's basic layout and plans."¹ If the game-world is to properly emulate the city, it should be using the architecture to display a similar change in function of an architectural space over time. This would either be through a mimesis of fictional artifacts, virtual reproduction of artifacts, or the generation of new artifacts from a continuation of the game narrative within the space of the prosthetic reality of the game-world.

Additionally, virtual urban artifacts act as locators for the player and architecturally identify areas of safety, danger, social engagement and various other activities that are part of the game narrative. These permanences aid the player in adapting to unfamiliar spatial environments that are new or unknown and also create a consistency to the game narrative over multiple episodes of play. Once inside the game-world, virtual urban artifacts take on the characteristics of their real-world counterparts garnering the ability to develop a sense of place for the player. These are the artifacts that anchor the individual within the civic space-time of the game-world. Virtual permanences also exist to help the player navigate the environment by allowing her to form associations with virtual urban artifacts.

1 Rossi, *The Architecture of the City*, 59.



Fig.38

Screenshot from *Fallout 3* (2008).
Exterior of Megaton shows the iconographic identity of the city as a reused airplane in the consistent form of the city.

Architecture can also become a locator for the user within a virtual environment. In-game personal objects may come to represent their symbolic meanings; an example is the first aid kit. It represents a potential means of health for the player. At a larger architectural and urban scale, buildings can take on these associations. An example is the bar, inn or tavern (these are usually all the same in typical games as they generally represent the heart of a city.) Within the virtual city the tavern is a symbol that often represents a place where information and safety can be attained. In *Fallout 3* an example of a place of safety is Megaton City in Fig.38. In some instances the tavern may even represent a place to stay overnight to rest. These then are the game's urban artifacts, which act as locators for the player that identify areas of safety, danger or social engagement, as well as other various activities. Architecture in game space acts like its real-world counterparts, anchoring the individual within the civic space-time of the game-world.

Megaton City derives its name from the object that lies at the center of the city: an undetonated nuclear bomb. This is an example of Rossi's city permanence. It is a virtual "urban artifact" that gives iconographic identity to the city. Each of the cities and spaces of the game-world achieve familiarity with the player character through similar objects within their environments with which the user can begin to form associations. They are architectural associations that serve as an explicit iconography for each respective cityscape. The interior of a game city like Megaton City in *Fallout 3* is an amalgamation of accretions from artifacts of ruin. The simulation of space is such that the cohesive image of the city is reliant on the formation of an environment rooted in a plane crash and the respective materials found within: aluminum panels, basic scaffolding, pieces that don't decay organically. In this way the crashed airplane becomes the cultural signifier and image of the city's collective identity as in Fig.39.

In addition to permanences, Rossi describes how persistences contribute to the collective city memory. In the real-world, persistences are generated through a process of duration. The urban fabric of the real-world city



Fig.39

Screenshot from *Fallout 3* (2008).
The nuclear device at the center of the city shows the monument of the city as it exists to the inhabitants of the city and the "Children of the Atom."

is a culmination of building typological variations that eventually coalesce to form the collective identity of the city; it is a biography of the city generated through its architecture and spatial evolution. As Rossi points out:

Certain works participate as original events in the formation of the city endure and become characteristic over time, transforming or denying their original function, and finally constituting a fragment of the city—so much so that we tend to consider them more from a purely urban viewpoint than from an architectural one.¹

The video game must also generate the collective memory of its city from the initial formation of the game-world. There must be a sense of implied persistence generated through the game narrative, implemented in its representation and sustained through its interaction. It must arrive at its conception with the appearance of existing before it existed. A city in the game-world must emulate an aggregation of architecture over time through its form and representation rather than its physical culmination. A game cityscape that builds its palimpsest in an instant, the virtual city attempts to mimic the reality of a stimulating, historical, livable, complex urban environment.

1 Rossi, *The Architecture of the City*, 115



Fig.40

Screenshot from *Fallout 3* (2008).
Radio tower remains in a decimated landscape; it is a marker of history and an iconographic sign for the game-world.

CONCLUSION AND AFTERWORD: THE PLAYER-ARCHITECT

Returning to the autobiographical theme of this thesis, the sad reality with which this thesis concludes is that the fictional space of the video game is one of the last places that has been left in our residential suburbs to experience adventure. The experiences that take place within the fictional space of the game-world are far richer and fantasy-filled than those of the real-world, and serve to shape the individual and give them purpose. For that video games are triumphantly victorious, however, a harsh criticism of the suburbs lies at the heart of this discussion. Planning policy and suburban development have ensured that virtual experiences remain richer and more enjoyable than their real-world counterparts. While I, many colleagues and friends have enjoyed and continue to enjoy the experiences that single player computer role play games present, perhaps a re-examination of the suburban condition is required. This criticism would need to involve the viewpoints of the now mature adult who grew up in suburbia but now lives in the city.

The lack of credit games receive as works of art is perhaps a symptom of the relative age of the video game; in essence, symptomatic of growing pains while society determines the role these games play in larger cultural



context. It seems as though video games are valuable art forms that have the credibility problem of being misrepresented. What one must realize is that these are not simply games, but rich, sophisticated, lucid hallucinations that grant any individual the ability to leave the house without exiting the front door, a space of learning through spatial and narrative interactions that take place within the personal expanded fictional environment of the game-world, accessed through the prosthetic imagination. These games are the only medium that simultaneously encapsulates art, architecture, film, history and iconography; seemingly subsuming all previous media. They, like a Wagnerian *Gesamtkunstwerk*, or total work of art, are a macrocosm of everything we know, are and could potentially become.

Jim Rossignol has outlined a fundamental shift in how individuals within society perceive the virtual space of the video game. The notion that the game acts as a prosthesis for the mind, and even more, the imagination, is the provision necessary to understand the space of the virtual game-world in a richer, more nuanced and genuine way. Through the “extension of self” known as the prosthetic imagination, an elaborate and complex exchange can take place between game player, game-world, memory and imagination. This exchange is powerful as it is the device that immerses the game player within the architecture and space of the game-world, allowing game player to exist within this virtual, yet seemingly real space. This architecture and space itself is paramount as it must serve as the grounding artifact within the space of the game, a sign that regulates the space of the game-world so that the players in fact know and understand they exist within a navigable spatial realm. In this way, the video game becomes a space of signs, each object engendering a semiotic characteristic or meaning. In addition to this semiotic experience, an architectural space must resonate with the player, either through memory or imagination, it must tug at the mind for visual cues that suggest the space is “real.” All of this material is accessible through the apparatus that Rossignol calls the prosthetic imagination.

Another fundamental shift of the medium is that instead of pretend-

ing to be the hero, *you are the hero*; and this is the major distinction between the video game medium and all those medium that existed prior. Just like in the Wagnerian *Gesamtkunstwerk*, the total nature of the game-world cannot exist without the players themselves. The players become the actors in the total work of art, providing the feedback and interaction necessary to shape and complete the play as a whole; this interaction being provided by the ability of the game to serve as a prosthesis for the imagination.

A generation of video game players are forming an army of spatially-oriented individuals who will inevitably change the way that space is conceived and implemented. The question of whether video games are changing the way we perceive reality is no longer relevant. They are, so the question then becomes, how will this change the way that individuals perceive and change their actual real-world environment? The architect in the video game performs multiple roles: as inhabitant, as actor, as participant, as a player. It tells us that through the avenue of the video game medium, one can directly experience a space, a simulation of architecture, that can ultimately change the perception of the inhabitant. At a broader level of design methodology in architecture, the video game shows potential as a tool to explore simulations of not only space, but interactions with simulated patrons (NPCs).

Architects should play video games because at a minimum they change how one perceives a pre-established environment. Games serve to shift the perception and the consciousness of the player-architect out of the everyday thinking that they are familiar with, changing the architectural rules in the simulation, changing the architectural outcome, and thus forcing a perspectival shift in perception. This shift ties into the argument that phenomenologist Paul Ricoeur makes in his seminal discussion of fiction:

The ultimate role of the image is not only to diffuse meaning across diverse sensorial fields, to hallucinate thought in some way, but on the contrary to effect a sort of *epoche* of the real, to suspend our attention to the real, to place



Tim Brown
"Play and
Creativity," 2008,
bit.ly/lxQdW

us in a state in non-engagement with regard to perception or action, in short, to suspend meaning in the neutralized atmosphere to which one could give the name of dimension to fiction. In this state, fiction can, as we said above, create a re-description of reality¹

This notion of the epoche of the real runs parallel to the experience of the video game. The game-world grants the individual the ability to enter into a second reality that is similar to the “real” one, but it is a space where the rules of the real-world no longer apply. Here, the individual is free to try on freedom of play, to try on experience or even to try on identity through the act of role play. The video game acts as an apparatus that facilitates this change in perception and is, as has been noted, a prosthesis that extends the imagination into a virtual realm in an effort to create something new. The events that occur in the fictional dimension of the game-world gain the ability to filter back into our actual reality through the prosthetic imagination and into the consciousness of the individual and then into the habits of thought, judgement and work.

There are already games that have begun to leach from the virtual world of the prosthetic imagination back into the real. An example of such a gaming application is the “Epic Win App” by Rex. In this game, one gains experience points for doing everyday things. Examples are doing the dishes or picking up milk. When the player finishes a goal, their player character gains experience and they eventually level up finding loot along the way. This may all seem silly, but it is a way to motivate the individual through the use of virtual commodity, thereby bringing adventure and excitement to those mundane events and things that have neither.

Secondly, a game can function as a design tool for narrative and experience. Any project that is completed in architecture school, or in architecture practice is virtual until the foundations are poured. Using the apparatus of the prosthetic imagination and more specifically a game engine,

¹ Ricoeur, “The Function of Fiction in Shaping Reality,” 134.

the individual can begin to simulate and experience a space and its implications before it is built. The game model allows for a process of iterative design that allows each iteration to be thoroughly explored before it is developed. The gaming engine presents the opportunity for the architect to play in the space that they are designing. As with architecture, the architect must have the ability to simulate situations that take place within their designs. In this way they use their imagination to envision a player-character moving through the space of design, imagining vistas and comprehending a narrative experiential structure as they navigate the model.

Lastly, the video game medium is changing the way that we as architects design. It is inevitable, and it is for the better. The game presents challenges and opportunities of simulation through experience and identity that can be realized only through the act of play. These acts can then transition into this actual reality through the memory of the individual. The definition for virtual is “almost real” and in many ways, this is what the virtual medium is becoming. Whether that transition happens through memory, or through projection of virtual spaces within this real-world dimension, it is going to change the way that the player architect designs space within the real-world.



*“Virtual reality can
improve design
skills in younger
generation”
bit.ly/giJgKT*



*“Growing up
Digital” by Don
Tapscott
bit.ly/ojINu*

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GLOSSARY

Avatar: The descent of a deity to the earth in an incarnate form or some manifest shape; the incarnation of a god.

Diegesis: the fictional world in which the situations and events narrated occur.

DnD: Dungeons and Dragons. (also D&D)

DM: Abbreviation for Dungeon Master.

Experience Points: A way to quantitatively assign an 'amount' of experience gained by performing tasks.

Gameplay: Gameplay focuses on the game experience; actions, strategies, social relations, players' knowledge and motivations.

Game-structure: Game-structure outlines the dominant mechanics of the game; algorithms that determine the rules (including simulation rules) within the video game simulation. This includes the business, laws and artificial intelligence (AI) of non-player characters (NPCs).

Gamespace: the space engendered by the initiation of a game; populated through the course of a game contents: game space = data space + system space agents: directed by a game master (human or

computer)

Game-world: the game-world outlines the fictional content; narrative, topology and level design. It comprises the art, aesthetics, history and culture of the game.

Health: A way to quantify the “amount” of life that a player-avatar contains. At one hundred percent, the hero is at full health. The player may take damage from enemies or hazards thus lowering the health status. When this status reaches zero, the player-avatar dies.

Immediacy: The direct content of the mind as distinguished from representation or cognition.

Individuation: The process through which differentiation of self-identity takes place. This is typically accomplished by bringing the unconscious into consciousness similar to bringing an individual into a collective.

Liminal: of, pertaining to, or situated at the limen. *Threshold*.

Monomyth: also referred to as the hero’s journey, refers to a basic pattern found in many narratives from around the world as outlined by Joseph Campbell.

MMOG: Acronym for Massively Multiplayer Online Game.

MMORPG: Acronym for Massively Multiplayer Online Role-Playing Game.

Non-Player Character: A non-player character or NPC is a person in the space of the game-world that is not the player character. They exist to assist or deter the hero from his or her quest narrative. As an example, the NPC may run the tavern where a player may seek rest.

Oscilloscope: a type of electronic test instrument that allows observation of constantly varying signal voltages, usually as a two-dimensional graph of one or more electrical potential differences using the vertical or ‘Y’ axis, plotted as a function of time, (horizontal or ‘x’ axis).

Player-character: The avatar of the player playing the game. It is a simultaneous existence of player and avatar in the space of the game-world.

PnP: Pen and paper. This is a generation of text-based game play that took place as a series of narratives through which a player would have to write down their player's experience in a series of character sheets and journal entries.

PDP-1: Programmed Data Processor-1 was the first computer in Digital Equipment Corporation.

Prosthetic imagination: The extension of the imagination from the real-world, into the digital virtual world of the game-world.

RPG: Role-Playing Game.

Suburb: A residential area set on the periphery of the city outside of the urban core. These communities are usually within commuting distance of the city core.

Suspended disbelief: A state of suspended disbelief when a player does not pay attention to the actual reality and has immersed himself or herself in the virtual space of the game-world.

Virtual: Existing in essence or effect though not in actual fact. *Almost.*