Well Played 1.0

Video Games, Value and Meaning

Edited by Drew Davidson

PRESS

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Design & composition by John J. Dessler

THANK YOU

This book was such an enjoyable project. A huge thank you to all the contributors who were supportive of the ETC Press experiment, and also provided articles full of insight and inspiration. A thank you to John Dessler for his great work on the book layout and formatting. And thanks in advance to everyone who joins in the discussion around games being well played. And to my wife, who is simply the best.

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WHAT MAKES A GAME GOOD? OR BAD? OR BETTER?

This book is full of in-depth close readings of video games that parse out the various meanings to be found in the experience of playing a game. Contributors analyze sequences in a game in detail in order to illustrate and interpret how the various components of a game can come together to create fulfilling a playing experience unique to this medium. Contributors have chosen the video games in which they're interested and then they play them well.

To clarify, the term "well played" is being used in two senses. On the one hand, well played is to games as well read is to books. So, a person who reads books a lot is "well read" and a person who plays games a lot is "well played." On the other hand, well played as in well done. So, a hand of poker can be "well played" by a person, and a game can be "well played" by the development team.

Contributors are looking at video games through both senses of "well played." So, with well played as in well read, contributors are looking closely at the experience of playing a game. And with well played as in well done, contributors are looking at a game in terms of how well it is designed and developed.

Needless to say, this book is completely full of spoilers on all the games discussed, so consider this your fair warning. While it's not necessary, all the contributors encourage you to play the games before you read about them.

The goal of this book is to help develop and define a literacy of games as well as a sense of their value as an experience. Video games are a complex medium that merits careful interpretation and insightful analysis. With that in mind, Well Played 1.0 is meant to be the first book in a series. We're already starting 1.5 (with contributors writing on the same games found here in 1.0) and for 2.0 (with contributors writing on new games that aren't covered in 1.0). By inviting contributors to look closely at specific video games and the experience of playing them, we hope to clearly show how games are well played.

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While the game revolves around action and puzzles, the player must often stop simply to admire the game's beauty.

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CHARLES HEROLD

ICO: CREATING AN EMOTIONAL CONNECTION WITH A PIXELATED DAMSEL

No discussion of the potential of videogames as an artistic medium can take place without reference to 2001's Ico, a game most reviewers described as "art" when it came out. Yet at its core, Ico is simply a Tomb Raider-style game involving jumping, puzzle solving and fighting. Like so many of these games, it takes place in a world of artifice where machines and objects seem to have no other purpose than to be used to bypass an obstacle that has no reason to exist.

And yet, from the moment you start playing, there is a feeling that this game is unlike other games. It pulls you into its world so strongly, and creates such a sense of otherworldliness, that it really does have the quality of a living, breathing painting or an interactive art film.

Ico begins with the single weakest dramatic element in the game, an opening cutscene in which a young boy is taken to a moldering old castle and encased in a big pot. It is a dull, slow-moving scene that doesn't make clear what is happening or why, and the player is better off skipping the scene altogether and reading the little intro in the manual that explains that the boy, Ico, is the latest unfortunate child in a nearby village to be born with horns that mark him as a sacrifice.

Without that, you probably wouldn't even know Ico had horns growing out of his head. Ico wears a headband, and the horns go through the headband, so it just looks like some sort of hat.

Once the player is given control off Ico, conveniently freed from the pot by a tremor that cracks it open, this initial misstep is quickly forgotten.

There are a number of things that immediately strike the player about Ico. One is that Ico himself is not the superhero of so many video games. He is a little boy. When he runs his breath becomes ragged, echoing through the vast chambers of the ruined castle. Ico strains to pull a switch, and waddles slowly when carrying a heavy object. His movements have the awkward qualities of a young boy, lacking the grace and fluidity seen in adult athletes and video game action heroes.

Ico's smallness and vulnerability are emphasized by the vast stone castle that imprisons him. Everything in the castle is huge. The pillars, the chasms, the precipices and the mysterious machinery all dwarf Ico. No matter how fast he runs, his short legs make traversing every room a lengthy task.

As Ico explores the castle, looking for a way out, he comes across a young girl locked in a cage hung by a chain at the top of a tower. He frees her.

This is Yorda, a barefoot girl in a translucent white dress. Her skin has a luminescent paleness and she speaks a foreign language. All language is subtitled in Ico, but while Ico's language is subtitled in English, Yorda's is subtitled in mysterious glyph-like characters, which prevents her from explaining who she is or why she was caged. (I've read that in the Japanese version of the game, if you play through a second time Yorda's words are subtitled in the player's language, but this is one of a number of features dropped from the U.S. version of the game).

Yorda is attacked by shadowy creatures seemingly made of oily smoke that try and drag her into a black whirlpool that appears on the ground. Ico grabs a stick and beats them off.

From this point on, Ico's goal is to escape the castle with the girl. There are two reasons to help the girl escape. Emotionally the player wants to save her because she is vulnerable and weak. But if you're not the sentimental type, you'll still need Yorda, because only she, for some unknown reason, is able to open magical gates that close off parts of the castle. Dramatically, Yorda is an emotional focal point, but in terms of mechanics, she is essentially a skeleton key. You cannot even use the game's liberally distributed save points if she is not with you.

As keys go, Yorda is difficult to carry. The puzzles in Ico revolve around creating paths to allow the girl to get from one area of the castle to another. Unlike Ico, she cannot climb ropes or leap to high ledges, so Ico must push blocks in place to create steps, climb walls and pull her up or even destroy sections of the castle to allow her egress.

Unfortunately, this all seems a bit sexist. Yorda is several inches taller than Ico (reflecting the height differential between pre-teen girls and boys), and appears uninjured. Why can't this girl climb a rope?

Some people will dismiss the sexism argument as knee-jerk political correctness, but it is also a common sense argument. Girls can, to the best of my knowledge, climb ropes. In fact, I seem to recall girls in the Olympics doing back flips and spiking balls.

You might argue that Yorda's imprisonment, which could well have lasted for her entire life, would have left her in a weakened, unathletic state. It's a reasonable argument, but the game makes no attempt to posit it. Yorda seems to be in pretty good shape; ignore her and she will run around chasing butterflies. She never exhibits a need for rest.

Ultimately, this is something you just have to live with. In the logic of the game, Yorda fits a stereotype of women popular in the 19th century; feeble, defenseless, easily frightened (hit a stick against a wall next to her and she will flinch, although if you hit a demon next to her she won't react at all) and basically unable to think her way out of a paper bag.

For my own peace of mind, I blame it all on her lifetime of imprisonment.

Once Yorda appears, she becomes the game's entire focus. It is strange in a videogame to be responsible for another character throughout. Action games generally put the player in the role of a lone wolf. If the protagonist has a traveling companion, that companion is usually invulnerable.

Yorda, on the other hand, requires constant attention. Leave her for more than a moment and she will be attacked by shadow demons; fail to rescue her in time and the game ends. At times you must leave Yorda briefly to explore your surroundings, but every second she is out of sight you are thinking of her, worrying about her, hurrying to get back to her before something happens. It made me think of that assignment high schools students are given in which they must care for an egg for a week to underscore the difficulties of caring for a baby.

While this concern is built into the game mechanics, it is emphasized by Yorda's trust and childish fragility. Yorda is powerful as a character because you believe in her. Leave her alone and she will explore her surroundings. This makes her seem like an independent character, although it is also a game mechanism: she will often run and look at something that the player should be paying attention to. Whenever she is attacked, Yorda will run towards Ico for his protection.

One of the notable achievements of the game is its sense of reality. Ico and Yorda seem real. Ico can take Yorda's hand to lead her around, and if he starts running there is a moment where she stands there quietly before the pull of his hand causes her to stumble forward then start running. When Ico calls to Yorda, encouraging her to leap a chasm beyond her capabilities she will pace nervously on the other side, visibly afraid. Ico can lean forward to catch her when she jumps, but even then you can see her trepidation as she tries to determine whether she can make it. As Ico catches her you can see her weight pulling him down before he braces himself and drags her up.

A lot of thought has gone into how characters behavior. If Ico calls Yorda to come to him, she looks around to see where he is before she starts moving. It's a small thing, but Ico is a game built of small things, and it is wonderful how the characters' movements show you their thought processes. It all looks so authentic that as I played I assumed the game had used motion capture technology, but apparently this technology failed to give the game's director Fumito Ueda what he wanted; instead, every subtle character movement has been created through old-fashioned, hand-drawn animation.

While the game revolves around action and puzzles, the player must often stop simply to admire the game's beauty.

The castle itself is a wonderful creation. As you climb to high parapets you can often look out over a vast landscape to see where you have been. At times you will see a familiar location and realize you have spent 3 hours getting from one side of a wall to the other. Ico was the first game I ever played in which the environment felt complete; it is not a series of unrelated levels full of puzzles, but a complete architectural structure that makes sense in every detail.

The game uses light and shadow to wonderful effect. Much of the castle has a gloomy splendor, but some rooms are drenched with sun pouring in through tall windows. There are also arresting moments where you move onto the castle grounds, as when you leave the gloomy interior to discover a windmill by a lake bordered by pale green grass.

The green of the lawn is also striking for being one of the few signs of color in the game's almost monochromatic color scheme. This lack of color is the most notable difference between Ico and the visually similar but much lusher adventure game Myst. The sameness of the charcoal and sepia visuals wearied me at times, which may be why excursions onto the grassy lawn always seemed so exciting.

I don't know whether this was an artistic choice or simple a technical limitation. Game design is a series of trade offs, so more colors could have impacted some other visual effect the designers wanted.

The indistinct pixilated quality of the characters is pretty clearly a technical limitation, yet the impressionistic figures that result give the game the quality of a Seurat painting. This is one of the great strengths of Ico; it takes everything it can get from the PlayStation 2 console, squeezing out every once of beauty, and when the game hits a limit it becomes a strength.

The game's beautiful craftsmanship can also be observed in the great sound design. There is a constant wind blowing in the castle, which is set on an island hill. At times, as when Ico and Yorda are on a high tower, the wind howls, while in some subterranean chamber it is distant and muffled, but it is rarely silent.

Ico is wonderful as a purely visceral experience. Faded sunlight plays on crumbling stone as Yorda and Ico run through the castle, her white skirt billowing, their echoing footsteps and heavy breathing heard just over the perpetual wind, pigeons or doves fluttering through the windows. This is what I must show friends when they come over. It is not the puzzles or the combat that makes me put Ico into the console and play it for them; I just want them to experience the game's visceral elegance. I have played Ico through twice, once when it came out and a second time before writing this essay, but I have played through pieces of the game repeatedly in order to show people what makes it special.

The attention to detail that distinguishes the game's look and sound also distinguish its gameplay.

Ico is primarily an adventure game of environmental puzzles revolving around getting Yorda to the next gate. Sometimes this is as simple as pushing a block to where she can use it as a stepping stone to a higher location. Other times it involves using levers and switches, jumping, climbing and making your way along narrow ledges.

Puzzles are very logical. No guessing is required, as it is always possible to scope out the environment and ponder on what you need and where you can get it. Usable items have a slight glow or draw attention to themselves in some other way; torches crackle noisily in case Ico needs flame. Puzzles are not, for the most part, especially difficult, although there were times when I was stuck on one for a while. There are certainly more difficult adventure games, but much of their difficulty is often a result of requiring the player to do things that make no real-world sense, like opening a door with a banana, a flute and a quart of acid.

Battle is also easy; even Ico's final boss battle is easy as final boss battles go. Combat basically consists of hitting demons with a sword until they melt away. Demons can't kill Ico, and don't really want to; their only desire is to drag Yorda away to their shadowy realm.

This makes the demons smart but single minded. Two will gang up on Ico while a third grabs Yorda to drag her into the portal.

Combat is somewhat exciting but too simple to be considered much more than a dramatic device created to add suspense to the narrative. All Ico does is swing his sword or stick at demons over and over. There are none of the combos and fancy moves found in a game like Tomb Raider: Legend or Prince of Persia, but then, Ico is a small village boy with no combat training, and he fights demons with the straightforward swing of a child playing at being a pirate.

In Ico, gameplay serves story in a way it does in few games. Even though the story is ultimately fanciful, there is a commitment to its internal reality that keeps the player firmly rooted in the game narrative. This is not to say that nothing in the game design is artificial - certainly some of the puzzles rely on an architect who placed levers in ridiculously out-of-the-way places - but overall, combat, puzzles and the mechanics of guiding and helping Yorda all make sense within the context of two young children attempting to escape a cursed castle.

Like everything else in Ico, the story is slight and delicate yet has surprising power.

Like most story-driven videogames, the narrative in Ico is split into explicit and implicit threads. There are events in the game that make up the explicit story. Ico is left to die in the castle. Ico frees Yorda. Ico and Yorda confront the Demon Queen who has kept Yorda prisoner. These moments are portrayed in brief, infrequent but effective cut scenes.

The implicit story is told through gameplay. This involves the act of helping and protecting Yorda and of exploring and observing the castle. This implicit story is what gives the explicit story its power. Yorda is important not because of her occasional incomprehensible words to Ico but because the act of protecting her creates an emotional connection between the player and the damsel in distress. And it is trekking through the castle and viewing it from its highest points that creates a sense of scale and of entrapment. Movies can make us care about a character by creating a personality and a context, and can create a sense of situation through showing incidents, but a game can create feeling through experience.

Those moments where the implicit and explicit stories connect are the most powerful in the game, as when it seems that Ico and Yorda are about to escape the castle. The gate opens, a long bridge extends, and as you run forward, you think, this is it. There is the excitement of success, and a belief that you are about to see the world of Ico beyond the castle you have been trapped in for so many hours. When that hope is snatched away, along with everything else you have gained in the game, there is a genuine feeling of loss.

The explicit story and the implicit emotional journey mesh again beautifully in the game's powerful ending. The affection you have formed for Yorda and your intimate familiarity with the castle you have explored make the final scenes incredibly affecting.

The last sequences are worth discussing in detail, but before I do, I want to urge anyone who has not played Ico to stop reading this essay right now. Seriously; go buy the game and play it: you can finish it in under 10 hours. Ico has the most memorable ending of any video game I have played, and I'd hate to ruin it for you.

In the last section of the game, Ico loses Yorda. It is very lonely exploring the castle without her, although after some exploration Ico finds a sword that allows him to open gates himself. Finally he finds Yorda, the Demon Queen and a whole bunch of demons in the room in which he was originally imprisoned.

Killing the demons is more melancholy than difficult. There are many of them, but they are harmless, yet Ico must vanquish them all while moody music plays (a harbinger of Ueda's next game, Shadow of the Colossus, which centers on the senseless killing of peaceable monsters). The demons are horned, suggesting that they may be the souls of all the other horned boys sacrificed over the years.

Once the demons are vanquished, Ico faces off against the queen in an interesting boss battle that has some challenge but still has to be considered one of the least difficult boss battles in gaming history. During the battle, both of Ico's horns get broken off. Perhaps this means that, like Pinocchio, Ico has become a real boy. Certainly it is symbolic of something, but I will leave matters of symbolic interpretation to others.

Ico vanquishes the queen, of course, but it is too late to save Yorda, who it is revealed was raised to be the new host for the Demon Queen's soul. The ceremony to transform Yorda has begun and she is filled with the demonic blackness, becoming herself a shadow demon.

The castle seems to have been held together by the queen's will; after she dies it begins to collapse in a series of tremors like the one that initially freed Ico. Meanwhile, the fight has left the boy unconscious; he lies on the stone floor as the castle falls around him.

As the earthquake ravages the castle, Yorda walks up to Ico and, now imbued with demon strength, lifts him up and carries him through the castle to an underground inlet. She puts him in a rowboat and shoves it into the water, then watches as he floats away.

As Ico drifts out to sea, we see the castle falling. The game revisits all the towers and caverns and chambers the player has explored, showing them each in their final moments. It is a last glimpse at the player's journey.

As I watched the castle fall, Yorda still inside, I felt stunned disbelief. I had spent the last 8 hours protecting Yorda, leading her towards safety. Saving Yorda was to my mind the purpose of the game, and in that I had just failed. I had let Yorda down.

I knew I hadn't failed in terms of gameplay; I had played well. But the game did something games don't do; it gave me a sad ending, an ending of melancholy failure.

All through the credits I sat on my couch feeling dismayed. I couldn't believe what had just happened. I watched the castle fall brick by brick, and then I continued to watch as the collapsing castle was replaced by a black screen over which the rest of the credits played.

At the end of the credits though, the game continued. Ico awakens on the beach and the player is once again able to control him. There is nothing to do at this point except explore the beach, and as Ico walks along he sees something at the edge of the water. It is Yorda, somehow still alive. She is neither the demon Yorda nor the luminescent Yorda, but a normal, flesh and blood girl. She says something to Ico and the game ends.

That ending made me so happy. I was thrilled, I was relieved, I was filled with ecstatic joy. Yorda was safe and all was right with the world. The game had resolved itself as games should; I had won the game and I had won in the story.

Ueda's willingness to make players sad is one of the things that distinguishes him from typical game designers, and one of the things that makes his games feel like art (he moved much further into tragedy for Shadow of the Colossus). I appreciated his willingness to bring the player down, but I also appreciated his willingness to leave the player on a hopeful note.

Some people feel tragedy should be left alone. In a college film class my teacher ranted about the ending of the classic silent movie The Last Laugh, which seems to end in abject misery then tosses in a slapstick coda. He felt it was just a way to make the film more commercial, but I felt he held the common and mistaken belief that tragic endings are true endings and happy endings are inherently false.

My feeling is, all endings are inherently false, because life does not work like that. All of us end in death, of course, but in the meantime our lives are a series of joys and miseries, and encountering misery one moment does not mean you won't find joy in the next.

For me, Ico's double ending is the final perfect element in a game full of perfect moments. It is also the final example of what makes Ico so special, and so different from 99% of video games. Ico is a game that expresses a distinct vision. It is a game that expresses our doubts and joys through our actions and a game that shows that bravery, intelligence and caring for others are noble and will be met with success. It is a simple fable of good triumphing over evil, and it is ultimately a game of hope.

It is in every sense a work of art.

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*Super Mario Bros.
changed my life.*

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PATRICK CURRY

EVERYTHING I KNOW ABOUT GAME DESIGN I LEARNED FROM SUPER MARIO BROS.

Introduction

Super Mario Bros. changed my life. From the moment I laid eyes on the game until… well… right this minute, I've been obsessed with this fat little plumber and his bottomless-pit-jumping, fireball-tossing adventures. No other game has inspired me to spend so many hours playing, watching, reading, writing, and drawing… not to mention the countless thumb blisters. Some of this is due to the time and place that I first encountered Super Mario Bros. – I was of an impressionable age with copious amounts of free time and an unlimited supply of graph paper. But a great deal more is due to the fact that Super Mario Bros. is one of the greatest games ever created.

Super Mario Bros. has been one of the most inspirational games not only to me as a game player and game designer, but also as a game design instructor. I find myself often coming back to Nintendo and Miyamoto's early games as points of reference and sources of solutions for seemingly complicated design problems. Few core concepts in game design were overlooked in this seminal work, and for its time and the technology that was available, Super Mario Bros. is an extremely well rounded game. It should come as no surprise that the original 1985 game can serve as a summation of game design, since it was the practical design template for videogames at large for over a decade.

Even if my students aren't old enough to have had Mario make an impression on them in his 2D glory-days, they are still familiar with his 3D exploits, and the concepts that I'm about to discuss have only been improved and expanded on in Mario's numerous sequels, side-adventures and spin-offs. These patterns are not at all limited to Mario games or platformer games, and can be found in most, if not all, videogames. So now, without further ado, is my practical understanding of game design as viewed through the lens of Super Mario Bros.

Overview

Super Mario Bros. is an action-adventure videogame originally released in 1985 for Nintendo's Famicom and Nintendo Entertainment System brand home videogame consoles. In modern genre lingo, we refer to the game as a side-scrolling platformer. The player takes on the role of Mario, a mustachioed Italian-American plumber dressed in trademark red overalls and matching cap. Mario is magically transported to the fantastical world of the Mushroom Kingdom, where he must rescue the kidnapped Princess Toadstool from the clutches of the evil King Koopa. Between Mario and King Koopa are eight trap-filled "worlds" and Koopa's army – composed of anthropomorphic animals, plants and mushrooms. As Mario, the player must run, jump, duck, and swim through thirty-two levels to defeat King Koopa, save the princess and "win" the game.

Give the Player Clear Objectives

When someone sits down with a new game, be it a board game, a word game in the newspaper, or videogame, his first question is always "ok, what am I trying to do here?" The player's objective is quite possibly the single most important piece of information he needs to play the game and have fun. Every decision he makes will be run through the filter of "does this help me achieve my objective or not?" So as game designers we have to answer this question quickly and clearly. And if the game is of a more open nature, we still need to tell the player that he can select or make up his own objectives.

In most arcade and home videogames of the 1980s, the backstory and setup was something of an afterthought. Some scrolling text that appeared in the game's "attract mode", or a paragraph of seemingly unrelated text printed in the game's manual described some events that remotely resembled what was happening on screen. And Super Mario Bros. is no exception. We can look at Super Mario Bros.' objective two ways: either as the first-time player who has just picked up the controller, or as the player that's read the manual or is already familiar with the mythos of the Mario universe.

For the first-time player with no prior knowledge of Mario or his exploits, very little is presented as far as story or objectives go. The game begins with a lone figure standing in front of a green hill on a blue sky background, with a single white cloud high above. The words "Super Mario Bros." on the title screen suggest that this is Mario, or at least one of the "Mario Brothers," whoever they are. Walking to the left does nothing. Mario cannot interact with the hills or grass at all. But walking to the

right reveals a bit more of this world. The screen smoothly scrolls as Mario walks to the right, and soon the first pieces of interactive architecture appear, as does another habitant of this world – a walking mushroom man, known as a "Goomba."

In thirty seconds of play, the player has discovered Super Mario Bros.' primary objective: move to the right. At an abstract level, this is all the player needs to know. If we were to write a computer program to play the game for us, it would need to know nothing of the backstory, the characters, or what's at stake if Mario fails. It would only need to know that its goal is to proceed to the right and recognize that if it cannot proceed to the right, it needs to attempt a different tactic for advancing.

There are of course some limitations and rules presented to the player along with his "move to the right" quest. The player must keep Mario alive to continue his eastward progress, so traps and enemies must be overcome. Each level (subsection of a single world) in the game has a 400 second time-limit, and Mario dies if he does not reach the end of the level within that time. The player begins with three lives, and loses a life each time Mario dies. If the player runs out of lives, his game is over, and he starts back over at the first level. Even with these restrictions, the game's objective can be described in such simple terms as "move to the right, don't die, don't let the time limit expire."

Compared to today's games always moving to the right is a downright basic objective. But its genius is in its simplicity. It is incredibly simple, easy to explain to a friend, easy to learn, and easy to remember. The end of each level is rarely more obscure than just "to the right", so players aren't left feeling lost or confused about where to go or what to do next.[1] Since the player always knows in which direction he needs to move, he can put his brain power towards deciding on the exact path and tactics he wants to use to get there. The two-dimensional nature of the game excludes the possibility of a horizon line the player can use as a compass, so in effect the right edge of the screen *is* the horizon – the point at which the area immediately in front of the player becomes visible, as well as the point where the player's future becomes obscured.

As games have become more complicated we've started using more cues to help tell the player what to do, and you can rarely over-communicate the player's objectives or options. (Granted you can be overbearing or annoying about it, but if the player wants to know something, you need to have a mechanic in your game to get him the information he needs.) While a more modern game would almost certainly spell out the game's objective in text, dialog and iconography, I'd argue that since Super Mario Bros.' objective is so easily discovered and is so consistent, that extra explanation is not missed, and very few players are ever lost or confused about what they are trying to do next in the game.

Not surprisingly, reading the manual to Super Mario Bros. does not inform the player much more than playing the game for five minutes does. The player is told some more specifics – that each level ends with a castle and that jumping on the flagpole can score additional points. The story in the manual about Princess Toadstool and her "mushroom retainers" being held in the castles does help reinforce and explain the reasons for the game's overall objectives. Mario must run to the right *because* that's where the next castle is. Mario must not die *because* he needs to save the Princess. And finally, while the manual doesn't spell out why Mario must reach the castles before the time limit expires, it isn't a stretch to imagine that it is *because* King Koopa has a schedule to keep.

Give the Player the Control

Miyamoto's games are most often praised for their fine-tuned player controls. Super Mario Bros. set the standard for responsive controls in the 2D era. Other games of the era, even hit games like Castlevania and Mega Man, feel slow, clunky, and unresponsive when compared to Super Mario Bros. Highly responsive controls give the player a feeling of empowerment, and beyond that, enable her to be expressive in her mastery of the controls and the main character's abilities. Super Mario Bros.' simple, consistent controls are easy to explain and easy to learn, making the game accessible to a huge audience, and they are, in my opinion, one of the primary reasons for the game's massive popularity and commercial success.

Like most action games, Mario's movement and actions are directly controlled by the player through pressing buttons on the controller. Pressing left or right on the directional pad makes Mario walk left or right. Pressing the A button makes Mario jump, and pressing the B button makes Mario throw a fireball, if that power is enabled. Pressing down on the d-pad while in "Super Mario" mode makes Mario duck. While seemingly simple, there is complexity and depth to be discovered and mastered by the player. Simple combinations of interactions give Mario additional abilities. Holding down the B button while moving makes Mario run faster; holding down the A button makes Mario jump higher; running and then jumping lets Mario jump further; and using the d-pad while mid-air can influence (slightly control) Mario's movement before he hits the ground.

Once a player has mastered these combinations, there are some "emergent" abilities to master. A skilled player can wedge Super Mario under low overhangs that he normally cannot fit into by sprinting, ducking, and then sliding under the overhang. The first time a player sees this her reaction is likely to be "wait, wait… you can't do that!" It's unclear if this was an entirely intentional inclusion in the game, or if it's

something that players uncovered after spending countless hours in the Mushroom Kingdom. Another similar ability is the duck-jump. While ducking the player can jump, and then air-steer a still-crouched Super Mario into small spaces that only "normal Mario" can fit. And almost certainly not intended by the game creators is the "wall climb", where the player can wedge Mario between the left edge of the screen and a column of bricks, essentially climbing her way out of the normal play area and up onto the "roof" of the level.

This is not to say that all games need hidden and emergent combinations of abilities, but they do need simple, clean controls. By assigning each device (d-pad, button) on the controller a clear function, the player is able to experiment by combining button presses and the sequences of button presses. The depth of controls has grown over the years, both in the Mario series and games at large. But the Mario games remain singular in that they present both challenges (button combinations) and rewards (animations, sound effects, abilities) to the player in the controls. Even before the player embarks into a level to take on the more concrete challenges, she is having fun being and puppeteering the main character. If you can make your game fun from the first second the player picks up the controller, you have a head start towards creating a game that's fun for the long haul.

Challenge the Player

Challenges are what we game designers throw at the player to keep him engaged in our games. Challenges are the "main course" of the gameplay: the largest percent of the player's time is spent overcoming challenges, or strategizing about how exactly he will attempt to overcome the next challenge. Even the game's objectives can be viewed as very large composite challenges. To "win a game" the player must overcome a series of smaller challenges. When we sit down to design a game and answer the question "what does the player actually *do* in this game?" the question we are actually attempting to answer is "what challenges will the player have to overcome, and in what order are we going to present these challenges to him?"

As such, challenges are a critical part of how fun and successful a game is. If a game is described as being too-easy, too-boring, or too-mundane, I believe it is being described as not challenging enough. If the player is not actively engaged, putting some effort into an endeavor, he has no chance of feeling good about himself once he's overcome the challenges. I don't mean to say that all games need to be "hard" or "difficult", but the game has to engage the player and ask (if not force) him to overcome challenges with his mind, his body, and his heart. A fascinating description of the allure of challenges can be found in Cziksentmihalyi's *Flow*.

There is definitely an art in designing the challenges for game, selecting the pace at which they are presented, and then combining them to create new, interesting experiences for the player. Super Mario Bros. is a fantastic study of the types of challenges in videogames, and most of these patterns can be found time and time again in modern games. All action/adventure games, from Crash Bandicoot to Half-Life have these patterns with only slight alterations, adjustments and improvements.

The overall goal in Super Mario Bros. is to complete the last level and rescue Princess Toadstool. To achieve this, the player must first complete a series of levels leading up to the last level. And to do this the player must reach the end of each level without dying before the time limit expires. To reiterate the simplified goals of the game again: run to the right, don't die, and don't let the clock expire. These are the persistent challenges that the player must face at all times during gameplay, independent of what level the player is currently playing, how long he's been playing, or how many lives he has. Meanwhile, each level in the game is a collection of new challenges that only exist in that level. The level is a "bundle" of challenges if you will, and once the player has completed a level, he doesn't have to worry about the challenges of the prior level, only the challenges of the level ahead.

The level-specific challenges in action games can be split into "environmental challenges" and "enemy challenges". Environmental challenges are challenges that are built into the virtual game world – they are the inanimate objects, obstacles, and traps that the player must overcome as he traverses the game world. Meanwhile the enemy challenges are the free-roaming characters that oppose the player in his pursuit of his objectives in the game. As such, the player must defeat, outsmart or avoid these enemies when he comes into contact with them. The levels in most successful action/adventure games have a mix of environmental challenges and enemy challenges, often half and half, as each presents its own particular flavor of gameplay, level of risk, and types of rewards.

The design of each level in Super Mario Bros., from start to finish, can be thought of as a single large composite environmental challenge with multiple enemy challenges placed within. It is the composition of these numerous individual challenges that give a level not only a unique aesthetic, but also unique pacing, difficulty, and risk-level. Successive levels build on the challenges and skills required to complete the prior levels. When the player completes a single level he has proven to the game that he has mastered those skills and is ready for the next set of challenges. As such the player is rarely presented with a challenge he is not equipped to handle.

Environmental Challenges

A single brick sitting at ground level in Super Mario Bros. is enough to constitute an environmental challenge – the brick blocks the player's normal progress to the right. The player overcomes this roadblock challenge by using one of her abilities – pressing the A button while she holds the d-pad to the right, to jump over the brick and proceed through the level. Two bricks stacked on top of each other present a slightly more complicated challenge, as the player has to hold down the A button for longer to jump higher. A bottomless pit in the ground presents a different type of environmental challenge, this time one with some risk attached to it. The player uses the same ability as she did when jumping over a brick in her way, but if the player attempts to jump over this pit and fails, she falls into the pit and loses a life. So this challenge is one the player approaches with a bit more apprehension and care.

The third type of environmental challenge in Super Mario Bros. is the moving platform. While roadblocks and bottomless pits are challenges that can be accepted and attempted entirely at the player's leisure, a platform that moves in the world of its own volition, be it left and right or up and down, requires that the player use her jumping abilities as well as good timing. The jump itself might be simple, but timing it just right to safely land Mario on the platform, and not have him fall into the bottomless pit, requires more skill than a jump over a completely stationary bottomless pit. And since the moving platform requires more skill to overcome, there is additional risk of failure.

Super Mario Bros. features a fourth type of environmental challenge: traps. Traps often resemble tethered enemies (see below), but while tethered enemies can be dispatched by the player, removing them (and the threat they present) from the game world, traps are almost always permanent. Super Mario Bros. contains a number of such traps: the suction pits in the underwater levels, the spinning rods of fire in the castle levels, and the "Podoboo" fireballs that levitate from and then fall back into lava pits. Traps usually present a timing or dexterity challenge to the player that she must avoid to proceed, and are an effective way to increase the overall challenge level in a small area.

The sequence of levels in Super Mario Bros. is built by slowly increasing the skill required to overcome the environmental challenges – making the roadblocks taller, the bottomless pits wider, the moving platforms more narrow, and the traps more dense. Increasing the number and frequency of these challenges increases the amount of skill needed to overcome them. Jumping over a tall roadblock may be easy for the skilled player, but jumping over the tall roadblock surrounded by bottomless pits may give her pause.

Even though the player has seen and overcome all of the environmental challenges in the game by the time she completes the fourth level, Nintendo was able to sequence and recombine these challenges in numerous ways to create thirty-two unique levels with a fairly steady difficulty ramp. Each world presents a new mix and sequence of challenges, and even the levels that bare striking resemblance to prior levels in terms of structure have new traps or enemies in them to challenge the player that bit more.

Enemy Challenges & Combat

Enemies have become an essential part of action/adventure games, and as game designers we must not only design the challenges that the enemies present, but also how the player will overcome these challenges in the form of a combat system. While the player uses his movement and navigation abilities to overcome the environmental challenges, the player is often also equipped with combat abilities to overcome his foes. A modern game might equip the player with a button for jumping and another button for swinging his sword, delegating these abilities to separate modes of play.

Designing a combat system is a complicated affair, as you must not only consider the abilities and vulnerabilities of the player's character, but also of the enemies you design, insuring that the two match up in an appropriate challenging-but-fun manner. The character's abilities are what he will use to hurt his enemies, and the character's vulnerabilities are the ways in which his enemies can hurt him. This goes for both the player characters in a game and the computer-controlled enemy characters.

One of Super Mario Bros.' greatest innovations is that it ties Mario's movement abilities to his combat abilities, making the player use the same mechanic – jumping – to overcome enemies as well as navigate the traps and bottomless pits. Mario can jump on top of enemies to squish them, as well as "bump" a brick from below to knock-off the enemy standing on top of that brick. Mario's sole combat-focused ability of shooting fireballs is only available after eating a "Fire Flower", which is something of a rarity. Mario has one vulnerability: if he is touched by an enemy or trap he is hurt. If Mario has not eaten a "Magic Mushroom" to become "Super Mario" (affectionately known as "Big Mario"), then he dies when he is hurt. Mario dies instantaneously when he falls into a bottomless pit or pit of lava.

Mario's enemies collectively have a similar set of abilities and vulnerabilities. Most enemies injure Mario when they touch him on his side or head. Their touch is enough to reduce him to "Little Mario" or kill him. Some enemies can shoot

projectiles, similar to Mario's fireball, and when those projectiles touch any part Mario, they hurt him as well. Every enemy in the game has at least one of the following vulnerabilities. If Mario lands on top of the enemy, the enemy is hurt. If, from below, Mario "bumps" the brick that the enemy is standing on, the enemy is hurt and often removed from the game. And finally, if Mario hits the enemy with a fireball, the enemy is hurt and removed from the game.

Some enemies in Super Mario Bros., like the iconic "Goomba" mushroom enemy, are vulnerable to all three types of attacks. These enemies present little challenge as the player can use any of his abilities to dispose of them. But other enemies are immune to one or two types of attack, and force the player to use and master a specific ability, perhaps one that he hasn't used lately. The "Spiny" enemies that appear halfway through the game are adorned with spikes along their top. As such the player cannot jump on them, and has to use a fireball or a bump from below to dispatch them. It's not that the Spiny is more difficult to dispatch than a Goomba, since the same bump ability is enough to defeat them. But the Spiny requires a specific tactic which might remove the player from his comfort zone and force him to explore an element of the gameplay that he hasn't before. In this manner the design of the enemies can provide much-needed variety and pacing control to the levels in which they are placed.

Enemy Movement Styles

The game designer must also consider the enemies' style of movement. No matter the enemy's abilities and vulnerabilities, if the enemy is completely stationary it won't pose much of a threat to the player. And in a game like Super Mario Bros. where the player is most often only hurt when the enemy comes and touches the hero, the enemy movement patterns are of vital importance to the game's design. While not featuring "smart" enemies or anything resembling what we've come to expect from artificial-intelligence in game characters, Super Mario Bros. does feature three archetypical types of enemies: tethered enemies, ambivalent enemies, and aggressive enemies.

Tethered enemies are enemies that are tied to a single location in the world, and are generally a low-risk enemy. Many of them resemble "traps" in the world, and these enemies lie in the grey area between environmental challenges and enemy challenges. Super Mario Bros. gives many of its traps and challenges personality – usually in the form of large cartoon eyes and a smile or frown. The Piranha Plant is the primary tethered enemy in Super Mario Bros. – its giant chomping green mouth resembling a Venus fly-trap rises from the pipes located in many levels, chomps a couple times, then lowers back into the pipe. Unlike a trap, the player can

dispatch the Piranha Plant with a single fireball – but like a trap, jumping on it results in death.

Ambivalent enemies are characters that are free to move around the world, and generally don't respond to the player in the game world. Having a fantasy setting helps Super Mario Bros. in this regard, as the player has no preconceived notions about how a walking anthropomorphic mushroom should react to seeing a fireball-throwing plumber running at him. The most common and most recognized enemies in the game, the "Goomba" mushroom men and the "Koopa Troopa" turtles, are completely ambivalent to Mario's existence. For all intents and purposes, they are moving traps that the player must stomp or avoid. Roughly half of the types of enemies in the game, and certainly most of the individual enemies encountered in the levels, are ambivalent enemies. This illustrates Super Mario Bros.'s emphasis on platforming, and not on combat.

Aggressive enemies are the enemies that specifically go out of their way to attack the player. Often these are the characters that are not only in the same world as the player, but specifically on the bad guy's team. Super Mario Bros. features a handful of these enemies that present more of a challenge to avoid or dispatch, some of which can be downright annoying. The "Hammer Brothers" are a pair of such aggressive enemies. Often encountered in sets of two, the Hammer Brothers are turtles that have learned to walk upright and throw streams of deadly hammers at Mario. While technically vulnerable to being stomped, their hammers usually block this strategy, and so they can only be dispatched by bumping them or hitting them with a fireball. The fact that they often appear together in a signature structure of double-decker platforms makes them particularly challenging, and thusly a memorable event in the game.

Super Mario Bros.' cast of enemies have a creative mix of abilities, vulnerabilities and movement styles. Some enemies only walk on the ground, some fly through the air in a straight line, others fly through the air on large bounding arcs, and others still are bound to the water environments. But all of the enemies in the game are defeated or avoided by using Mario's simple, focused set of abilities. The player is never forced to learn a new mechanic or develop an entirely new skill to continue playing the game. Instead he is encouraged to master and hone his skills at controlling the abilities he does have. While this style of gameplay and game design might sound dated, the pattern reoccurs time and time again in hit games, from Half-Life to God of War.

Other Types of Challenges

While Super Mario Bros. is surprisingly thorough in terms of the challenges found in action/adventure games, it lacks a handful of challenges that have become increasingly popular as the lines between genres melt away. For example, Super Mario Bros. features almost no puzzles. The player has to use basic problem-solving skills to navigate through the levels, and the game features three "choose the right corridor" mazes, but almost never does the player have to stop running and jumping and start thinking hard about something. This could have been a conscious decision to keep the game accessible to younger gamers, or it could be a holdover from Nintendo's not too distant arcade roots.

Another style of challenge not found in Super Mario Bros. at all is creative challenges. Modern games often ask players to make choices that have no right or wrong answer, and are instead designed to let the player express himself and make the game more to his own liking. For example players can design their own character in World of Warcraft, or design their own cars in Forza Motorsport 2. But no such creative challenges exist in Super Mario Bros, and the series has been slow to integrate creative challenges, emotional challenges, and larger-scale player-created content.

Reward the Player

If challenges are what keep the player engaged in our game, then rewards are ultimately the reason she is playing at all. Rewards are what games give the player for overcoming the challenges, and to create a fun game the designer must balance the challenges the player faces with the rewards that she is given for doing so. If the challenges are the main course, then the rewards are the desert. It is my strong believe that the role of the game designer is to insure that the player is having a positive experience, and is enabled to have fun playing the game. Rewards are the single most useful tool in the game designer's toolbox, and are becoming better understood thanks to works like *Flow*.

One of the most rewarding things that a game can do is indicate that it is aware of the player and the player's actions. The primary difference between playing Super Mario Bros. and watching an episode of the Super Mario Bros. cartoon is the fact that the player is engaged and actively expressing her desires to the game via controller by working the d-pad and pressing buttons. The fact that Super Mario Bros. has such responsive controls directly makes the game more fun. The player is rewarded with a feeling of empowerment as she sees Mario perform her desired actions, accompanied by the appropriate sound effects and blinking sprites. This

feeling of control and authority is terribly rewarding, and should not be taken for granted in favor of unresponsive controls or laborious character animations.

Reward Advancement

In a level-based game like Super Mario Bros. it's critical that you reward the player for advancing from one level to the next. It goes without saying that completing one level brings the player that much closer to completing her objective to win the game, and the player gets to look forward to seeing the next level, overcoming the challenges it presents, and collecting its rewards. But this is the absolute bare minimum, and Super Mario Bros. has several additional rewards attached to the completion of a level beyond that. The player is rewarded with a short animation of Mario running into a castle, a special fanfare tune is played, the player collects bonus points for having extra time left on the clock, and occasionally fireworks are shot from the castle, because hey, fireworks are just cool.

But the most interesting advancement reward in Super Mario Bros. is the Flagpole minigame. I use the term "minigame" here because in many ways it is a self-contained game inside Super Mario Bros. Most levels end with Mario ascending a series of stairs followed by a flagpole, and the player is rewarded a number of points based on how high on the pole she can land. Jumping to the top of the flagpole nets you maximum bonus points, jumping onto the base of the flagpole gives you minimum bonus points. The points themselves are rewarding, but the player can look forward to trying her hand at the flagpole again in the next level, eventually mastering the jump from the top of the stairs, and then graduating to trying to jump *over* the flagpole. It's a fascinating pattern that has rarely been copied, but I find it absolutely brilliant: reward the player for completing your level by letting her compete in a fun, low-risk minigame.

Reward with Visceral Audio and Video

Graphics and sound are another powerful reward in videogames, and at the time of its release, Super Mario Bros. was a technological marvel. Compared to the black negative space of Space Invaders, Pac-Man, and Donkey Kong, Super Mario Bros. is a visual masterpiece, featuring bright blue skies complete with happy little hills and happy little clouds. The visuals of the world change between levels, rewarding the player with something new to look forward to each time he completes a level. Above-ground levels, underground levels, underwater levels and castle levels each have their own visual style *and* background music. A fifth song was composed solely for the Starman power-up, making it a particularly special and memorable

item in the game. And to further reinforce the game's super-tight controls, a sound effect is played every time the player jumps, every time he throws a fireball, and every time he dispatches an enemy. The player knows the game is listening to his input because he can see *and* hear it.

The enemies in Super Mario Bros. are rewarding in two significant ways. Firstly, seeing lively animated characters moving around in the expansive world is rewarding. It was particularly rewarding at the time of release as the characters were large, colorful, and recognizable. While "characters" on the Atari 2600 were often represented as barely recognizable blotches of color, the characters in Super Mario Bros. were fully formed and absolutely recognizable. Mario looks like a person. The Koopa Troopa looks like a turtle. And King Koopa looks like a big dinosaur dragon monster. But secondly, it is rewarding to dispatch your enemies. It's fun to squish a Goomba, and it's fun to kick a Koopa turtle shell across the level. Granted, it's the type of fun adolescent boys have squishing bugs on the playground, but it seems to me that this style of bug-squishing combat is preferable for younger gamers than encouraging the brain-splattering headshots of many modern games.

Reward Collection

Players love to collect things in games. They love to look for treasure, collect trinkets, and find hidden gems. I believe this phenomenon is built into human psychology: we love shiny things, and we love to fill our pockets with them. So any time you have the opportunity to have your player grab something shiny, do it. One of the most rewarding things that players can collect and accumulate in games is wealth. Even though the money in videogames is usually completely worthless and meaningless outside of the game, it is still an extremely powerful reward in the game. Players will assign the social status that comes with being wealthy in the real world to themselves as they play the game, and this can make for a more rewarding experience and a more fun game.

Super Mario Bros. has two collection mechanics, both of which are interesting given the time of the game's release. First the game has the player collect coins found floating in levels, hidden in visible and invisible bricks, stored in underground bunkers and in difficult to reach "cloud worlds." When the player collects 100 coins, he is rewarded an extra life. While the concept of limited lives has gone out of style now, back in 1985 an extra life was a big deal. Not only did it mean that you had one extra chance to complete that level, but if you look at it in arcade terms, it meant you might not have to put another quarter into the arcade machine to keep playing. So in many ways the virtual coins in Super Mario Bros. had the emotional value of real-life money to players of the day. The collected coins also give the player additional points, adding to his total score.

Again like most arcade games of the day, Super Mario Bros. kept track of points for the player. Points are a completely abstract construct, and are simply a tally of the player's actions in that game session. Nearly every action in the game, from defeating an enemy to smashing a brick, gives the player additional points. As discussed, the player is rewarded additional points for completing levels and for having time left on the clock. While the game features no high score board, the points did allow for playground bragging rights, and if you had a camera handy, you could take a snapshot of your high score before your mom accidentally unplugged the NES as she was vacuuming. Today high score boards have made something of a comeback with the likes of online gaming and leader boards, largely because they are a valuable way to give the player social rewards.

Reward with Items and Abilities

I would be amiss to not discuss power-ups. While points went out of style for a time, action games of the last two decades have consistently featured power-ups; letting the player to find and use new "stuff." We can broadly discuss this stuff as power-ups, but it takes many forms: swords and armor in fantasy-based games, rocket launchers and cloaking devices in science-fiction shooters, or stolen cars and firearms in open-world crime dramas. No matter what form they take, these items temporarily give the player new abilities above and beyond what his character can naturally accomplish. Few Space Marines can shoot down a hovercraft when the game starts, but after collecting a rocket launcher, it's no problem.

While Super Mario Bros. didn't establish this convention, it certainly makes excellent use of power-up items. Part of the secret to the game's successful use of powerups is simply how few there are. There are only four powerups in the entire game – the player can instantly learn what they do, there are so few of them that the player can remember what they do, and finally the player can memorize where they are hidden in the levels and look forward to getting them. In fact, the power-ups in Super Mario Bros. are so popular and well known that they are practically characters in their own right.

Touching the "Magic Mushroom" powerup converts Mario into "Super Mario" (aka "Big Mario"), which grants him the new ability to smash bricks with his fist (often confused for his head), and lets him absorb one injury from an enemy without dying. Touching the "Fire Flower" grants Super Mario his only combat-focused ability – shooting fireballs. Touching the "Starman" grants Mario temporary invulnerability, and all enemies he touches while blinking are instantly defeated. And finally, touching the green "1up Mushroom" grants Mario an extra life – not exactly a new ability, but a valuable reward none the less.

What makes powerups so alluring in all types of games is not only that they grant the player character new abilities, but the fact that the player can lose them. Since the abilities are only granted on a temporary basis, the player who's collected a powerup has that much more to lose when he dies. This adds a new tactical layer to the gameplay, where the player who has gained no powerups has nothing to lose, and might act more daringly, while the player who has gained a powerup or two might proceed with more caution. Interestingly enough the reverse is often observed in Super Mario Bros.: since the player that's collected a powerup is at least somewhat protected from death, he is likely to act with great abandon, flinging Mario over pits and in-between traps, while the player stuck as "Small Mario" proceeds more carefully, trying to hang on long enough to find a mushroom.

Give the Player Clear Consistent Rules

While giving the player a variety of challenges and rewards is important, it's equally important that these challenges and rewards be governed by a set of clear, consistent rules. It's consistent rules that allow the player to weigh her options, make choices with a degree of certainty that they are in fact good choices for her current situation, and eventually build up to emergent gameplay. We often talk about the player's need to learn to play a new game, to learn a new control scheme, or to master a new mechanic. This learning is an uphill battle when the game's rules are a moving target.

When a game features consistent rules the player can use a micro-version of the scientific method to explore the game world, learn its operating rules, make hypotheses about how she can interact with that game world, test her theories of interaction, observe the results of her attempted interactions, and then use the knowledge gained to make informed decisions about how to proceed in the game. Most players are unaware that they are channeling Galileo as they play videogames, but without following a similar process most videogames would be unplayable. As an interactive medium, videogames require an inquisitive mind and exploratory approach. Players must be willing to ask themselves "what happens when I do *this*?" as they press new buttons.

Super Mario Bros. is an excellent example of clear rules in videogames. One location of particularly clear rules is in the physics and physical properties of the game world. In Super Mario Bros. there is positive space and there is negative space. Solid forms like bricks, metal blocks and pipes makes up the positive space. The rest of the world is made up of sky, the negative space that objects can pass through. Mario, also being a solid form, cannot move through solid objects, and he will bump into or rest on top of positive space forms. The levels are designed with

this premise in mind – and the player's primary challenge is navigating Mario over, under and across solid forms.

Being a game almost entirely about jumping, gravity plays a critical role in the gameplay of Super Mario Bros. Gravity is a consistent rule that players deal with on a constant basis in their real-lives, and its application in Super Mario Bros. is admirably simple and consistent. What goes up most come down. After jumping, Mario will fall until he lands on something solid. When Mario or one of the enemies in the game walks off a ledge, they fall to the ground. Even most of the flying enemies in the game, be they turtles with wings or fish with wings, bound through the world, leaving the ground for a moment only to have gravity pull them back down.

Exceptions to Every Rule

Once a player has learned the operating rules of a game it is difficult to convince her of anything otherwise. She would have to in effect unlearn what she's already invested time and energy to learn. This can make learning the exceptions to the rules a frustrating process. As a game designer you must not only consider what the player has learned playing your game, but also what she's learned from her prior experiences playing games and, gasp, in real life. Every player comes to your game with a host of prior experiences, and convincing them of things otherwise is to tilt at windmills. Super Mario Bros. absolutely has exceptions to its rules, as do most games. But at least these exceptions are easy to discover and come to grips with.

One of the most important such exceptions is the player's ability to change positive space into negative space. Once upgraded from small Mario to Super Mario, the player can jump up and hit a brick from its underside to smash it. The square that used to be solid and blocking physical progress is now empty, and the player and enemies are free to move through this space. While surprising to a player familiar with Donkey Kong and Mario Bros., this feature was not wholly unexpected in platformers of the day. Both Dig Dug (1982) and Lode Runner (1983) featured core gameplay based on turning positive space into negative space. The fact that the player is introduced to Super Mario and the new ability to smash bricks in the first minute of play certainly helps establish this exception to the positive/negative space rule as the player is forming her initial impressions of the game's ruleset.

An exception to the game's rules of gravity is the existence of the water levels. In these submerged levels water has filled the entire screen, and the player must swim through the water, avoiding new sea-life enemies as she races to the pipe that will lead her to the flagpole at the end of the level. Here the player has to learn to swim,

the rules of which are similar to the rules of running and jumping, but differ slightly. The jump button is still used to propel Mario upwards, but instead of quickly falling to the ground, Mario slowly sinks to the seafloor while underwater. This allows the player to rapidly tap the jump button to propel Mario closer to the surface. All of the player's experiences in the prior levels are used to make the underwater mechanics digestible, and any experience the player has with swimming in the real world help make this exception to the rules easier to learn.

A final exception is one I remember being personally confused by the first time I encountered it in the game. The game does a good job of establishing that touching enemies is bad, as is falling into bottomless pits. Once the player has mastered these two concepts she is well on his way to completing the first level of the game. But before reaching the end of the level the player is presented with a Starman powerup, which at the time was described to me as "making you invincible." Already being intimately familiar with Superman I knew what that word meant, and so my interpretation was "oh cool, I can't die!" I grabbed the Starman and immediately ran off a ledge, expecting that Mario would not die from the bottomless pit below. How wrong I was. And so I learned that the Starman only protects Mario from enemies – not from bottomless pits or lava. While a little bit frustrating at the time, learning the exception would be even more frustrating if I hadn't already learned that becoming the big Super Mario protected me from enemies, but not from bottomless pits. Falling into a bottomless pit absolutely always resulted in death, but the power ups in the game were allowed to provide protection from enemies.

Let the Player Make Choices

One of the defining characteristics of videogames, if not *the* defining characteristic of videogames, is that the player is empowered to make choices. Players have infinitely more to say about the order, pacing, and often-times the inclusion of events in games than they do in literature, film, or television. As game designers we must empower and encourage the player to make choices, and then listen to his decisions and proceed accordingly. When we present challenges to the player it is up to him to decide how to overcome them, or to attempt overcome them at all. When we reward the player with new content and abilities, he can decide how to use these newfound abilities, or to ignore them in favor of a prior ability. And on a grander scale, it is up to the player to decide when to play the game, for how long, and to continue on the quests we give him… or not.

Super Mario Bros. is not the world's most choice-laden game. Many of the biggest decisions to be made are dictated by the game at the most fundamental levels. Where does the player want to go in the game world? Well, there is only one

direction in which he is allowed to proceed: to the right. Does the player want to proceed at break neck speed or at a leisurely pace to take in the sights? Well, Mario can only run so fast, and if the player moves too slowly the time limit will expire. Does the player want to overcome his enemies with violence, or would he rather extend the olive branch and enter into peaceful negotiations? Well, there's no "olive branch button" in the game… so good luck with that.

But Super Mario Bros. does give the player a number of important choices to make throughout the game. While the player cannot select a new direction in which to run besides to the right, the player does get to select how he proceeds to the right. Most of the levels are designed to give the player the choice of taking the more solid low-road, or the more jump-laden high-road. The player is also presented with a number of choices about navigation on a higher level. Ducking down into a pipe can advance the player past a large portion of a level, but it also means skipping several rewards. Finding one of the game's "Warp Zone" rooms lets the player skip past entire levels and worlds, but that forfeits any points that could be collected by completing those levels. Despite the heavy-handed "always run to the right" rule of the game, the player is empowered to choose the specific path he takes though Super Mario Bros.

Despite the lack of an "olive branch button," it is up to the player to decide to engage the enemies in combat or not. There is no requirement or even explicit challenge to defeat all of the enemies in the game, and when confronted with one or multiple enemies, the player has the option to avoid them or to continue without harming them. The game does not explicitly reward this behavior, while it rewards the player for defeating enemies with points – so there is a pro-combat bias to the design. However, it is theoretically possible to complete the game and rescue the Princess without harming any enemies at all… up until the final showdown with King Koopa, who you must dispatch to meet the Princess.

Giving the player choices, of how to overcome challenges and how to use rewards, creates a more empowering, personalized game experience. When the player is not only solving problems but also feeling like he came up with *how* to solve them, the rewards he is given taste that much sweeter. Despite being a "linear" game by today's standards, Super Mario Bros. consistently gives the player small, but important choices to make that create the illusion that he is not only controlling Mario, but that he *is* in fact Mario, acting *and thinking* as Mario needs to act and think in these perilous situations.

Variety, Variety, Variety

A difficult lesson for designers to learn is that sometimes something different is better than something better. For a moment, imagine yourself at an ice cream shop with a "free ice cream every day for a year" coupon. What would your first week's worth of scoops be? Imagine that you dedicated yourself to the realm of chocolate: chocolate, chocolate-chocolate-chip, dark chocolate, chocolate with hot fudge… and so on. No matter how much you love chocolate, you'll eventually tire of this monotonous (yet delicious) diet, and venture out into the realm of vanilla, strawberry, butterscotch, pistachio, and mint-chocolate-chip. Just because chocolate-chocolate-chip ice cream is "better" than pistachio ice cream doesn't mean you want to eat it every day for a year.

We (humanity) have an insatiable appetite for what's new, or more specifically, for what we perceive as being new at the time. This helps explain the phenomenon of cyclical fashion, popular music, and why the same sitcoms keep getting made and remade over and over again with new names and younger actors. Often what's new isn't new at all, but it's new for the moment, and that's all that matters. Variety is the spice of life, and I'm afraid this cliché holds true in videogames. Failing to give the player something new at regular intervals will create a predictable, monotonous experience that the player tires of quickly. If you cannot meet the player's appetite for the new, he will stop playing your game once he's had his full and start playing someone else's.

Super Mario Bros. is not the spitting image of variety by today's standards. Mario cannot hijack a car, mount a giant flying owl, or launch a jeep out of an exploding space station. Mario can run, jump and swim. But for its time Super Mario Bros. set a high bar for variety with its many levels, enemies, powerups and surprises. When you discuss variety it is not only *what* you are presenting to player that's important, but also the *order in which you present it* to him. With careful sequencing you can create a game with a limited amount of total content but a great deal of *perceived variety*.

Let's examine a worst-case scenario of variety by redesigning the first four levels of Super Mario Bros. We'll begin by putting all of the roadblocks and nothing else into a single level. Then we'll follow that up with a level made up entirely of bottomless pits with little patches of ground between them. This will be followed by a completely flat level populated by all of the enemies. And the fourth level will contain nothing but coins, question mark blocks, and power-ups. The end result would be four of the most monotonous levels ever created.

The first level would contain no risk, and the player would simply bang on the A button to continuously jump over the roadblocks. The second level would be quite risky and stressful, requiring the player have excellent timing and jump-skills, but would contain no active threats. The third level would be completely overwhelming, as the player would have enemies coming at him from all directions with all manner of movement styles, abilities and vulnerabilities – the player would be lucky to make it through without a panic attack. And the fourth level would be a welcome respite, but it certainly would not make for a stimulating level due to its lack of challenges and risk.

Super Mario Bros. could have easily been that bad. These four levels contain the same elements that make up the entire game, and yet they are clearly bad ideas. My goal in doing this exercise is to illustrate the importance of careful composition of gameplay elements, and how the context of a gameplay element is almost more important than the element itself. In Super Mario Bros. the player is rarely given the opportunity to tire of a single element of the game. After facing a couple enemies the player has to overcome a roadblock. After a roadblock or two he is presented with a bottomless pit. And after clearing the bottomless pit he is rewarded with coins or a powerup. The levels in Super Mario Bros. are all slight variations on this pattern, escalating in difficulty, but rarely introducing completely new elements after the first world. And yet the careful composition of these elements through and across the levels creates a game that is rarely boring or monotonous.

While Mario's primary ability, jumping, is at the crux of nearly every gameplay mechanic in the game, the ways in which the player is forced to jump vary greatly. As the player progresses through the levels the mandatory jumps over roadblocks get taller, the bottomless pits get wider, weaker enemies are replaced with tougher ones, and the powerups become fewer and farther between. And just as the player begins to tire of running and jumping, he's presented with an underwater level. While the underwater levels in Super Mario Bros. are some of the most hated (in my household anyhow), they provide a needed and welcome change of pace to the game. Instead of running and jumping the player is now swimming and submerging, using much more of the screen as active game-space than before. And even for the player that absolutely hates the underwater levels with all of his being, they provide an important opportunity for the player to look forward to what's next.

To return to our ice cream shop analogy, imagine that you are on day thirty and have had one scoop of nearly every flavor of ice cream the shop carries. What are you thinking about? Are you thinking about the next day's scoop, which is likely to be the one you were least looking forward to… or are you thinking about returning to the top of your list, able to make an informed decision about which flavor is your favorite, and promote it to the top of the batting order? I know I personally would be looking ahead, and this is the sensation of anticipation that I experience when I play

the underwater levels in Super Mario Bros. "Yeah this is ok… but I sure can't wait until I'm back on solid ground where I can run and jump again!"

Super Mario Bros.' mastery of variety and alternating experiences has been expanded and improved on over the lifetime of the series, not to mention often imitated. This imitation has been so great that it is now a cliché in videogame design to discuss a "desert world, water world, ice world, lava world, forest world" and so on. It became a cliché because it worked, both on the macro-level of worlds with different themes, but also on the micro-level where the player is never forced to do the same thing over and over and over again within a single level. A handful of simple gameplay elements can be arranged in nearly infinite sequences and combinations to create a huge variety of gameplay experiences, just as twenty-six letters can be arranged and combined to create a nearly infinite number of words and meanings.

Surprise the Player

You must surprise the player of your game. The reason "spoilers" in works of fiction are such a guarded and oft-argued subject is the simple fact that being surprised is "half the fun." A surprise is a specific type of emotional reward where the player (or audience member) is caught off guard, and forced to react to something that she didn't see coming a mile away. But technically speaking, you can surprise the player with any type of content. The surprise can be a challenge, where the player is forced to think on her toes about how to overcome it. The surprise can be a reward, where the player is delighted to receive an unexpected gift. Or the surprise can be an exception to a well-known rule, which has the effect of expanding the player's perception of the gameworld's complexity and possibility space.

There's an important difference between *variety* and *surprises* in games, and as a game designer, striving for variety is not the same thing as striving for surprises. Variety simply means that you present the player with something different than what she's currently experiencing and experienced before. Surprising the player means you present the player with something unexpected or something in an unexpected context.

Super Mario Bros. is so full of pleasant surprises that there are practically too many to count. The first-time player's experience is full of memorable discoveries about the game, its universe, and its rules. Putting yourself in the shoes of a first-time player a quarter century ago you can imagine the delight in the first five minutes of play. The first time the player walks to the right: "Wow there's more stuff over here!" The first time the player picks up a mushroom to become big: "Wow I'm huge!" The first time the player breaks a brick: "Wow I can smash stuff!" The first time the

player finds coins in a non-question-mark block: "Wow there's stuff in there too!" The first time the player picks up a fire-flower: "Wow I can shoot fire!" The first time the player goes down a pipe: "Wow there's more stuff down here!" The first time the player hits an invisible brick: "Wow there's secret stuff!" The first time the player finds a beanstalk: "Wow I can climb up out of the world!" The first time the player finds a warp-zone: "Wow I can skip levels!"

Many of these first-time experiences weren't only new because the player had never played Super Mario Bros., but also because she'd never experienced these mechanics in any videogame before. This is not to say that these elements never existed in any prior videogames, but Super Mario Bros.' immense popularity meant it was being played by people with little to no prior experiences with videogames. Even players familiar with the likes of Pong, Space Invaders, Pac-Man and Donkey Kong could be surprised with the novelty of Super Mario Bros.'s large scrolling world. The very nature of a side-scroller means that the player can only perceive one screen's worth of the world at once. As the player progresses to the right, more of the world reveals itself, presenting new surprises one column of pixels at a time.

Assuming the player does not have a perfect memory, every time she plays a level in Super Mario Bros. she can be surprised by its contents. The alternating terrain of pits and roadblocks, the revelation of enemies, and the placement of bricks and question mark blocks make each level a new set of surprises ready to be experienced. Even after dying in a level and having to replay it a few times in a single sitting, the player can still be surprised when she learns the location of a 1up mushroom, discovers a new hidden block, or enters a pipe she hadn't before on her first, second, or third time through. The number of surprises and hidden content in Super Mario Bros. makes replaying the levels fun.

Later in the game surprises come to visit the player from off-screen. These surprises largely come in the form of enemies – flying characterized bullets and disembodied fire breath. These enemies act as two-part surprises. First the player is surprised when they enter the screen of their own volition, even though the player is not making forward progress. But secondly the player is pleasantly surprised when she discovers the source of these threats. The Bullet Bills are being fired by mounted cannons (known as Bill Blasters), and the fire breath is coming from King Koopa (or one of his many doppelgangers). In this way the surprises turn the unexplained into the explained, and the operating rules of Super Mario Bros.' universe become more solid in the player's mind.

Conclusion

Super Mario Bros. is arguably the most influential videogame of all time. While it would be easy to blame this on its sales or on the marketing genius of Nintendo, I believe it is because the game is a milestone in the history of all game design. The game's universally understandable rules, instantly learnable controls, challenging but fun obstacles, absolutely infectious rewards, huge variety and numerous surprises made the game stand head and shoulders above other games of the era, and just as importantly, influence an entire generation of game designers. Without Super Mario Bros. it is difficult to imagine a world with Metroid, Castlevania, Mega Man, Sonic the Hedgehog, or Crash Bandicoot, not to mention the endless number of games in other genres influenced by its design.

Super Mario Bros. is a Rosetta Stone for all game design. Its simplicity and elegance makes it infinitely easier to "read" than modern games of comparable success, but the fundamentals that make Super Mario Bros. fun are the same ones that make the likes of Half-Life, World of Warcraft, and Guitar Hero fun. The lessons learned from Super Mario Bros. can be applied to any game of any genre of any platform of any era, and it has become crystal clear to me over the years that Miyamoto and Nintendo have done just that, learning from and building on the core of Super Mario Bros. and applying it to everything they create. One must look no further than Wii Sports. The only game to ever outsell Super Mario Bros. was created by the same company two and half decades later. This is surely no accident, and as game designers it would be folly to not sit up and look closely at the universal patterns these games share in common. Both games are instantly accessible, easy to control, challenging at an appropriate threshold, overflowing with rewards, and full of variety and surprises. The answers to our industry's greatest questions, like "how do we make our games fun?" can be found in Super Mario Bros. and Wii Sports alike.

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[1] The exception to the always-move-to-the-right objective is the three maze castles near the end of the game, where the player has to decipher the correct path to take through the castle to reach the exit. However by this point the player has mastered this objective, and this twist acts as a nice surprise to the advanced player.

> *As must be abundantly clear by now, I'm very intent on – some would say obsessed with – this style of game.*

NOAH FALSTEIN

ADVANCE WARS

A Word of Warning

How can I begin to talk about one of my favorite games of all time? Perhaps I had better start with a fact that simultaneously may inspire you into believing that I am one of the best-qualified people to write about this game, and horrify you into doubting I should be encouraged to speak of it at all. Thanks to the built-in statistics in the Gameboy Advance and its successor, the Nintendo DS, I can confidently state that I have played the various editions of Advance Wars (from hereon abbreviated AW) in excess of 500 hours. 500+ hours commanding imaginary troops, tanks, planes, and ships, sending them into countless battles, investing intense, monomaniacal concentration, and greatly improving my cardiovascular health in the process, an oddity I'll elaborate on later. In some senses I believe I have been playing this game far longer than that – since around 1973 – several decades before it was made.

By now I have established myself as either a recognized authority possessing admirable diligence or a raving fanboy admitting dubious sanity, or just possibly the two are not mutually exclusive. In defense of the former hypothesis, I offer my professional credentials. I've been making computer and video games since 1976, and making a living at it ever since graduating college early in 1980. I've worked on over 100 games in that time, including the arcade classic Sinistar, the LucasArts Adventure Games Indiana Jones and the Last Crusade and Indiana Jones and the Fate of Atlantis, and several games more closely related to AW that I will mention in this chapter. I also wrote the game design column for Game Developer Magazine for six years, and since then have continued to write a design column for its sister web site, Gamasutra. I've taught classes and tutorials on game design on five continents, and lectured on games development at venues including the University of Chicago, Stanford University, and UCLA in the US, Institute National d'Audiovisuel, Filmakademie Baden-Wurtemburg, and the Berlinale in Europe. But deep down, when I play Advance Wars, I'm a 10-year-old playing toy soldiers.

My connection to AW is intensely personal, and I believe that my individual history can help illuminate and justify my professional admiration for the game, but I also realize that not all readers will care about the details behind my obsession for the game. So, true to my love of interactive design, I will present my autobiographical reminiscences and sidebars in sections marked *Personal Reminiscence*.

Advance Wars 101

I'm going to focus on the four AW titles that have appeared in the US on the Gameboy Advance and then the Nintendo DS. To be complete, these are part of a much larger Japanese series going back nearly 20 years to the Nintendo Famicom, and I understand there are differences in translation of the stories for European versions of the recent games, but anyone interested in a detailed comparison and analysis would be better off checking out the Wikipedia entries on the subject. Although AW is a popular game series with each version selling at least hundreds of thousands of copies, is a bit of a niche title as well, nowhere near as well-known as many other multi-million unit selling games covered in this book, and so a little description is warranted. I suspect that, like me, there are many who buy every version of the game, boosting overall sales but explaining how it is better known among game designers than the public at large. I'll be writing primarily about the 'core game', the single-player experience that has remained quite consistent over the course of the series, and when I talk about features or enhancements that only happened after a certain point the series, or in a specific game I will say so.

Advance Wars is a turn-based strategy game with a military theme. That means it is in the same basic category as board games like Chess, Go, Risk and Stratego, or computer games like Panzer General, Empire, or Civilization. The player takes a turn, moving military units (like infantry, tanks, submarines, fighter planes, etc.) around a map and resolving battles. Then one or more computer opponents each take their turn as well (or other people in the multiplayer option). The core game is organized into scenarios, each of which is a multi-turn battle ending in either the destruction of all enemy units, or the capture of the enemy capitol. Each version of AW has come with a Campaign, a linked series of scenarios with a story behind it that are completed more or less in sequence, as well as varying mixes of individual scenarios that can be played separately. Each battle ends with a letter grade awarded to the player, and a numerical breakdown of how they did, encouraging improvement in speed, attack, and defense.

In a turn, a player moves some or all of the units on the map, and (usually) gets a chance to build new ones with money earned through ownership of cities and bases on the map. The units fall into three basic categories – land, sea, and air, built respectively on factories, ports, or airports. The precise units and their abilities

have changed somewhat over the course of the series, but generally have had a mix of standard current-era military types of units that are familiar to all wargamers – infantry, armor, and artillery on the land, surface ships and submarines on the water, and fighters and bombers in the air. There are also transports in land, sea, and air version too. In general units move and then fire in a turn, with the typical exception of artillery that can move OR fire. The maps consist of rectangular grids of different sizes, with different terrain in each square. Each unit type has its own movement rules for different terrains, and consumes fuel as they move, and ammunition as they fire. They also have different costs, and specific attack and defense abilities that vary depending on what units they attack (or are attacked by), and the terrain the defender is in. There are 1-4 players in any given scenario, each shown with a different color, and each often has a leader who confers some unique extra abilities on the battles (a game element that has shown more variation than most over the course of the series).

This all sounds fairly complex, but one of the greatest strengths of the game is its elegant simplicity. One example is the way it enables the player to start with battles on small maps, with just one or two kinds of military units and no leader, and gradually increase size and complexity and variety over time so the player need never be overwhelmed. Over the course of the series, each new game has had a somewhat steeper learning curve, as is appropriate given the growing body of loyal players who buy each new title in the series, and for that matter the gradually growing sophistication of both the players in general and the resources online and in print to help people who are new to the game.

Personal Reminiscence 1:
— My Obsession with Wargames —

One of my early memories from my childhood in Chicago is of watching my brother play a Milton Bradley board game called Summit with his friends. It was the early 1960's, that era of Cold War intrigue, and the game board featured the entire world grouped into countries and regions – big countries like the US, Russia, and China were shown independently, but less geopolitically critical regions like all of South America were lumped into groups. But the board was not the part of the game that seized my attention and provoked my imagination. Unlike the drab wooden pieces of many of our older games, Summit's designers had anticipated the one critical word of advice Dustin Hoffman receives in The Graduate; Plastic. There were plastic flags that fit into a round plastic base, plastic poker chips in red, black, and white, and best of all, ranked bins full of round plastic counters with missiles representing military bases, and square plastic counters with "Steel Mill" on one side and a picture of a car on the other, representing a steel mill or factory respectively. And these counters came in a shining rainbow

of colors – red for the godless communists of Russia, blue for the true-blue Americans, and vivid orange, green, yellow, and purple for the other major powers in the game. Currency was represented by manufacturing output – little black plastic I-beams – and five black I-beams were worth one fluorescent-orange I-beam, that I pictured still glowing freshly hot, poured from vats of molten steel. I loved those playing pieces. They spoke to me of the complexity and richness of the adult world, but boiled down to a candy-hued simplicity that tantalizingly felt almost comprehensible to my six-year-old mind.

Almost, but not quite. My brother was 17 when I was 6, and the sixteen page rulebook was beyond my understanding, like the family discussions about the nightly news coverage of world events that had inspired the game. The best I could do was to build little forts out of I-beams and steel mills, and bomb them with the missile-imprinted bases – under dire warning from my brother not to lose any of the pieces. But looking back from my current perspective forty years later, I'm struck by how prophetic my fascination with the game proved to be, shaping my choice of career and love of wargames.

Why So Many Designers Love This Game

As I mentioned earlier, although this game is by no means one of the best-selling ones on the DS, it is very well known among game designers. AW is a shining example of excellent use of several fundamental principles of design, and one of the most remarkable is the use of excellent unit balance. Game design is all about tradeoffs, and is both an art and a science, and unit balancing is one of the areas that demonstrate that. When creating a strategy game like AW which includes many different types of military units, a designer must carefully tinker with dozens of factors for each one. How fast does it move on each different terrain type? How much fuel does it use, and ammunition does it carry? What kinds of weapons does it carry, and how do those affect other unit types? What is the range of its weapon or weapons? From how far away can it see other units? If it can carry other units, which kind and how many can it carry? The ultimate characteristic that all units have is cost. There is a very simple economy, one point earned per city or base captured per turn, and bases can build new land units (ports build ships and airports build airplanes). It can be very challenging to make these choices, as making one type of weapon stronger can require adjustment to the defense of another or the range of a third, and those changes prompt yet other changes. Often a game may have unit types that look good in theory but in practice turn out to be fairly useless or at least overpriced. AW has an amazing balance among and between units, with no obvious bargains or white elephants. Some fantasy-based military strategy games

finesse the problem of balance using imagination – or magic. Who knows how strong an Orcish Infantry unit is against an Elven Bowman, or whether a Fireball spell is stronger against Unicorns than it is against Griffons? This makes it easier to deal with imbalance.

But AW doesn't have that option. In a game like AW that uses fairly realistic units that resemble modern military units, there are expectations among players that the game units will have qualities at least similar to the real world units. But in order to be simple to learn and easy and fun to play, the designer must also simplify and cut corners. AW does this perhaps better than any other game of its particular type ever has. For example, the scissors/rock/paper relationship of different types of military units is beautifully captured. In the real world this is known as combined arms – using one type of military power against another, against which the first type is particularly effective. Take the sea units for example. Battleships are deadly to small surface craft and have great land bombardment capabilities, but are in turn vulnerable to submarines and bomber attacks. Cruisers are fairly good all-around units, and are particularly deadly to submarines and against air units at close range, but can be chewed up by Battleships at a distance. Sea transports are vulnerable to all other naval units, and the different releases of the game have tinkered with the individual characteristics of the ships as well as introduced small "PT boat" variations.

This is not to say they simply blindly followed the actual abilities and costs of the real military units. For one thing, the units used in the game, though similar in some ways to real units, have their own unique qualities. For another, it would actually make the game less fun and harder to play to deal with problems in a totally realistic way. In AW, money is turned into infantry units or battleships instantly, and you can let money accumulate over time and then spend it instantly. Some similar precursor games used a more realistic method of having cities dedicate themselves to building a particular type of unit over time, so a Battleship might take 20 turns to build while an infantry unit takes only 1 turn. That's closer to reality, but the instant AW method strikes me as both more flexible and less frustrating, and yet since it is available to all sides in a battle, still fair. Likewise, resupply is handled fairly abstractly. Most games of this sort allow units to repair and resupply themselves in a city (or a ship in a port, and an aircraft in an airport) and AW does as well. But in AW you have land transport units, called rigs in the latest version, that double as mobile supply centers. That's actually pretty realistic – but the fact that they can resupply any other type of unit from an unlimited supply is not. The way they can resupply aircraft that merely end their turn adjacent to a rig is total fantasy, as is the way that one rig can completely resupply another that is low on its own fuel – park them next to each other and next turn both are at full, having refueled each other. If only we could solve the world oil crisis this way!

From a design standpoint, that's a fascinating tradeoff. They could have ignored mobile resupply – but it adds several interesting strategic possibilities, including attacks on supply lines and the intriguing option of vanquishing a dangerous threat like an enemy submarine or fighter plane not by direct attack, but by luring it on and starving it of fuel. Submerged submarines in particular are fuel guzzlers, which beautifully balances their otherwise difficult-to-counter stealth capabilities, and emulates the reality of diesel submarines that have very limited underwater endurance.

A Dash of the Dice

Another example of wise design in AW is the way that random chance is employed. No randomness at all would have simplified production and testing and would make the game more chess-like. This would not only increase fairness by guaranteeing that each attack with identical forces and situations would be resolved the same, but would make the process of game development simpler and therefore cheaper. Randomness in a game means that the testing and debugging process will be more involved and expensive. Just because something works fine one time doesn't mean it will do so the next when different random numbers come up, so there is a temptation to eliminate randomness to shorten the testing process. But the price is lack of excitement and realism. With some randomness, the possibility of a lucky break saving the day, or an unlucky one costing a valuable unit can make a nearly even match into a thrilling back-and-forth epic event. AW gives you the basic "odds" of an individual battle, showing essentially how many points of damage a given attack will do – but it can add a few percent to that total randomly (apparently with a bell curve), so an attack that usually will only severely damage an enemy unit most of the time may destroy it occasionally, opening a hole in enemy lines. The chance of extra damage being incurred goes up as multiple attacks are made on the same unit in the same turn, providing a tactical advantage as well. These things open up possibilities that add layers of complexity to expert play without burdening the beginner with complicated calculations and record keeping. As an example of a subtle design point that would be easy to miss, the attacks ALWAYS do the minimum stated, but may do more. A less experienced design would have the randomness sometimes add, and sometimes take away, making critical attacks that are on the cusp sometimes fail to destroy the enemy by a fraction of a point. That might be more realistic, but would be intensely frustrating for the player. Another similar subtle design choice they have made is the way that the latest version of AW handles unit experience. A unit that fires the shot that destroys an enemy gains a special point that slightly increases its attack and defense, and once it has gained three points it becomes a veteran unit and can gain no more. Again, a less experienced or subtle design would have gone the other direction, taking away

capabilities from wounded units. In point of fact there have been many realistic wargames that incorporate the concept of morale and a unit "breaking" and running away when they have lost too many battles in a row. This is realistic – but intensely frustrating (in real life of course as well!) and the choice to leave it out of AW is a mark of very intelligent game design. There are many other subtle examples of choices that were made to keep AW playable and fun while bending reality a bit (or a lot), but perhaps it would be helpful to understand this better by referring to the ancient and recent roots of this entire style of game.

A Very Brief History of Wargames

The AW games are generally lumped into a genre called turn-based strategy, one of the oldest forms of board games and computer games around. Go is one such game, with a beautiful simplicity that is one of the hallmarks of classic game design. The abstracted military theme of AW makes the comparison with Chess inevitable, and although there are many key differences, in essence this is a valid comparison. In 1913 the novelist H.G. Wells published a set of rules for miniature figures called "Little Wars" – or to be precise: "Little Wars: a game for boys from twelve years of age to one hundred and fifty and for that more intelligent sort of girl who likes boys' games and books." This helped establish the idea of taking real-world war and abstracting and simplifying it to the point where even children could understand it, and it also factored in some of the rock/scissors/paper relationship of cavalry/infantry/artillery that is strong in modern games too. In 1958 the Avalon Hill game company was founded. Avalon Hill published many wargames and popularized the hexagonal grid on boards that became a standard for such games up through the 1970's and early 80's. SPI (Simulation Publications Inc.) grew as their chief rival in the 70's and many of the early computer game designers (including the author) grew up on these wargames. In general they grew in complexity, with the largest covering 9 maps, with rulebooks 100 pages long, using thousands of cardboard counters, and taking hundreds of hours to complete. One key complicating factor was the bookkeeping, and the rise of the personal computer toward the end of this time both helped spell the end for these complex boardgames and provided a new venue for the players.

An Even Briefer History of Computer Wargames

Perhaps inspired by SPI, the company SSI (Strategic Simulations Inc) burst on the scene in 1979 with Computer Bismarck, and was notable for taking board wargames to the very early computers – originally the Apple II. Chris Crawford (who later went on to found what is now the Game Developer's Conference) released his seminal

game Eastern Front (1941) for the Atari home computer in 1981. This game captured much of the essential elements of the board games, but put the military units on a rectangular grid with a scrolling map, incorporated basic terrain effects, and provided a computer opponent – all features that would be instantly familiar to current AW players. For some years after this, computer wargames continued to owe a great deal to their SPI and Avalon Hill forebears, but early hard-core wargames based on board mechanics competed with increasingly animated and real-time variations (eventually RTS – Real Time Strategy – games like Command and Conquer) as well as a trend to simplify rather than complicate. Another big milestone that spawned its own line of top selling games was Panzer General, released from SSI in 1994. Panzer General, like AW, managed to find a middle ground between realism and playability, recreating key battles of WWII in Europe, but generally was much closer to real-world accuracy (and complexity) than AW.

The Rise of Empires

A key milestone in this trend to go from complex "Monster Games" to simple ones was the pre-World Wide Web game Empire, from Peter Langston (who was the first employee and founder of the Lucasfilm Games Group that eventually grew to become LucasArts). There have been many games called Empire, but Langston's was one of the first, written originally in the early 70's, and by the early 80's popular as one of the most complex and detailed wargames available, played on the Internet back when one needed to know the names of each computer along the chain of connections in order to route email to each other. Walter Bright also created a computer game called Empire, which enjoyed commercial success (as implemented by Mark Baldwin) on the PC in the 1980's. That in turn inspired the game Strategic Conquest on the Macintosh. The exact lineage of these games is hard to explicitly trace, and their influence on the Japanese market is a topic beyond my expertise, but for Western players the associations are inevitable. From my point of view the many predecessors make the design choices in AW all the more impressive, as they clearly have had the strength of conviction to follow their own divergent path.

Advance to the Present

The demise of the board game company SPI was generally acknowledged to be due to catering increasingly to the hard-core avid players, creating an ever-shrinking pool of hard-core customers. They kept demanding more complexity and detail, and when the company delivered on that the games appealed only to the most avid fans, who wanted them to go even farther, with inevitable results. So the designers at Intelligent Systems deserve immense credit for their work that is probably not

apparent to casual observers. Certainly, they have built upon the work of others, but even more impressive is what they have left behind. Albert Einstein once said, "Everything should be made as simple as possible, but no simpler", and this is a wonderful design principle that is powerful in its essence but very difficult to follow. The AW team has clearly taken it to heart, constantly fighting the tendency to add complexity that eventually doomed the SPI Monster Board Games, and yet never simplifying so far as to take away the essential heart of what makes this sort of game fun and satisfying. Each new version of the game has featured new gameplay and units but has also dropped some of the ones from previous games that I presume proved to be less popular or workable.

Whiny Pre-Adolescent Girls

As much as I love most aspects of AW, there is one unavoidable blot on their otherwise shining record – the stories and characters in each of the four AW games. In each game, the single player campaign follows a set of characters through a progression of battles that form a story. In reality these all break down to "the good guys band together to defeat the Ultimate Bad Guy". The first two AW games don't really even try to rise above this very simple storyline. They chose different countries and their respective leaders as familiar echoes of Japanese, American, and Russian equivalents only very mildly disguised or shuffled a bit.
Even worse, the people in charge of the armies in these games were often depicted as teenagers – or much younger kids. It's not an atypical thing for anime fans, but I felt it clashed with the fairly serious nature of the combat. Given the kid-centric audience on the original GBA that was the platform (and indeed the source of the name) of this series, and the Japanese Famicom Wars predecessors, the interminable pointless bickering among characters might have been necessary, but I applaud Intelligent Systems for always letting players just jump past the story with no serious consequences.

One thing that drove me crazy in particular was the inclusion of annoying, peevish, screechy girls, depicted as about 9 years old as best I can tell, in charge of enemy forces. Their main role in the stories seems to be to throw tantrums whenever they can't get their way. I can't tell where this is coming from – perhaps one of the lead designers had an issue with his little sister, or maybe it's just a cultural divide, but I saw no redeeming value (and plenty of reason for annoyance) in this recurring theme.

The latest in the series, Advance Wars: Days of Ruin does make an honest and sincere attempt to create quite a different darker, more adult world and storyline. They set it in a post-apocalyptic world, and use the science fiction storyline to justify

some of the oddities of the game system (automated factories that can create any military unit, for example) although they wisely still don't try to explain how a ground unit can resupply a fighter plane as it flies overhead…

As I began to play this latest chapter in the game, I was at first pleased that they had made a sincere effort to create a storyline that might appeal more to Western audiences. Unfortunately, I didn't enjoy it much more than the previous ones – it still felt quite contrived, scenes went on interminably, and there was little reason to care about the characters. Given the recent advances in the quality of storytelling and writing in games as is evidenced by games such as Portal, Mass Effect, and Bioshock just to name a few from 2007, this was disappointing. But I was at least appreciating the fact that the leaders of these armies were, although often young, at least of an age that made sense for people in armed forces. In particular the Ultimate Bad Guy was an older creepy character. So imagine my dismay partway through the storyline when the UBG hands over some battles to – a pre-adolescent whiny spoiled girl. They try to justify it with some science fiction rationalizations, but it remains the one flaw in the series for me. Happily, it is easily bypassed and ignored, and doesn't affect the gameplay.

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Personal Reminiscence 2:
— My Own Advance Wars —

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Like many game designers, I made my own games as a child and young adult, just for fun. Many of these games had wargame themes. The ultimate expression of this, at least in terms of complexity, was a game I made in the early 1970's, when I was about 16. I had just discovered the SPI wargames around this time, but found their obsession with realistic detail and complex rules too frustrating. I wanted something halfway between their games and the ultra-simple wargames I loved to play with my friends, like Stratego and Risk.

My game was set on a large board that I ruled into small squares. Each square was colored to show a type of terrain – flat land, mountains, sea, etc. There were four countries, one in each corner of the map, with their own national colors: red, green, blue, and black. Cities were scattered over the map, each shown with a star. The four main countries had capitol cities as well, and the objective of the game was to capture all the enemy capitols.

Players could build tanks, artillery, infantry, and various naval and air units (little cardboard rectangles with drawings on them), each with their own attack and defense strengths, fuel and ammunition limits, and movement rules. I kept track of fuel and ammunition with tiny yellow or brown squares

that I laboriously piled on each military unit and "spent" as they moved or fired, and refueled when they returned to friendly territory or were met by mobile supply carrier. All I have left of the game are a few small film containers filled with the fuel and ammo counters.

In retrospect it was all strangely prescient of AW. Of course both the people at Intelligent Systems and I had access to the same history of board games that I did, and must certainly have played many of the same computer game precursors or their Japanese equivalents as well, so it's not too strange. Still, the choice of the same four colors to denote the different countries was particularly eerie. At the very least it helps explain my own obsession with this game that feels as if it were custom made to my personal tastes.

Advance Wars AI

One feature that has shown gradual but always positive improvement in the series has been the AI. When a computer scientist talks about Artificial Intelligence, the term usually is expected to mean the rather highfalutin goal of the reality of having the machine think like a human or even better – and for most of the history of computers, has fallen woefully short. In the 1960's, we thought that we would have computers like the infamous HAL by – of course – 2001. In fact HAL was supposed to have "woken up" years earlier than that, in 1992 according to the film. He was capable of independent thought, judgment, even lip reading – although ironically the state of his game graphics as evidenced by the chess he played was way behind what the computer games industry managed to achieve even by the early 1980's. In addition to insisting on good graphics, in the games industry we are happy to settle for the illusion of reality, or in this case the illusion of human intelligence. We're happy to "cheat" if necessary to make a computer seem more human than it really is. Come to think of it, I guess HAL cheated too…

In Advance Wars, the AI in the first GBA title was adequate, but nowhere near as good as another human. This is actually a continuous problem in the strategy games genre. To return to Chess, even though that game is so well understood and comparatively limited in scope, it has only been fairly recently that computers can beat the best human players, and with Go, an even simpler game in terms of rules, the best human players are still well ahead. The GBA AW AI could only win against an experienced human by stacking the deck, and starting with a significant advantage in terms of initial territory and/or units. It was quite easy to sacrifice a relatively cheap infantry unit by putting it in reach of the enemy forces, letting them come forward to kill it, and then smashing the much more expensive units the AI had deployed without regard to the consequences.

Gradually, over the course of the four AW games, the quality of the enemy AI has increased. In the most recent Days of Ruin game it has reached quite a remarkable peak. As an avid player of the series in the single-player against the computer mode, I had grown used to maps with one, two, or three opponents. In the previous games the computer opponents would all cooperate against the player – generally necessary because they didn't individually play as well as a skilled player and needed to cooperate. But with the newest AW they play for themselves, so a four player map can mean the three computer players contend against each other as well as the player, making for a much more fair feeling as well as some really fascinating battles. The maps are not all symmetrical either, with some positions superior to others, protected by a mountain range or other terrain features like rivers and woods, or with more cities and bases within easy range of the early conquest. Starting in an inferior position can challenge even the most expert player. The Fog of War feature, where positions of units in the distance or under the cover of forests or cities are hidden, always was frustrating in single player games in previous AW iterations, with the enemies clearly 'cheating', using advance knowledge of the actual position of player-controlled units to conveniently 'find' them. But in the latest version, the computer players seem much more human, and can be enticed into ambushes or deceived by stealthy tactical moves. Creating a sense that computer-controlled enemies are following the same limitations as humans is an area where the art of game design overlaps with the science of computer programming, and as with so many other areas the Intelligent Systems people have shown amazing mastery.

Personal Reminiscence 3:
— Artificial Intelligence and Natural Exercise —

My own interest in enemy AI comes from my early game developer days, programming the arcade game Sinistar in the early 1980's. I also co-designed the game and worked out a way for the enemy units to appear fairly intelligent even with the very limited computer resources of the time - 1Mhz microprocessors and extremely limited RAM, literally thousands of times slower and smaller than what is available today. So I have a programmer's appreciation of the difficulty in making a computer-based enemy appear to have human intelligence while controlling many units of different capabilities. I encountered some similar difficulties working on some modern naval combat simulation games at LucasArts: PHM Pegasus and Strike Fleet.

Although the internal workings of the game AI are generally opaque to players, I can conclude from my many hours of play – um, research – that over the course of the games in this series, the programmers and designers

at Intelligent Systems have changed their approach several times. There appears to have been a fundamental shift away from having each unit attack independently, and towards balancing priorities based on the objectives the units have to accomplish, like capturing the enemy HQ, destroying enemy units, protecting their own units, and resupply and repair. As I discovered in my own games, thinking in terms of balanced objectives, and even having the objectives themselves internally assign enemy units to attack them can be a very effective way to turn the problem inside-out and save a lot of processing time.

The Stealth Tutorial

All games are teaching tools, training people how to play them as they progress. The early AW games did this explicitly with a separate tutorial. Since then they have increasingly integrated the tutorials into the single player campaign progression. That's preferable from several points of view. A beginning player doesn't feel singled-out for training when it is integrated into the main game play. And it provides a nice ramp-up of difficulty even for more experienced players who are familiar with earlier games in the series, and gives them a chance to learn how the rules have changed since the previous one – since each AW has introduced new units and changed the functionality of old ones in at least some ways. The end of each battle also provides the player with extensive statistics and information about how they did in the battle, which can be skipped over, or carefully scrutinized to learn how to do better next time.

There is also a more technical reason for integrating the tutorial into the main game play. Game developers learn quickly to see as much of the work that went into the game as possible. In the movie industry this is called "putting the money on the screen" – you don't want to spend a lot on things the player may not see. If there is a separate tutorial, some players – perhaps most – won't ever look at it, and for them the effort and resources invested in the tutorial is basically wasted. Integrating them gives both experienced and novice players a chance to see the work that went into the tutorial.

Personal Reminiscence 4:
*— **Heart Healthy!** —*

This is probably a good point to explain my earlier comment about AW being good for my cardiovascular health. As must be abundantly clear by now, I'm very intent on – some would say obsessed with – this style of game. Years ago, around the time the first AW title came out on the Gameboy Advance, I

realized that I could play it on a recumbent exercise bike in the gym, which left my hands free. I normally am bored silly by aerobic exercise, but with AW to distract me I have consistently been able to greatly increase the time and effort I expend on the bikes, eventually quadrupling the amount of calories I can burn in a session. I know it's not just getting in shape that does it – when I forget to recharge the game console's battery and don't have it to play on, my endurance drops right back to "pre-AW" levels. I highly recommend this technique for fellow AW-lovers and exercise-haters, although it may result in some odd glances from fellow gym members.

Progression Complexities

There is another area in which putting the money on the screen matters. The sequence of battles or levels of the game and how they are presented is an interesting and potentially subtle area of game design. There is always a strong incentive for game designers to take the simple, straightforward approach of just linking levels together into one long, unbroken chain. Finish battle 1 successfully and you can fight battle 2, and so on until the final battle. If you give players a choice of which battles to fight, you add complication in the interface, risk having players miss important information, or disrupt the smooth progression of the story or tutorial. But games are interactive, and giving the player meaningful choices is a critical way to satisfy them. Having to progress in a linear fashion through battles 1-2-3-4 and on does not allow much room for choice.

Over the series of the AW games the designers have experimented quite a bit with the level progression. They have always paid attention to giving the player choice, in the first titles through a structure I call a convexity that many other game designers use. This means that players start with one or two directly linked levels, but then can choose from among several optional levels or at least choose the order in which to do them. This can be meaningful in terms of progressing through the game as it makes it less likely that the player will get stuck on one battle and be unable to progress. There is a problem of the weakest link in the chain in the sense that if all the battles are linked together one after another, inevitably one battle will be tough for the player to finish and may stop him. AW deals with that by having optional battles that are not part of the main progression but are unlocked by completing battles that are. And it is also possible to complete a battle with a low score and letter grade, letting the player progress but giving an incentive to come back and do better later. In the most recent AW, Days of Ruin, they have made the campaign totally linear, but linked in many optional battles that unlock as you successfully complete them, all laid out intuitively and simply on a 2D rectangular grid.

As a final observation, the Intelligent Systems designers have made use of a rather subtle but important game design principle I call "parallel challenges with mutual assistance". In plain English, this means providing several different options for the player at any given point (the parallel challenges) while ensuring that if the player chooses and succeeds at a given challenge first, it will make the other challenges slightly easier to master. Many great games have done this in the past – roleplaying games like Diablo II for instance let the player gather more weapons and armor and level up their character on one quest so they can face another quest with a better chance of success, and first-person shooters like Halo let you collect weapons and ammunition. Most games that feature parallel challenges make it possible for a player simply to get better at playing the game, increasing their chance of success when they come back to a challenge that was too tough the first time. In AW, players learn how to use the different units and commanders, gradually finding better ways to guard their weak spots and exploit those of the enemy. Also, unlocking new commanders by progressing through the campaign can make it easier to complete other single-player maps by using the new commanders' abilities. Like the previously noted ability of players to choose in level progression, this is another way that AW lets the player self-tune their own ability to get through the game, making the whole process less frustrating and more fun.

There are many aspects of the game that I have not even touched on – for instance the ability to play with other humans and not just against the computer, using the DS wifi link, or the map editors that let players create their own maps and battles, or the experiments in the series with puzzle maps, or real-time play, multiple commanders on one side, and so on. But just because I've spent hundreds of hours playing the game doesn't mean you will enjoy having me spend hundreds of pages writing about it. Suffice it to say that this marvelous series of games has always had surprising depth, making it possible for players to get wonderful value for their investment in the game, and providing countless examples of excellent design choices for game developers to marvel over.

Personal Reminiscence 5:
— A Consummation Devoutly to be Wished —

Where will Advance Wars go from here? I fervently hope sales are good enough to warrant more releases in the series. The recent increasing diversity and popularity of casual and downloadable games bodes will for them. Here are just a few possible directions I would love to see them explore – some certainly more practical and commercially viable than others:

> • *WWII Realism – a story truly crafted for Western audiences, following the tradition of Saving Private Ryan, or Flags of our Fathers/Letters from Iwo Jima*

- *WWII Abstraction – An AW take on the Panzer General series, following key European campaigns or Pacific Aircraft Carrier battles but with the simpler AW units and rules*

- *Space Conquest – take on the long tradition of "XXXX" space games, with planets and orbital factories taking the place of cities and ground factories, exploring deep-space as well as planetary surface combat but keeping AW's elegant simplicity*

- *Alien Ground Combat – stick closer to the current AW scope, but set it on an alien planet with humans versus one or more alien races*

- *Fantasy – Blend AW with their Fire Emblem line, creating large fantasy battles reminiscent of Lord of the Rings but using the clean AW conventions for combat resolution*

As with so many other aspects of the game, the possibilities are virtually endless.

Elements of Victory

To sum up, the AW series is remarkable in many ways. It represents a milestone in the long tradition of turn-based strategy games, and fully deserves its place in the pantheon of all-time great efforts in that regard. It manages to deftly unite simple and clear elements with richly detailed strategic complexity and increasingly challenging computer opponents. Similarly, it blends the abstract playability of Chess and Go with the true-to-life exciting unit interactions of realistic modern combat, while somehow finding a middle ground between the two extremes. And finally, it provides an amazing amount of depth and replayability for such a simple basic game. This series is truly a classic among video games, and deserves serious attention by both aspiring and established game developers.

Where Ultima Underworld's storytelling prowess really shines, however, is in the dynamic systems of the gameplay itself.

CORVUS ELROD

DESCENDING INTO THE ABYSS: A STORYTELLER EXPLORES THE NARRATIVE ACCOMPLISHMENTS OF ULTIMA UNDERWORLD: THE STYGIAN ABYSS.

As a semi-traditional storyteller with a strong improvisational focus, I approach video games with an eye toward how they communicate story. But this does not mean I focus on the dialog, the plot, or the back story. Instead, I am far more interested in how the rest of the video game — from gameplay to packaging — communicates story to the audience.

One game that continues to impress me, even more than a decade after its initial release, is *Ultima Underworld: The Stygian Abyss (UW)*. *UW* was one of the first games I played on a x86 computer, and I've played it to completion more times than any other game in my collection. Despite its low-resolution texture maps, sprite-based character animation, and awkward control system, I find that *UW* has held up remarkably well due, in no small part, to the strong design decisions that make it an excellent example of storytelling in the video game medium.

UW was developed at Blue Sky Productions. Founded by Paul Neurath and Doug Wilke, who had worked together at Origin Systems, the studio began work on a revolutionary new approach to computer RPGs. At the suggestion of their publisher, Origin, they set the game within Richard Garriot's popular Ultima franchise. The result was *UW* and Blue Sky Productions went on to become Looking Glass Studios, who produced the critically acclaimed *System Shock* and *Thief* series of games before closing their doors in 2000.

UW's storytelling efforts begin with the first thing the player sees — the box art. The cover depicts a well-muscled human male, dressed in conventional barbarian style, descending a staircase with his sword at the ready and his shield held high. The area immediately behind him is well lit, but the rest of the image is shadowy blues and grays. There are no fewer than five monsters lurking in those shadows and another two sets of stairs ascends into the background. Everything about this box cover says, "Caution! Take it slowly!" When you begin playing *UW*, you find that this is excellent advice. *UW* is not a game to be played quickly or rashly.

The storytelling continues with the items found inside the box. There is a paper map of the titular Abyss's first level and a paper-bound guide titled with a runic script. The guide, titled Memoirs of Sir Cabirus, is written from the perspective of the Stygian Abyss's founder and contains world history, a bestiary, and a class guide. It also contains strong warnings about the inadvisability of descending into the Stygian Abyss. The remaining texts are standard video game documentation–an in-depth Player's Guide that explains the game's controls and screen elements, a quick reference card, and an install guide.

Players first playing *UW* in 1992 likely ended up paying a lot of attention to this install guide. *UW*'s system requirements were a bit higher than the popular games of the time. While many point to *Wolfenstein 3D* as the first 3D game, *UW* was released earlier and, unlike *Wolfenstein*, boasted a true 3D engine, allowing for environments with sloping floors and stairs, as well as the ability to jump and look up or down. The price of this advanced game technology was steep and involved, for me at least, writing custom system files to ensure there was enough memory free to play the game. *UW*'s system requirements made the game one everybody couldn't just pick up and play.

UW certainly wouldn't win any prizes for its graphics in today's world of near-photorealistic game worlds. Although the Abyss is a fully-3D world, it is only seen through a small viewport that is wrapped in a larger UI with inventory and system messages visible at all times. The character sprites are highly pixelated and the on-screen text is obviously not anti-aliased and can, therefore, be hard on the eyes.

But despite these technical limitations, or perhaps because of them, the game's look was carefully designed to clearly communicate a sense of space, mood, and function to the player. The textures on the walls and floor provide good contrast, allowing you to easily navigate the environment. There's even a bit of camera bob as you move, giving you the sense of actually walking through a physical environment. The implementation of light source is impressive, giving the Abyss the illusion of impressive scale for what are, by today's standards, small environments. Object sprites are well drawn so you invariably know what is worth picking up and

what isn't. I recently tried to replay the original *Tomb Raider* without the benefit of 3D acceleration and eventually gave up on the attempt, as the environments (seemingly trying to be as "realistic" as possible) were a smear of bland colors. But *UW* boasts quality art direction, which is in no small part responsible for its continued replayability.

The user interface (UI) itself is also very nicely done. Two dragons support a large scroll across the bottom of the screen. As text appears, their fingers twitch as they roll up the paper, causing the text to scroll upward. Switching between your inventory and character stat panels is done by "pulling" a chain, causing a portion of the UI to swing like a rotating door, revealing the new information on its opposite side. This is reminiscent of the hidden doors one expects to find in a dungeon crawl. There are many small touches like this throughout the UI — equipped light sources change states on the inventory panel to indicate whether they are lit or, in the case of torches, burnt out. The life and mana are represented by red and blue vials that bubble nicely as they empty and refill. Your red life vial turns green if you're poisoned. A large gem in the lower left of the UI glows to let you know how powerful of a strike you're about to deliver. The eyes of the gargoyle at the top of the screen flash green, yellow, and red to let you know how healthy your opponent is with each strike.

Rather than trying to minimize the visual appearance of these elements, the design actually highlights them. Current design trends would seem to indicate that obtrusive UI elements are undesirable, but these little visual touches actually serve to help unify the game mechanics with the visual style of the world. This integration serves to make the UI part of the world itself, rather than an artificial constraint of the game.

There are two final decisions made that I consider to be important elements of UW's visual design. The first involves the ability to choose a gender. This choice changes nothing substantive about the game, but the ability to choose your avatar's gender and appearance, which range from your typical big-boned blond hero, to avatars of color, to late 80's pop star rejects, significantly adds to the audience's ability to believe themselves a part for the game's storyworld. The second decision regarding visual design is one I wish every game would use — the ability to pick your character's handedness. The choice in no way affects gameplay, but as a southpaw myself, the simple visual of seeing the correct hand pop up on the screen with a sword makes the game that much more satisfying and believable.

The audio design of *UW* suffers under even heavier limitations than the visual design. Creative Labs was well on their way to turning their affordable Soundblaster line of audio cards into the industry audio standard, and in the absence of a unified

programming API like DirectX, *UW* had to ship with native support for many different lines of audio cards — including Ad Lib, Soundblaster, Soundblaster Pro, and Roland MT. The sound quality across these cards varied dramatically.

Still, as with the visual design, Blue Sky made strong design decisions that raise the audio components of *UW* well above the technical limitations placed upon them. Each environmental effect is distinct from the others, and once you've figured out what sort of events cause what noises, they do help you navigate the Abyss. You learn to tell when there is a rot worm around the corner or a lurker in the nearby stream. If a door or portcullis swings shut behind you, you won't have to turn around to know you've just been trapped.

The music of *UW* is epic in scale and reacts to the game environment, increasing in tempo to alert the player to danger and flourishing when a foe has been bested. Not only does this serve to provide the player with environmental cues, it creates a heroic soundtrack based upon the player's actions.

UW is a perfect example of how to create excellence within the tight constraints of a medium. While nearly every technical aspect of the game appears to be the result of the platform limitation of computers in the early 90's, all the elements appear to have been consciously designed to ensure that all aspects of the game consistently communicate their game world.

Where *UW's* storytelling prowess really shines, however, is in the dynamic systems of the gameplay itself. In fact, I feel that the magic system in *UW* is a perfect example of the design philosophy underlying the entire game. Like the rest of the Ultima games, *UW* utilizes a runic magic system. Unlike the other Ultima games, *UW* does not transcribe complete spells into a book, allowing the player to cast them with a single click. Instead, the game requires the player to collect individual rune stones and assemble them into the spells before casting them.

Players familiar with the Nordic runes will be right at home with *UW's* rune set. There are twenty four runes and each rune has a specific meaning–AN means negate, BET means small, CORP means death, and so on. Runes can be combined in twos or threes to form spells, which when read from left to right describe the effect of the spell. For example, combining IN (cause), MANI (life), and YLEM (matter) has the effect of creating food while combining IN (cause) and LOR (light) produces the magical equivalent of torch light. Adding a VAS (great) rune to the front of the light spell — VAS (great) IN (cause) LOR (light) — produces the magical equivalent of sunlight. This makes the spells easy to memorize or even puzzle out through experimentation.

It is important to note that this is not a procedural magic system. The spell combinations are predetermined and most of them are listed in the player's guide. A few spells, however, are only provided within the storyworld itself. Ultimately, the player can experiment and learn to reproduce the magical effect of every scroll, wand, and potion within the game. This approach provides the sense that the player is working with a magical system, rather than an arbitrary collection of predetermined spells. The effect this approach has on *UW*'s storytelling is crucial. By relying upon historic cultural symbols that most RPG geeks will have at least passing familiarity with, and by ensuring that the implementation of them is consistent, the design practically removes the designers from the equation, allowing the player to build a relationship directly with the system.

In other magic systems, the design often feels artificially constrained, re-enforcing the realization that it is only a collection of game mechanics. Restrictive spell progression, only being able to cast 'X' number of spells a day, or having prepared spells take up "slots" all speak of a design that intends to slow the player down and keep them moving in a direction predetermined by the game's designers. With an internally consistent and transparent magic system, like *UW*'s, the system seems to have natural limitations, and it is easy to accept those limitations as an integral part of the overall system itself.

Rather than pull you out of the game to examine spell tables, *UW* rewards exploration of the storyworld itself. The more invested in the the world you are, the more rewarding the experience is. This serves not only to pull the player in, but to make the world a more satisfying and believable place to be. More than any of the textual elements, it's these game dynamics that turn *UW* from just another dungeon crawl into a rich and rewarding storytelling experience.

This drive to draw the player into the storyworld as fully as possible is reflected in nearly every single system within *UW*. For example, the game features an excellent automap. One of the first items the player finds in the game is a map. Opening the map reveals a series of screens that appear to be blank parchment. On the first screen, a small icon represents the player's location. As the player wanders through the storyworld, the map is automatically generated for you, showing them the ground they have traversed. Interestingly, rather than automatically adding each room the player visits to the map, it is as if the player is a paintbrush and their exact path is all that is recorded. This means that a player wishing to explore and fully fill in their maps, must pace off the walls of each room, much as real cartographers must carefully measure to ensure accuracy.

This has an obvious benefit in that it keeps the player's focus within the storyworld, minimizing the need to look away constantly to draw maps on graph paper. So, even

when the player stops to check the map, they're still controlling the actions of their avatar within the game, not pulling back and becoming forcibly aware of their own existence and surroundings. An added benefit is that this doesn't penalize players that aren't particularly artistic or good at determining the in-game spatial relations.

Additionally, not only does the map magically reveal the explored environment, it also allows the player to take notes directly on the map itself. Such a simple, even obvious, concept and yet to this day, *UW* remains one of the few videogames to allow such a thing. Again, the benefits of this are that the player doesn't need to stop playing the game in order to keep track of important details. The location of items and characters, notes about significant events, or visions, can all be kept directly on the map within the storyworld itself.

Another system that draws the player into the storyworld is *UW*'s skill progression. When initially creating their character, the player is allowed to pick from a long list of professions, including bard, druid, fighter, mage, paladin, ranger, shepherd, and tinker. Each profession determines the avatar's available starting skill set. In addition to several combat and magic skills, the player may chose from survival skills, including sneak, barter, charm, repair, and many more. As the player explores, fights monsters, and talks to the denizens of the Abyss, they acquire experience points. When they have acquired enough points, they are informed via the previous mentioned scroll that they have acquired a level.

This is where *UW*'s approach differs from most RPGs. Rather than pulling up a special stat screen and allocating skill points, the player must find a nearby Ankh Shrine and chant a mantra in order to gain new insight into their existing skills. The room housing the Ankh Shrine on the first level has three mantra engraved on its walls. The first helps the player improve their avatar's martial skills, the second their magical skills, and the third their "other" skills. Chanting, literally clicking the Ankh Shrine and typing the mantra onto the scroll, one of the mantras randomly improves skills that fall into these categories. As the player explores the world, they find mantras that help improve specific skills. These mantras are found on scraps of paper, etched on plaques near shrines, and scrawled on the walls by previous explorers. Again, not only does *UW* place the leveling mechanic firmly into the fiction of the world, it is used as an incentive to explore and an invitation to become a part of the storyworld.

The impressive nature of *UW*'s design is evident in every single aspect of the storyworld environment. Musical instruments can be played using the number keys on the keyboard. Drinking too much alcohol causes the avatar's vision to blur and consuming poisonous mushrooms turns the world psychedelic. Spikes can be used to jam the locks of doors, so the avatar can rest uninterrupted. Useless debris

and bones, all of which can be picked up and stored in inventory, clutter the halls. Discarded weapons, broken wands, and lost runes can be found near faded blood stains–testifying to the dangers that befell previous explorers. Armor and weapons degrade with use and can be repaired at an anvil if the avatar's skill is sufficient – with a chance of botching the repair job and destroying the item. Throughout the game the player finds more gold coins and gems than they'll never need within the game, which hints at a much larger economy outside the walls of the Abyss. As the player descends level by level, the signs of decay increase until entire hallways are collapsed in on themselves, the floors become uneven and portions of the Abyss are barely traversable.

But most importantly – the player is allowed near total freedom to explore all the levels of the Abyss, just as it were a real environment. Nothing about the systems of *UW* are dependent upon following the plot. Each system – from locked doors that can be lock-picked or bashed down, to weapons and armor that can enchanted – simply works. There are no sudden activations, or deactivations, of systems based upon learning the right piece of information from the right character. For example – burning incense before sleeping invokes a dream state in which important information is communicated to the player. On a lower level of the game, the player is informed of these special properties and their significance. However, much earlier in the game, the player had likely discovered, next to a bed roll, a small pouch containing a torch, incense, and ashes. Had the player decided to experiment, they conceivably could have experienced the vision well before they'd learned of its significance. This systemic freedom is the true beauty and strength of *UW*.

It is clear that great attention was paid to every detail of *UW*. Rather than build an environment to present a specific story, an environment was built and a plot set within it. This approach allows the player to control their own exploration of the designer's story, to be the gatekeeper of their own plot progress. Alert players are rewarded for their efforts, as items found on the first level are needed much later in the game. Conversely, players used to the shallow stories of today's games may be frustrated and find themselves wandering about, completely at a loss as to what needs doing next.

Of course, the exploration of a game's ability to communicate story through its game mechanics doesn't do much good if there isn't an underlying plot to give the player purpose. Fortunately, the plot of *UW* works with the game design to compel the player to explore deeply into the ruined corridors of one man's failed dream.

In the opening cinematic of the game, a narrator informs the player that they are asleep. A ghostly visitor appears, warning that Britannia is in grave danger. The Avatar (this being an Ultima game, the player's avatar is literally an iconic hero

called the Avatar) is immediately summoned to Britannia and arrives just in time to take the fall for kidnapping Baron Almric's daughter. Baron Almric isn't convinced that the Avatar is truly who they claim to be and tosses them into the Stygian Abyss, saying that return will only be possible if the Avatar frees his daughter. It's ultimately not going to be quite that simple, of course–there's that whole 'Britannia is in danger' issue to worry about as well.

The Stygian Abyss itself is a failed experiment. Sir Cabirus brought together all the races of Britannia in hopes of building a gated community based upon the Eight Virtues. Despite his foresight in fashioning an artifact of power for each virtue, for inspiration of course, his plans failed and the Abyss settled into a microcosmic example of the surface world's politics and struggles. Distraught over the world's refusal to conform to his vision, Cabirus did what any crackpot social architect would do–he took his own life by drinking a virulent poison (I'm probably reading a bit too deeply between the lines there). Life in the Abyss has only gone downhill since his death, the levels have fallen into disrepair and each race has segregated itself from the others, often through the liberal application of violence. This is the stage upon which your upcoming adventure is set.

UW allows the player to approach and speak with every sentient being in the game that is not outright hostile towards the Avatar. But the second most compelling thing about *UW*'s conversations is that most everyone the player meets is completely disinterested in the player's goal. They'll mention useful information in passing, but like the vain Goblin King Vernix, they are far too wrapped up in their own struggles to worry much about the Avatar. This gives the impression that this world was not built specifically for this one plot, but that it would exist even if the player wasn't wandering its corridors. It also serves, like so many components of the game's systems, to draw the player deeper into the storyworld as they learn about the politics and petty jealousies of the Abyss's inhabitants. In order to follow the plot line, the player needs to pay attention to these people and their struggles. It's only by helping them that the player will acquire the information they need to save the Baron's daughter and all of Britannia.

The first most compelling thing about *UW*'s conversations is that at no time is the player forced into dialog with any of the characters. In fact, no cut scenes pull control away from the player until they sleep. While the Avatar sleeps, the ghostly apparition from the opening cinematic urges the player to talk to people, to explore, to make their way ever deeper into the Abyss. Ultimately, this ghost is the only character deeply invested in the plot. Even the primary villain of the game isn't aware of the Avatar until the penultimate conflict. Again, there are no impervious doors waiting for you to talk to the right person. There are no rock slides mysteriously cleared once the player runs a number of errands. Rather than force the plot to unfold

in a linear manner, the player is allowed to pick and choose whom they speak to and when. The player can even make their way to the lower levels of the Abyss, and if they manage to survive, talk to everyone in reverse order if they wish. In a subsequent playthrough, a player with good notes can avoid the vast majority of the conversations as only a few of them on the lower levels are absolutely required to complete the game.

Unfortunately, *UW* is not a flawless game. In fact, its two primary flaws are enough to completely thwart a great many people's attempts to enjoy it – both when it was released and today. While I personally feel that the highlights of the game are worth persevering through the flaws, I can also understand that they may be deal breakers for large portions of the game playing audience. The two primary flaws of *UW* are related to the control scheme and a major instance of problematic design.

I have heard that the control interface for *UW* was inspired by flight simulators. As such, it depends quite heavily on the mouse, which is used for movement, environmental interaction, combat actions, and spell casting – often simultaneously. It is important to realize that the now ubiquitous WASD keyboard controls for movement were not yet a control scheme standard. *UW* maps forward movement to the left mouse button, meaning that for most of the game the player is holding down a mouse button. After a time, this can lead to serious fatigue. The cursor's position on the screen handles the speed with which the avatar moves, and how quickly they turn. The cursor itself changes appearance, intuitively communicating the type of movement the player is initiating.

The right mouse button is mapped contextually and initiates jumps, inspection of and interaction with the environment, conversation, spell casting, and combat. The player has three available attacks with every weapon – a stab, a sideways slash, and an overhead slash. Which attack is delivered is based upon the cursor position when the attack was initiated. Some weapons appear to be less effective at certain types of attacks (who stabs with a mace?), So, it's important to choose the right attack type for the equipped weapon. Holding the attack for a moment before releasing it builds the attack strength and does more damage.

Some enemies fly at you and require the player to look up, while other enemies are low on the ground and require the player to look down. Still others float about, requiring the player to constantly reposition their perspective. This head movement is controlled via the keyboard. Additionally, the player may also move around while in combat, avoiding blows by putting distance between their avatar and the foe. Jumping during combat must be handled via the keyboard, as the right mouse button is busy handling attacks.

The end result of this system is that combat is a complicated affair and requires no small amount of manual dexterity. It's a system that relies far too much on a single set of inputs, most of which are controlled via the mouse. Personally, I don't dislike the control system, but I do know that there are many who are put off by it and I can't fault them for that.

The second major flaw revolves around the freedom to pick a character class at the beginning of the game. There are many things to admire about *UW*'s character classes. Few games present viable class options like tinker or shepherd. Additionally, classes aren't artificially restricted from performing actions not inherently part their class. For example, there is nothing that keeps fighters from casting spells providing they have enough mana and skill to do so, and nothing stops a Bard from donning plate mail armor, providing they are strong enough to carry it around. This approach allows the player to experiment and create a viable set of skills based upon their play preference. Potentially viable, that is, until they reach the seventh level of the Abyss.

If the player has chosen to build a character entirely dependent upon the use of magic to survive, as they are free to do, the seventh level holds a rather nasty shock for them. This level is home to hordes of goblins and trolls, powerful ghosts, massive spiders, and fire elementals with a nasty ranged fireball attack. It is also home to a wizard that has completely drained the area of magic. Upon entering the level, all of the player avatar's mana is completely drained. This makes it next to impossible for players who have not improved their martial abilities to survive the level. The goblins can be talked to and barted with, but the spiders, fire elementals, and ghosts are immediately hostile and quite deadly.

This means that any player who has carefully created a purely magical character, relying exclusively on offensive and defensive spells to survive combat, is suddenly and completely neutered upon entering the level. It's difficult to fault a player for allowing this level to sour their opinion of the game. For the designers to offer complete freedom to develop a character exactly as you wish and then, without warning, require the character to have at least some measure of combat prowess seems like an atypical design decision at best, and a cruel joke at worst.

These two potential show-stopping issues aside, *Ultima Underworld: The Stygian Abyss* has withstood the test of time and repeated playthroughs. Using every aspect of its visual and audio design to help establish mood and provide environmental clues to the player, *UW* managed to rise above technical limitations and even set the bar for studios such as id Software. Reportedly, when John Carmack saw a tech demo of *UW*, he thought, "I can do that so it renders faster." He made good on that promise shortly thereafter with *Wolfenstein 3D* and launched the industy's

love affair with the first person shooter. By paying close attention to the design of every game system, Blue Sky created an action-RPG that pulled the player deeper into the storyworld with every interaction. *UW* is truly a marvel of design and engineering, an enduring classic that every aspiring game designer ought to study in depth. Perhaps most importantly, it also serves to remind me, when I despair at the endless FPS clones with near photorealistic graphics and shallow gameplay, that a video game can be technically advanced *and* focus on providing deep game systems that help tell a compelling story.

> *There is something of an element of Greek hubris in the final moments of the game and that's appropriate.*

KIRK BATTLE (L.B. JEFFRIES)

BULLY

When Rockstar Vancouver released *Bully* in 2006, they did so with an acute understanding of the inherent appeal of their *Grand Theft Auto* games: it's fun to break the rules. By creating a vast open world the player has a chance to study their environment and the rules that govern it. Who inhibits my character's freedom? Why? What if I drive a car off a bridge? What if I do a jump into a skyscraper? By setting that world in a New England Boarding School, *Bully* introduces a more finite and restrictive environment than their previous games. Focusing on the experiences of a teenager learning to cope with adults and peers, the game creates a distilled and purified version of the American teenage experience. It does this by creating a world where that acknowledges the necessity of authority in one's life and establishing your own relationship with it.

It's important to note before starting that a lot of my experience with this game comes from the fact that I went to a New England boarding school. I managed to have a good time while I was there but I don't recommend the experience for everyone. There's a lot of great camaraderie and intense academic discipline to be gained, but a lot of friends suffer under the pressure and structure as well. There are the classes until afternoon, mandatory sports, evening chapel services, study hall, and the inevitable 'lights out' that comes at 10 p.m. At an age where people are beginning to explore their freedom, boarding school takes it away. Depending on where you attend, you may even be forced to work alongside day students who don't have to endure the same schedule as you. Nor is money much of a factor at a boarding school beyond the expensive tuition. Everyone wears a uniform, most of your time is spent studying, and anything you "own" generally gets loaned out to the entire community. Still, there are no parents to hassle you and no home life to disrupt your day. So there is still a great deal of personal freedom found in breaking away from the nest, but it comes at an ironic cost. In a life of mandatory conduct and zero home life, there is precious little to form an identity around for a teenager.

Which is why placing *Bully* in a boarding school as opposed to a regular high school is such a good idea. Unlike a game about being a criminal, where the average player has little personal experience, we all went to school and were teenagers at some point. There are just too many variable issues in the regular home setting. We all come from vastly different parents, houses, and income backgrounds. At a boarding school all of those issues are removed. You can be just as much a blank slate in boarding school as you can a criminal whose just moved to a new city.

It also allows the theme of authority and one's relationship with it to be more fully explored. In a game like *Earthbound*, your character Ness's relationship with his parents is generically positive and passive. As you go about saving the planet, they never make you do anything and never enforce discipline on your character, outside the occasional reminder to go outside and play. How would one even react to a video game parent doing anything disciplinary? Do I argue with my virtual Dad? Throw things at my digital Mom? *Bully*'s setting is clever because all of these issues are circumvented. There is only the headmaster, the teachers, and your peers to contend with. These aren't people whom your character is related to or even obliged to care about, they're adults paid to babysit him. Few players are going to worry about shoving some jerk prefect whose hassling them about the rules. The player is much less constrained to worry about resistance than they would be having us fight with a father or mother. None of the familial stigmas are present for the typical teenage challenging of authority, so the player won't be inhibited by any issues they themselves may bring to the table.

The game is set in a small New England city and boarding school which are different from each other in several ways. The gender based dorms, gymnasium, cafeteria and main building all draw on elements of gothic architecture so as to look like the stereotypical boarding school. As with any of the GTA titles, a long list of activities you've always wanted to do are immediately provided. The fire extinguisher, long the temptation of many a student, is completely usable. The fire alarm can also be yanked to send students running around screaming. The town is designed in contrast to this, composed of a white collar neighborhood, an industrial area, and various shops. You can ride your bike around town, buy things from shops, and knock civilians over if you want. The aesthetic difference, modern buildings as opposed to stone structures, mirrors the difference in game design between the two areas. In Bullworth Academy you must worry about prefects and class along with several rules of conduct, but as soon as you go back into town the old rules of *Grand Theft Auto* take over. In town you are free to run around wherever you like, cause any kind of trouble you want, and need only worry about the cops if you step out of line. Get caught at Bullworth and you'll be sent to class or have to do chores, get caught in town and you're just deposited at the front of the school.

The prefects and class structure are another element of the game design that enhances the setting and feel of the game's experience. It's logical to expect there to be classes if a game is about being in school, but it's the options presented about whether one wishes to even attend that make it interesting. If you go to class, you'll play a mini-game that involves the subject matter in some way. Rewards are linked to the theme of the class, with English improving your communication skills while Geography gives you the location of collectable items on the map. Yet should you choose to skip, the prefects will be harassing you until class is over. Punishment for being caught by them is either being sent to class or the headmaster. This broad system is how the entire rule structure of *Bully* works for the player: these are the things you're not allowed to do, these are the things you're supposed to do, and if you're caught not obeying you get in trouble. It's different from GTA because typically all of the activities in those games are illegal or unrelated to any larger authority. In *Bully,* there's an actual way to submit and obey the rules. There's a way to behave in this game and even be rewarded for it. This game design shift changes the experience because the player now has a relationship with rules besides just breaking them. True, the plot still drags Jimmy into all kinds of misbehavior, but the theme of authority and learning to submit are reflected in the free roaming portions of the game design as well as the narrative.

The game design also captures some of the more intense elements of being a teenager. At no point are you ever allowed to drive a car. Instead, bikes are the best mode of transportation in the game. Yet there are still cars driving around the city of Bullworth, moving around much more quickly and easily than you can. What better way to capture the longing for autonomy than to incorporate wanting a car within the game design? It's a symbol of the adult world and the power they have that the students do not. Many times in the game you'll be forced to walk back to school while cars drive by you on the road, further reminding you of your role as a teenager in the game's setting. The game design isn't just creating a rule structure that resembles being in a boarding school, it's making a system that also induces the longings and desires of being in one. You wish there weren't so many stupid rules, you wish you had a car, you wish you didn't have to go to class, and you wish people would stop telling you what to do. In this way the game design creates the perfect setting for a story about being a teenager and coming to grips with authority in your life.

The game's popularity system is much more linear but this is in and of itself a commentary on being a teenager. It sharply portrays the realm of teenage politics by making the system totally arbitrary. One mission will put you in a group's favor one minute, only to have your score drop for an unrelated activity further down the road. For a game about becoming popular, having the metric by which this is gauged be utter nonsense is fairly witty. Popularity contests have always been

inane, but in a boarding school where people have no other identity but the one they create it's making a joke of the entire idea of being 'King of the School'. Popularity and accumulating it is an illusion in the game, just as it is in highschool, because the student's adoration is fickle. Any accumulation of popularity can be taken away through no fault of your own in the blink of an eye and the linear plot missions reflects this.

Before we get into the actual plot, it's important to remember how a sandbox game's story works. The characters must typically be much broader and stereotypical than a traditional linear story. You have to account for the fact that a variety of players are going to be coming at it from a variety of angles and moods. Put another way, It's tough to have a sad or tragic moment when the player could potentially have been kicking dogs and blowing up mailboxes for three hours beforehand. The game design has to deliver the story in small chunks as well, since the whole point of an open environment is that you can dash off to do whatever you want. Missions then act like small vignettes, with a short cutscene delivering the characterization and plot, followed by a mission that in some way represents the greater narrative action. These are activated voluntarily by the player, so that again you have the issue of a player who might not have engaged with the linear story for hours. Since you can't rely on the player remembering everyone and everything that's going on, the writer instead has to make a story that can be picked up or forgotten at any moment and still work.

As a consequence, the game relies heavily on stereotypes and dress codes for the various factions in the game. Nerds all dress one way, jocks dress another. The writing also mirrors this by having each person be an incredible exaggeration of their real world counterparts. The nerds are all insecure, wet their pants, speak in awkward squeaky voices, and loudly broadcast their role in the game. The Preps are all elitist pricks who reference their Dads, dress in nice clothes, and typify their image. This is true for all the cliques. This reinforces the boarding school setting because as noted previously, one often has to struggle to find identity there. The solution many kids adopted when I went was to fixate and "become" something. A lot of teenagers do this in mild ways, such as being a fanboy, but in boarding school you really see some extreme manifestations of it. For example, I knew a kid who for a year of their life would only listen to one musician and talk about them incessantly. The extreme personalities also add another aspect of boarding school: you become acutely aware of everyone around you. Keep in mind that the character you play lives at Bullworth and is around these people every day. In order to deliver that near nauseating degree of closeness with other people, you have to make their personalities and actions broadcast that much more loudly. You have make them that much more outrageous to be around in order to get the full boarding school experience.

So, this is the structure that the game design delivers the plot in and how the constraints support that structure. What kind of protagonist do you then place in this setting? Jimmy Hopkins is a child without a moral compass. The opening sequence of the game reveals he is without a father and is abandoned by his mother while she pursues another man. When the new step-father tries to force him to speak up Hopkins replies, "What? Who are you? Mom, I thought you told me never to talk to strangers." It establishes the entire relationship Hopkins, and the player, will have with authority for the rest of the game. The dilemma, as Hopkins bluntly explains to the fat, balding man whose "twice as old as his grandfather", is that Hopkins knows too much. He knows that the adults who order him around are morally flawed people and thus sees no reason to listen to them. This also makes him connect with the player, who is equally uninterested in being told what to do by the video game. The fact that Hopkins's Mom opts to abandon him to the authority of a boarding school gives the player the experience, alongside Hopkins, of being thrust into a new social order.

The arrival of the secretary, Ms. Danvers, marks this shift as she announces her worship and devotion to Dr. Crabblesnitch (as opposed to caring about you). Here is another false mother to Hopkins, sarcastically handled by him in his typical subversive manner by trying to walk in the opposite direction from the boarding school. The name Danvers is a reference to the Alfred Hitchcock film *Rebecca*, which is about a crazily devoted maid whose refusal to accept the new wife of her employer leads to a bizarre psychological duel between the two women. In a twisted bit of satire, it is now two men that Danvers is confronted with and she is quick to make feel Hopkins inferior in every way. The walk to the Headmaster's office is equally belittling. The game design allows for random bullies to taunt you, shove you, and call you any manner of names. Since your popularity score starts out at zero with all of the factions, no one will speak to you or do anything except hurl insults in these opening moments. The player has his inferior status paraded around him for the opening moments of the game.

Yet Crabblesnitch demonstrates himself to be a capable Headmaster because he immediately greets Hopkins' dry sarcasm with his own. Unlike the mumbling and threats of violence that his step-father attempts at Jimmy, the Headmaster meets Hopkins on his own turf. After reading the unspeakably bad record of your character he taunts, "I've never met a boy like you Hopkins. Whatever am I going to do?" Pushing the issue even further, he forces Jimmy to make the same observation the player himself is wondering as they play as Jimmy. "Why should I help you?" asks Crabblesnitch. Hopkins doesn't have an answer for either of us. Crabblensitch explains that he's helping Jimmy because it is his calling, a higher purpose that demands he convert Jimmy into an upstanding citizen. Like the player, Crabblesnitch announces that he is here to help Jimmy through control.

This authority figure's supremacy is further enforced as Danvers comes in, meek and subservient to his orders. As soon as she is put in charge of Jimmy, however, she is crude and bossy again. It's all handled humorously, but the opening exchange of the game establishes the motifs for the rest of the experience. Hopkins must prove himself in a new order and he is now at the bottom. Hopkins, renewed with a social order and the moral compass of climbing to the top, bluntly narrates, "That old creep thinks he can tame me? We shall see my friend. I only give people what they have coming to them." Naturally, within minutes of this declaration, Hopkins is attacked by bullies and must be saved by a teacher. The fact that the player must endure losing in a fight in this moment means that they too are dragged into the humiliation of depending on this new authority.

What kind of options does the game design give me when I want to play as Hopkins? He's not the biggest person in the game by any means. He's neither tall nor bulky, making many of the other bullies and opponents in the game physically intimidating. Rather than the typical masculine fantasy of playing a hulking space marine, Hopkins visually represents the insecurity and inferiority that the game makes you feel in the beginning. But from the very first fight, it's clear the animators wanted to create a character that looks like he can handle himself. His arms pop into a boxer's pose as soon as you press the button and the game starts you off with several mean combos. The little guy you play as can kick some ass if he gets shoved around. A mean jab, the ability to tackle an opponent, and a nasty knee kick are all options for the player. Indeed, your ability to fight becomes the principle foundation of your authority in the plot and the game design reflects this. With the exception of boss fights or when your opponents are using weapons, Hopkins is always the superior fighter in the game world. The game cleverly allows the player to assert this superiority by creating finishing moves that taunt the person you've just beaten.

The first student you associate with is Gary and he quickly presents himself as a mirror to Hopkins. He is as morally ambiguous as your character, operating on a code of conduct as amorphous as Jimmy's desire to give people what they have coming. When asked what pisses him off so much he rattles off a list of sources that sound remarkably similar to Jimmy's: ADD, parents, school, and any other number of ultimately irrelevant causes. What he wants, as he bluntly explains several times, is to be King of the School. With loose threats and ominous warnings of the difficulties of not being friends with him, Gary quickly becomes the embodiment of someone who abuses the authority they accumulate. Echoing the statements of Crabblesnitch, Gary mimics Hopkins, "Yeah, I've been expelled from anywhere halfway decent cause I'm really bad. Give up the tough guy act, pal." While both boys want to climb up the social order of the school, it is clear that Gary expects Hopkins to give in to his orders.

Whereas the game design quickly establishes that Hopkins is physically quite able, you can't really communicate with people through the game design. Your ability to apologize, flirt with girls, or make insults must be established in English class or unlocked. In this way the game design enforces Gary's advantage over Jimmy: he's more clever. Although cruel, he makes witty jokes and uses words that Hopkins doesn't follow. It's an edge that's established from the beginning and often pushed in various cutscenes. Gary never fails to insult Hopkins intelligence and thus the player's inability to communicate as well as he does, a literal limitation of the game design fleshed out by the story.

Pete is the weak character in the game. He lacks Hopkins' physical prowess or Gary's wit. From the beginning, it is clear that Gary has already dominated and subjugated this character into putting up with his insults. Yet Hopkins's method for handling Pete is humorously similar to Gary's. Both ignore his feelings and although Hopkins doesn't ever directly insult Pete he is also oblivious to his insecurities. Since he can physically take him without question, there really isn't much need for him to tune into Pete's weaknesses. Pete is the lowest person on the social ladder. Even Algie, one of the geeks who habitually wets himself, takes the time to mock him. He harshly explains to Pete, "I may be a loser, but I've still got loser friends to hang out with. We wouldn't let you into our gang, Pete. Because you're weird." It could be a throwback to the game's nasty satirical humor but there is never any moment where Pete redeems himself from that verdict. This highlights an interesting facet of his relationship with Hopkins because he's never competing for attention with him. Instead, he offers hints about how to control the other gangs or advice in the cutscenes. He may still be a weakling with Jimmy, but at least he isn't treated as cruelly.

In addition to the countless minor film references throughout the game, it is important to note that the writers are very conscious of their boarding school setting and reference this setting from other bits of pop culture. Specifically, the film *Dead Poet's Society* has numerous references and is spoofed across the game. The movie was filmed at the school I attended so I've seen it way too many times and immediately recognized the jokes swiped at it. Gary is a visual recreation of Robert Sean Leonard, who plays tortured wannabe actor Neil Perry in the film. Yet in parody, Gary does not resist authority by taking up acting. He just abuses others and uses his mental abilities to torture those around him. Pete's relationship with Gary is an equally sinister take on the relationship between Neil Perry and his roommate Todd Anderson (played by Ethan Hawke). Rather than being supportive and trying to make him feel welcome as Perry does in the film, Gary instead mocks his weakness and questions his manhood.

Which brings us to the actual groups themselves, starting with the nerds. This is the first faction you ever encounter and the relationship starts off deceptively clear-cut. Escorting Algernon to the bathroom, saving Bucky from Greasers, or recovering Beatrice's lab notes and diary are some of the opening encounters with them. With the exception of Gary and Pete, whom the nerds mostly ignore or torment, they are the lowest group in the Bullworth social ladder.

It can seem a bit pandering for a video game to be so supportive of its core consumers, but the nerds probably receive the harshest satirizing of anyone in the game. Although the player helps them numerous times, they will still refuse to help you when you ask for anything in return. Algernon, possibly the most ridiculous character because of his open fly and nickname Pee Stain, is also one of the cruelest. After brutally insulting Pete in the mission 'Stronghold Assault', he is equally disgusted with Hopkins when given half a chance. When Hopkins asks him for help against the group that always pick on him Algernon whines, "You're like a bouncer. We're a bit above helping people like you." It's a character trait of the abused that the game explores and jokes about with all the nerds. As the most abused faction in the game world, they in turn don't trust anyone and lash out at any opportunity. Earnest complains after you beat him into listening, "You're just like everyone else, picking on the little man!" To get their help, the player has to literally assault a nerd stronghold complete with rapid-fire potato gun and electronic gates. The mission design nicely parodies the idea that these nerds are so caught up in being defensive towards others that they don't trust anyone but themselves.

Yet for all their victimization and the sympathy the game engenders towards them, once Hopkins provides them with the means to fight back their cruelty quickly comes to the forefront. An ominous warning can be seen in the Schwastika-like flag in the nerd observatory and this theme quickly becomes apparent as Earnest starts assigning missions. The first involves taking naked pictures of the Head Cheerleader and posting them all over campus. Later you break up the football team's visit to a funhouse, protect the nerd fort from a jock raid, and eventually help ambush them with fireworks. All of this culminates in ruining the Big Game for the football team, an echo of the earlier mission where you help Earnest win the class presidency. The player has to bully the mascot, disrupt practice, and eventually charges the field in front of the whole school. The mission design demonstrates the shift from defending nerds to attacking their enemies, which resonates with the nerd's overall hypocrisy during these missions. The abused has become the abuser and they now do to the jocks what was once done to them. There's no moralistic tone to this in the game except what the player brings and the overall theme that becomes apparent with all these groups: the lack of gratitude. Algernon nicely encapsulates this when he yells at Jimmy for not following one of his briefings, "You simple-minded, noble foot soldier!" The nerds are quick to grab at power when Hopkins offers, thankless to the Player who provides it, and just as willing to use it to harm others.

This theme of the various factions being forced into accepting Hopkins and yet never truly acquiescing to his presence is carried with all the other groups. The preps are hilariously parodied and mocked for their dependency on wealth and their mimicry of authority figures. When they accuse Hopkins of stealing their trophies one declares, "Don't play innocent with us! I tried that when father caught me with Nanny. He gave me a good thrashing and I've got half a mind to give one to you!" Hopkins is quick to fire back that they're nothing but a bunch of rich assholes, but their response is hilariously appropriate: "No duh". The greasers are a bit out of place since they come across as a throwback to the 80's but maybe the game wanted to avoid referencing them as emo kids. Like the preps, Hopkins beats them into accepting his authority and confronts the leader with his own insecurities about his girlfriend. Missions revolve around collecting evidence that she's cheating, winning her affection in a bike race, and then participating in the final brawl over her love. Finally, it is perhaps the jocks who make the most profound comment on Hopkins method of winning friends. One acidly yells back at Jimmy, "What are you gonna do? Beat us all into submission, psycho?" Which is precisely what Hopkins does, until he discovers that being in charge is not necessarily the fun job he thought it would be.

What all of these groups serve to illustrate to both Hopkins and thus the player vicariously is that gaining authority over people is one thing, it's taking responsibility and governing them that's tricky. Nowhere is this point more deeply illustrated than the game's portrayal of the faculty at Bullworth. Your English teacher, Mr. Galloway, has a drinking problem. His rival, Mr. Hattrick, is determined to get him fired for it. Galloway is something of another parody from 'Dead Poet's Society' in that he puts a much more realistic spin on Robin Williams' character Mr. Keating. Yes, most English teachers are way cooler than others. No, this is not because they inspire us to stand on our desks. Instead, they're just a lot more relaxed and willing to let things slide, which the game acidly attributes to alcoholism. Out of all the class mini-games his is the most divorced from its subject: English is taught by going through a word jumble. That's a constraint of not wanting the player to write English papers but even Galloway lamely admits during class that it's a cop out. Missions with Galloway include finding all of his hidden liquor bottles, helping him go on a date with Ms. Philips, and eventually rescuing him from the Insane Asylum. Beyond their humor, what makes these missions interesting is that they all closely mirror the drama between the students themselves. The adults, despite their older appearance and rephrased problems, pretty much behave exactly like the kids do. When Phillips tries to explain that sometimes for grown-ups little problems become big ones Jimmy responds, "Miss, I'm not five. My Mom's been married five times and I've been expelled from seven schools." Hopkins already knew that adults could be flawed but seeing this played out by people who aren't his parents brings something interesting from Jimmy that his parents can't: sympathy. Hopkins worries about his English Teacher and helps him.

By about the fiftieth or so mission, Hopkins will have achieved a point where your popularity score with every clique in the game is peaked. He basks in their praise and gets to enjoy their competing for his attention. But the prank they cook up, to prove that Hopkins is King even of the town itself, proves to be an act of hubris. While he's away from the school the townies, in retribution for having their turf marked, play pranks on everyone. Since Jimmy is now the 'King of the School' they blame it all on him. Jimmy's goal of becoming the top of the school leads him to realizing that when you take power over someone, you also take responsibility for them. This goes back to the popularity score being totally arbitrary because through no fault of your own, Hopkins suddenly finds himself unpopular. It's a profound moment in gaming because even as you run around trying to solve everyone's problems, it becomes increasingly frustrating how much these attempts go ignored. Being in charge is a thankless job and the game makes you realize that by having your popularity score drop through no fault of your own.

The townies themselves receive the same stereotyping and satirical treatment as the other cliques in the game. Their attacks on the different groups at the school may have been launched by Hopkins spray painting his name onto town hall, but the underlying motivation is still envy. After pummeling their leader Edgar he confesses, "I hate that school. My parents couldn't afford to send me there and now I'm stuck in this dump of a town." It's a sentiment that Gary preyed upon and that Hopkins is forced to overcome in order to win their respect.

All of this climaxes in Hopkins being expelled. Crabblesnitch explains that since Hopkins is both the most reviled boy in the school and he defaced the Town Hall, he can no longer attend Bullworth. For as much as Jimmy might have a point about his good intentions and trying to stop the bullying at the school, the Headmaster is apt in pointing out that he's still guilty of doing it by breaking the rules himself. Proving that the school administration is hypocritical and the Headmaster is clueless doesn't change that fact. Only Pete, still loyal because he's as friendless as ever, helps you. Hopkins laments, "I tried to do the right thing, make people happy, stop all the fighting, make everyone calm down, now everyone laughs at me. People used to be scared of me and now I'm a joke." The irony of considering fear a good thing is lost on Jimmy but not Pete, who encourages him to not let Gary get away with this. Hopkins is still the best fighter in the school and one minor setback isn't going to keep him down.

There is something of an element of Greek hubris in the final moments of the game and that's appropriate. Again, due to the way the sandbox game is structured the developers can't rely on the player remembering or even connecting these plot themes. They may not have even played the final mission until several hours of last minute item collecting has gone by. So it's crucial that the developers use

the greek ethic of adaptation as opposed to the Christian ideal of transformation. Jimmy maintains the exact same tone, touch of sarcasm, and remains the slightly aggressive person that he was in the beginning of the game. But he does learn to adapt and conform to the world around him. This holds with the Greek ideal of "knowing thyself" and learning to adapt to it. In <u>The Odyssey</u>, the greatest flaw of Odysseus is that he doesn't trust anyone. He refuses to tell anyone his plans or what is going on, leading to them bungling things due to ignorance such as eating the sacred cows of Apollo. Just as Odysseus eventually learns to trust Telemachos, his servants, and his wife when he returns to Ithaca, Hopkins learns that being in charge isn't really fun. It's a kind of adaptation as opposed to rebirth and one that works well for a video game where the design allows immense freedom. When Hopkins finds out who convinced the townies to attack Bullworth he says, "Gary? That backstabbing, two-faced sociopath put you up to this? I bet he said the two of you would take over the school or some crap. He told me the same garbage. It didn't do me any good either." His realization at how nonsensical Gary's goal of being king of any group is simple enough, but his use of the word sociopath marks a distinct change for him. Whenever anyone else uses big words around Jimmy in the game he can't follow them. Yet here we have him echoing back the same critique that Algernon used of Gary. It shows that, in this moment, Hopkins is learning.

The final missions are a tour of the various themes and jokes of each clique as Jimmy runs around Bullworth beating them into behaving again. He again uses his physical superiority to make everyone behave. When he finally confronts Gary Jimmy can't help but ask why he did all of this. "Because I can. Because making little people like you and the morons who run this place eat out of the palm of my hand feels great! Face it! I'm smarter than you!" Gary shouts. Hopkins, sick of the game of seeing whose superior and trying to bully people into obeying him, quickly acquiesces. "Congratulations, you're smarter than me. You hate everyone and everyone hates you. Genius." Hopkins knows what he now realizes Gary doesn't care about, being in charge and people liking you isn't the same thing. This new respect for authority and appreciation finally manifests in the manner that the final boss fight is kicked off: Gary insults Jimmy's Mom. The woman whom Jimmy openly resents and complains about constantly, the one who abandoned him at the start of the game, has her good name defended by her redeemed son. The last fight with Gary is fairly easy and an appropriate tweaking of the game difficulty in conformity with the story. Gary is, after all, a "little bitch". When they crash into the Headmaster's office all of the signs of Jimmy's adaptation are present. He refers to Crabblesnitch as sir, politely asks for him to help his friends, and finally remembers to give Pete a little help as well. As the only person whose source of authority comes from a "higher calling", the Headmaster is perhaps the one person worth trusting. He certainly isn't in charge for personal rewards.

None of these elements or themes are necessarily going to be apparent to someone who isn't searching for them with a close critical eye. The story is primarily a good satire and the moral is distinctly woven amongst excellent humor, fun gameplay, and a fascinating world to explore. Yet just as the game design gives the player the opportunity to bully and force everyone to obey you, the story speaks back about the flaws to such an approach. When one of the townies bluntly asks Jimmy why he always thinks beating people up is going to solve their problems he replies, "It's America! We go in there with threats and bribes until we get what we want. If all else fails, we beat the crap out of everyone." This is what makes the huge outcry and criticism of the game when released both unfair and somewhat hypocritical. Yes, you can do all the typical wild and crazy things that a free-roaming game can do. But when you explore what kind of effects those activities have in the world of *Bully*, it makes no qualms about depicting the reaction people would have to being beaten into submission. For all the people who claimed that the game taught children to be violent, perhaps what most irked them was that the game was honest about the fact that being a bully comes with a variety of guilty pleasures and irreverent consequences.

The degree to which a video game is art mostly depends on what the player puts into their experience. If they engage with the subject matter and make connections between their actions and what they imply, then there is as rich an artistic experience as speaking with a friend about an idea or reminiscing on the past. Looking back on my boarding school days, I think the thing that resonated with me and this game was re-experiencing the pains of adapting to a new social order. It was the first time as a kid that I found myself living with an authority figure that gave me no special treatment. I wasn't allowed to go out at night like I did at home because none of the kids were allowed to go out. When I broke the rules, I couldn't play on my parent's sympathies or their leniency. I was just another kid that had to be treated like everyone else. Yet watching Hopkins resist being told what to do or say by a bunch of strangers reminded me of my own distaste for authority back then and even now. Whether it was coming from an adult or some bully, the moment where you must live under the rules of someone other than your parents is both inevitable and jarring. And just as the game predicts, back then my immediate reaction was to fight and bicker. But my eventual epiphany was something similar to the one *Bully* advises. One does not have to change themselves to live in an impartial world, but neither can you change that world without being a part of it.

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The pace has a direct effect on the interest and enjoyment of the player.

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AUTHOR: **MARK SIVAK**

HALF-LIFE 2: BEING GORDON FREEMAN

Half-Life 2[a] (HL2) offers a unique player experience through the use of design mechanics that give the player a feeling of absolute control. Branching off of the core idea of player control, the experience is further refined by how the HL2 gameplay is paced. The environment, enemies, and narrative all work together to create an experience filled with excitement, loneliness, intensity, nostalgia, and mystery. Please join me in an analysis of the ongoing adventures of Gordon Freeman.

Introduction

HL2 was released on November 16, 2004, and it is the sequel to the 1998 PC hit Half-Life[b]. HL2 was originally released for the PC and has since been released to other platforms and bundled into the Orange Box[c]. To date, HL2 has two sequel episodes of periodic content, Episode 1[d] and Episode 2[e], with a third episode planned for release. All the games in the Half-Life franchise are science-fiction (sci-fi) First Person Shooters (FPS). The franchise was created by the Valve Corporation and they also developed HL2. The game was originally published by Vivendi Universal Games but now is published by Valve and released through Valve's online content delivery system Steam. In the year of its release HL2 won over 35 "Game of the Year" awards.[1] The game also has a Metacritic (average) score of 96 out of 100 making it one of the highest rated games of all time.[2]

In the original Half-Life, the game's hero, Dr. Gordon Freeman (controlled by the player), inadvertently causes a disastrous "resonance cascade" at the Black Mesa research facility that opens a portal to Earth from a strange alien world called Xen. At the conclusion of Half-Life Gordon Freeman attempts to close the portal between Xen and Earth by destroying the alien controlling it. He is also properly introduced to the enigmatic G-man at the end of the original Half-Life, who becomes his elusive stalker throughout HL2.

Half-Life 2 takes place several years after the events of the original game but the two games share many gameplay and narrative elements. The main antagonistic force that Gordon faces in HL2 is the Combine. The Combine are a collective of synthetic, alien, and human elements that have taken Orwellian, authoritarian control over earth after using the portal Gordon tried to close in the original Half-Life. Gordon must also face the hostile wildlife of Xen that were spread during the portal storm that Gordon caused at the end of the original game. Many of Gordon's friends from the original game are also in HL2 including Isaac Kleiner, Barney Calhoun, Eli Vance, and Wallace Breen. Gordon is also joined by new friends including Alyx Vance, Dog, Judith Mossman, and the vortigaunts (an alien race).

This analysis of HL2 focuses on the unique design aspects and game mechanics that make HL2 one of the best games of all time. The terms sequence and encounter are used to discuss specific events or parts of the game, sequence usually refers to a longer gameplay segment while encounter refers to a specific fight or puzzle. The terms element, mechanic, and skill are all used to discuss a piece of the game design, environment, or the corresponding player action. The Design Notes section explains and defines the design elements and mechanics unique to HL2 and the Chapter Analysis gives a summary of how these are implemented for each chapter of the game. The Chapter Analysis section contains plot information and puzzle solutions, this is your only spoiler warning.

Design Notes

Player control is a major design philosophy in both Half-Life and HL2. From the beginning of HL2 the player has control of at least the camera for the rest of the game. HL2 also has no formal cutscenes, objectives, or levels. This design choice is much different from other sci-fi FPS series' such as Halo[a] and Gears of War[b] that have definite levels with cutscenes using cinematic cameras and objectives either on screen or accessible through menus. It is this focus on player control that gives rise to many of the other unique aspects of HL2.

The levels in HL2 are called chapters. Chapters differ from levels because they usually begin and end in low pace areas instead of with formal or passive cutscenes. This makes the chapters in HL2 more seamless than other games. Instead of using formal cutscenes (also called passive cutscenes because they are a short movie sequence that the player cannot control) to advance the story and relay information to the player, HL2 has in-play cutscenes which are narrative scenes that unfold while the player can move around and interact with the environment. Many games use in-play cutscenes for quick objective updates or as a break from the combat in conjunction with passive cutscenes. Another example of a game that relies heavily on in-play cutscenes is the critically acclaimed BioShock [e]. By not changing the camera from Gordon Freeman's (and the player's) point of view and using exclusively in-play cutscenes, HL2 is restricted in terms of cinematic options, but the in-play cutscenes allow the game to never break the immersion between the player and Gordon. This trade off is advantageous to HL2 because the other player control mechanics build on top of in-play cutscenes and a non-moving first person camera. This choice is not necessarily a superior design choice because the emotionally charged, formal cutscenes of Gears of War have been shown to give players very high levels of engagement.[3]

The player's chapter objectives are often revealed through in-play cutscenes but the environment in HL2 is also used to give the player gameplay information via cues. These cues are expressed both visually and audibly to help the player progress through HL2.

While visual cues are used much less than audio cues in HL2, they are still important for giving information to the player. From the first chapter, the player sees the response of the Combine's technology if their indicator lights are red or green. This is used on doors, cameras, turrets, hoppers, and switches. Also some areas have lighting or coloring to draw the players attention or give them a hint of their objectives. There is a special form of visual cue in HL2 called a vista. Vistas are areas which are meant to give the player an expressive view of the environment around them.[d1] Because the camera never shifts from the first person view of Gordon, vistas are used as cinematic devices that show scale or give depth to the player's actions in their environment, making up for the main disadvantage of in-play cutscenes. Vistas are also used to control the player's pace, giving them a pause from the action and acting as a break point between chapters.

Audio cues in HL2 are very important to the gameplay experience. Michael Sweet of Audio Brain Inc. stated about game audio, "Whether you're struggling to make it to the end of a level or waiting for the next monster to appear from around the corner, the music and sound can make the player's heart race or stomach drop."[4] The HL2

heads-up display does not contain radar or another mapping mechanic. Because of this the audio of game is used by the player to understand the environment around them. Every non-playable character, (NPC) friend and foe, in HL2 has a distinct sound. NPC sounds are used to convey information to the player and also to build up suspense and control the player's pace. Because enemies make unique sounds the player knows that what enemies are lurking near them. Besides the NPC sound cues, HL2 also has environment and equipment sound cues. Interactions with switches, vehicles, crates, barrels, and doors have unique sounds that the player can retrieve information from like the switch is active or door is locked. Also the music in HL2 ranges from heart pumping musical bursts that signify intense fast paced sequences to long lonely musical tracks that coordinate with puzzle and narrative sequences. The soundtrack also utilizes environment and NPC sound effects to add to the audio experience of the player.[5]

Player control is also expressed in the level design of HL2. The player has a sense of freedom and they can explore the world at their own pace. This feeling is produced by using two design elements that herd the player around the game world. These design elements are called gates and arenas.

The player is usually kept in an in-play cutscene area or combat area by use of a gate. A gate is an environmental entity which is defined by the Valve developers in the developer commentary of Half-Life 2: Lost Coast [h] (Lost Coast).[h1] There are three different kinds of gates used in HL2: soft, hard, and story. A soft gate is a simple task that the player must overcome in order to continue forward in the experience. These gates are usually used for training of hard gates or to control the player's pace. Hard gates include a puzzle the player must solve to continue. Hard gates include multiple step switches, navigation, and physics puzzles. Story gates require an event outside the players control to open. Story gates include locked doors opened by NPCs, explosions, and teleportation. Each type of gate controls the player's pace and they are also an essential element of arenas.

The term arena also comes from Valve developers and a definition can be heard in the developer commentary of the Lost Coast.[h2] Arenas are areas that have multiple entry points for enemies as well as a gate that restricts the player from moving on until they complete the challenge within the arena. Arenas also have a one-way gate at their entrance so the player can not retreat. In HL2 many of the encounters that could be considered classic "boss" fights take place within arenas.

The environment design and incorporation of gates and arenas leads to two forms of gameplay: combat and puzzles. Both of these types of gameplay require equipment like the Hazardous Environment Suit (HEV Suit), the Zero-point Energy

Field Manipulator (Gravity Gun), and the infamous crowbar. Of course both combat and puzzles can be very dangerous so HL2 has a system to give the player ammo, health, and energy. This system is called Dynamic Resupply and the cornerstone of this system is the Item Crate.[e1]

The HEV Suit is another hold over from the original Half-Life game. When Gordon does not have the HEV Suit on, the HL2 heads-up display (HUD) is invisible. Besides showing the HUD, the HEV suit also adds some specific gameplay mechanics, notably the flashlight, underwater breathing, sprinting, and anti-venom. The flashlight, underwater breathing, and sprinting are used in both combat and puzzles. All three draw from the same power source within the suit that when depleted must take time to recharge, this is important because it means the player must use their mechanics sparingly and their pace is controlled by the limited duration they can be active between recharge times. Anti-venom has a very specific use when fighting poisoned headcrabs, they are discussed further in the analysis of Chapter 6. The poisoned headcrabs can lower Gordon's health to 1 and then the suit releases anti-venom to raise his health back to a safer level. This is also used to control the player's pace because the player needs to stay in a relatively safe area to wait for Gordon's health to return.

The crowbar is the first weapon that Gordon can use and it also has deep roots from the original Half-Life game. It is used to interact with the environment and is also used for combat. Objects in the world like locks, item crates, wooden boards, and debris can easily be cleared by using the crowbar. Most soft gates can be cleared by using the crowbar, so it is a key tool to control the players pace. However, while the player has the crowbar equipped they are somewhat defenseless, especially from ranged attacks. Paired with many of the audio cues, this gives the player an anxious feeling when they find situations that require them to put away their conventional weapons and pull out the crowbar. This effect on the player is much like the flashlight mechanic of Doom 3[j]. In Doom 3 the player is forced to put themselves at risk to use the flashlight because they cannot have a weapon and the flashlight equipped at the same time.

The Gravity Gun is the most important weapon that Gordon wields and it also showcases the physics of HL2. The gravity gun is used to solve many physics based puzzles and also used to pass soft and hard gates. The gravity gun has the same effect on the player as the crowbar in that while the player can use the gravity gun as a weapon it is usually not as effective as conventional weaponry. So when using it they are at a disadvantage. However, late in the game, the gravity gun becomes a weapon all its own (discussed in the analysis of Chapter 12). The various locales that Gordon must traverse throughout HL2 are littered with items that

can be manipulated by the player using either the Gravity Gun or the use button. The majority of these items are barrels and crates. The other types of physics items can be used as projectiles with the Gravity Gun including saw blades and gas tanks, which becomes an important mechanic when ammo is scarce.

Valve decided to have a specific model for a crate that holds ammo, energy, and health items called the Item Crate. The obvious use of these is for the player to replenish their health and supplies throughout the game. In HL2 they are also used to trick or lure the player into moving to certain areas. They also force the use of the crowbar because that is the easiest way to destroy the crates and get the items they hold. Because the player must destroy the crates to see their contents, the crates are also used a pacing tool much like a soft gate.

All of the various design elements and mechanics are used to influence the player while still giving them the feeling of control. The player is further controlled by using puzzles that limit the pace the player can progress through the game and force them to think about the game world around them. The puzzles require teaching of skills and mechanics so that the player can complete them without becoming frustrated or just guessing. Because many of these puzzles are hard gates they also control the pace of the player. Everything in HL2 affects the player's pace. The pace has a direct effect on the interest and enjoyment of the player. The connections between teaching and puzzles, and pace and interest are discussed in the following sections.

Teaching and Puzzles

As stated in the previous section, the two main gameplay types of HL2 are puzzles and combat. Teaching the player skills to complete puzzles and use game mechanics is very important because objectives are conveyed to the player through cues, NPCs, and the environment. A player's working or short-term memory is used to learn these skills. A person can keep 7±2 "chunks" of information in their working memory.[6] The term "chunks" refers to a method used to take a complicated piece of information and separate it out into simpler "chunks" in working memory, a method called "chunking".[7] This idea of "chunking" is demonstrated throughout HL2 in how the puzzles are presented to the player. Also, because the information for these puzzles is kept in working memory, cues are often used to remind the player what they have learned, a process called "maintenance rehearsal".[7] In HL2 this process is called a mechanic refresher.[e2]

There are three main types of puzzle elements in HL2: platforming, physics, and combat. Most of the puzzles in HL2 use more than one of these elements as well as

simple elements like switches and valves. Platforming elements include tasks like jumping, sprinting, and using the flashlight. Physics puzzle elements require using objects in the world to complete a task that requires the use of the objects weight and physics. Physics puzzles are designed into almost all the other chapters in HL2 and are more frequent after the player gets the gravity gun. Combat puzzle elements usually include enemies that require a specific skill to defeat through combat including rolling grenades into floor turret or weaving rockets around a gunship's machine gun fire. The puzzles in HL2 increase in difficulty so that the player is constantly having to use skills they have learned with new skills they are being taught.

A teaching cycle is used in HL2 to teach the player new skills for solving puzzles. It is important that the players learn by doing as this is the most effective way to teach players new skills.[3] This cycle applies to all players regardless of skill and experience. For many of the basic skills (navigation, flashlight, and sprint) this cycle is not used, but for many of the advanced skills (gravity gun) or puzzles (physics and combat) this cycle is vital. Figure 1 shows the phases involved in the cycle and the level of enjoyment the player gets from each phase.
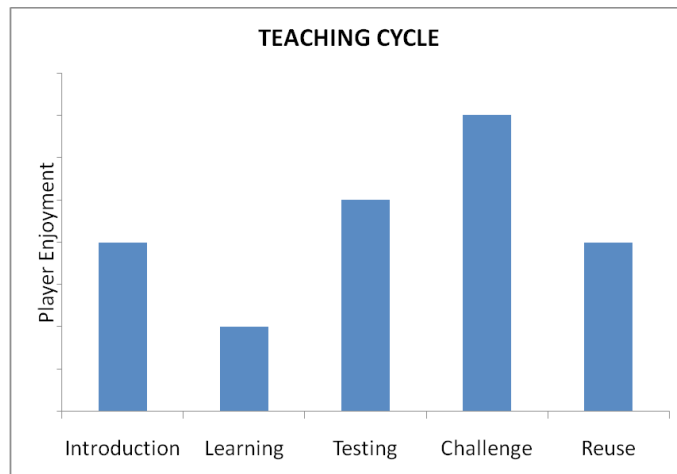
Figure 1: Chart of Player Enjoyment for each Phase of the Teaching Cycle

The duration of each phase of the cycle depends on the skill the player is learning, some phases last entire chapters while others are over in a few seconds. The first phase in the teaching cycle is that the player is introduced to the skill. This is usually done by cues or told to the player through an in-play cutscene. The player is curious about how to use the skill so their anticipation leads to a medium level of enjoyment. The second step of the cycle is the learning phase. In this phase the player is given a very simple and obvious use of the skill that was just introduced

to them. This is not challenging to the player and therefore has a lower enjoyment level. Testing is the third step of the learning cycle. This is a harder use of the skill than was first presented and because of this increase in difficulty it has a higher enjoyment level. The next step is the most important of the cycle, the challenge. In this step the player needs to use their knowledge of the skill to extend its use beyond the obvious uses shown to them previously. The challenge phase of the cycle has the highest level of enjoyment because if the player succeeds they have mastered the skill. The final phase of the cycle is reuse. Many puzzles and mechanics are recycled throughout HL2 and while the player derives some enjoyment from accessing the skill necessary to complete the challenge, it does not have the same level of enjoyment as the challenge phase.

This teaching cycle is not exclusive to HL2, but many of the best examples can be found in this game. In the Chapter Analysis section, the different types of puzzles are discussed as well as how they impact narrative, pace, and enjoyment of the experience.

Pace and Interest

Many FPS game experiences are compared to riding a roller coaster. They have hills, drops, sudden turns, and loops for heart-pounding exhilaration and action. The HL2 experience includes all of these elements but because of the player freedom in how they move through the game, the overall experience is closer to that of a haunted or fun house attraction rather than a roller coaster. In HL2, through use of gates and arenas the player's pace is controlled, much like the hallways and rooms of a haunted house. Haunted or fun house experiences are also controlled by distance rather than time, much like the environments of the original Half-Life and HL2.[8] In HL2 most of the enemy artificial intelligence is unscripted, meaning that the player's actions force the enemies to react, thus creating a different experience depending on player choices. Haunted houses usually also have this quality because the actors in a haunted house react differently to the guests they are trying to scare. Also, with no passive cutscenes, there is a chance that a player will miss or not understand an event like someone turning away from a vital part of a haunted house, closing their eyes, or even skipping a room. HL2 also focuses more on exploration by the player, allowing them to walk into traps instead of leading them or pushing them like a roller coaster on a rail. All of these similarities between haunted or fun house attractions and HL2 have to do with pace and interest.

The interest level of an experience can be expressed by using an interest curve. Jesse Schell explains interest curves and how the level of interest impacts an

experience in his book "The Art of Game Design".[9]   Drew Davidson discussed the relationship between immersion and investment at the 2008 Games + Learning + Society Conference.[10] A sample interest curve made for use in this analysis for HL2 is shown in figure 2.
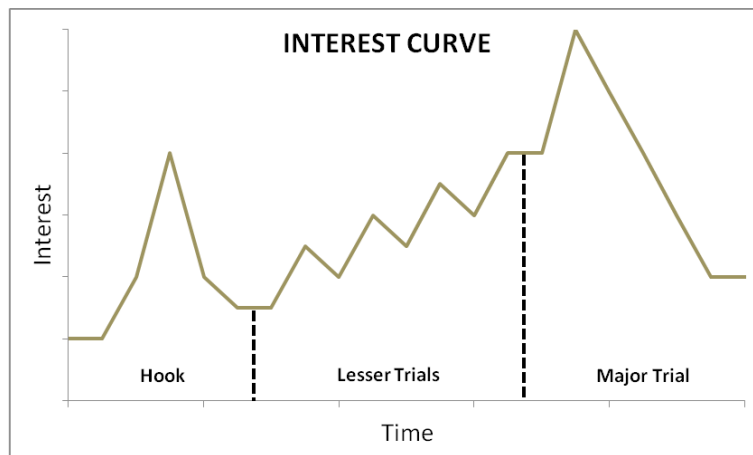
Figure 2: Sample Interest Curve for Half-Life 2

Interest curves have three distinct parts: the hook, lesser trials, and major trial. The hook is the first part of the experience that grabs the audience or player and draws them in, immersing them into the experience. The lesser trials follow the hook and fluctuate in interest on a steady rise towards the third part of the curve, the major trial. During the lesser trials the immersion of the experience also grows as they invest in the experience. The major trial is the big finish, the final quest, the climax.   The player is completely immersed and invested in the experience. They will complete the game no matter what. Not every game or experience follows an interest curve completely but many of the best games like HL2 follow an interest pattern that includes the three parts as well as the relationship between immersion and investment.

Schell also does an excellent job of explaining pace (which he refers to as flow, a psychological concept that refers to a person's state of mind and was proposed by Mihály Csíkszentmihályi[11]). [12] In this analysis pace and flow can be considered an equivalent term under the definition of pace that follows. If the pace of the game is fast or high for too long the player will get fatigued or frustrated and lose interest. If the pace of the game is too low the player will get bored and lose interest. Change and surprise are very important for pace because the pace needs to shift in order for the player to have an optimum level of interest. Changing the pace needs to match

the changes in the narrative and also the level of interest. Players with higher interest will endure longer periods of high or low pace because of the investment they already have in the gameplay experience. Surprises also need to match the narrative so that they do not jar the player out of their immersion. Also it is important to surprise the player in a fair way so that they do not feel frustrated at the game mechanics.[9] Pace should not be confused with intensity. A low pace sequence can have very high intensity. An example being some of the trap encounters in Chapter 6 of HL2 (discussed further in the Chapter 6 analysis). Intensity is usually associated with failure states for the player. If the threat of failure is high usually the intensity is also high.

The player freedom and control in HL2 leads to a haunted or fun house type experience where the pace the player chooses directly relates to their level of interest. While the story has an effect on the experience of HL2 the pace does more to dictate the player's level of interest, immersion, and investment.

Chapter Analysis

HL2 is made up of 13 Chapters and 1 sub Chapter (9a). The chapters almost always begin and end during low pace sequences or in-play cutscenes and they can be separated into three categories: narrative, vehicle, and combat chapters. Narrative chapters are mostly used to advance the story. They are heavy on in-play cutscenes and light on everything else. The narrative chapters of HL2 are Chapters 1, 2, 5, 9a, and 13. The scout car and the airboat are the two vehicles usable by the player in HL2. The Airboat is used almost exclusively in Chapter 4 and the Scout car is used mostly in Chapter 7, these chapters are vehicle chapters. Combat chapters make up the rest of the game, as the name implies the majority of the time spent playing these chapters is in combat. These chapters can also have puzzles, in-play cutscenes, and minor vehicle gameplay. The combat chapters of HL2 are Chapters 3, 6, 8, 9, 10, 11, and 12.

The hook of HL2 is the first and second chapter. However, an argument could be made that the hook extends until Chapter 5, when the player gets much of the story and also the gravity gun. The lesser trials consist of all the chapters from the hook (either starting at Chapter 3 or 6) up until the major trial which begins in Chapter 12.

Throughout this chapter analysis, Gordon and the player are mentioned independently in the mechanics, puzzles, and pacing analysis of the individual chapters. The player is mentioned when discussing gameplay mechanics and Gordon is noted

when the story or pace of a chapter is discussed. Within the context of the game, these two entities are one and the same, but the transition between them can be confusing.

Chapter 1: Point Insertion

The first chapter in HL2 is used to setup the environment (City 17) and narrative as well as teach the player about basic movement and interaction. Once the G-man finishes his speech about Gordon being "the right man at the wrong time" at the very beginning of the game, control is pushed to the player. The G-man is a mysterious character in a suit with a briefcase. The G-man can be seen throughout the original Half-Life in Black Mesa and on screens and off in the distance, often in lower paced gameplay sequences of HL2.   The G-man is an important character because he signifies loss of player control. The G-man can teleport Gordon, get to inaccessible places, and freeze time. Because he follows the player throughout HL2 he gives the player a sense of unease like they are being watched or influenced by powers outside their control.

All of the puzzles in Point Insertion have to do with navigation around the game world and interacting with it. Most of the puzzles do not follow the teaching cycle because they are basic and because these skills will be used in conjunction with other skills later on during platforming puzzles. The main mechanics learned in this chapter are basic movement, crouching, ladders, opening doors, jumping, and manipulating objects. There are no weapons in this chapter and Gordon does not yet have his HEV suit.

One of the most memorable puzzles in this chapter is when an Overwatch Metro Cop knocks over a can and forces Gordon to pick it up and put it in the trash can. The Metro Cops are humanoid Combine troops that are stationed in urban areas. Once the player picks up the can a tooltip appears on the screen stating that Gordon can toss objects. Timed correctly, this appears just in time for the player to click the throw button and hit the Cop, who is not pleased with Gordon's disobedience and attacks him. Point Insertion is light on puzzles and teaching because it is the first chapter and so the narrative introduction of the world can be the main focus for the player.

The short speeches of the citizens in this chapter about memory erasure, reproductive suppression fields, and instinct vs. immortality are used to give the player a sense of uneasiness about City 17 and about the Combine. When Barney and Dr. Kleiner are reintroduced it is used to show that there is a force at

work against the Combine and that they survived the events of Black Mesa in the original Half-Life.

The pace level of the chapter through the train station is low but once outside the player is presented with increasing danger. Combine troops and citizens litter the streets and there are also Scanners patrolling the area. These flying robots take pictures of Gordon to alert the Combine to his presence and also can temporarily blind him with their camera flash. While scanners alone are mostly an annoyance, the blinding flash can become a pressing issue for the player when platforming or in a large-scale battle. This simple change and the ability for scanners to alert other Combine to Gordon's location can lead the player to reevaluate the threat scanners pose.

Without a weapon, the player's only defense is to flee. This makes the roof chase important for pace because under normal circumstances the player could stop and eliminate the foes. The ending to the chase and this chapter is Alyx Vance saving Gordon. This event is important to the story of HL2 because it is the first time the player meets Alyx, his most important ally and possible love interest, and she shows that she can handle herself in a fight, and that she cares for Gordon's well being, two narrative ideas that reinforced throughout the game.

The first chapter of HL2 focuses on story and game world navigation. The player is introduced to the G-man, Barney, Dr. Kleiner, Alyx, Wallace Breen, and the Overwatch. The chapter also introduces the setting of City 17 and sets up the relationship between the resistance and the Combine. The pace of the first chapter spikes during the meeting with Barney and the chase through the city, but overall is low pace introduction to the game.

Chapter 2: "A Red Letter Day"

The second chapter of HL2 has more narrative information than the first. This is because the player needs to focus on learning to navigate and interact with the world in the first chapter. "A Red Letter Day" is a series of reunions. Gordon is reunited with allies, enemies, and classic equipment in this narrative chapter. There are puzzles and skills that the player must complete and learn in this chapter and they focus on basic combat and the HEV suit.

Upon reaching Dr. Kleiner's lab through a series of secret passages Gordon is reunited with Barney and Dr. Kleiner himself. Having the lab feel safe to the player by using the secret passages is very important because the player needs to focus

on the story heavy dialogue and get used to in-play cutscenes instead of checking all windows and doors for zombies. Gordon is also reunited with his HEV suit which he wears for the rest of the game. After donning the suit the player learns how to power the suit using the wall mounted Combine battery unit. By introducing this mechanic with no pressure the next time a player encounters a battery unit they will know how to use it even if they are in the middle combat or a puzzle.

The teleportation to Black Mesa East in-play cutscene in this chapter is one of the only times in the game when the player cannot move.   This cutscene has many parallels to the reactor cutscene at the beginning of the original Half-Life such as a mechanical failure that results in random teleportation. During this in-play cutscene Gordon is reunited with Wallace Breen, the main antagonist of HL2 and the past administrator of Black Mesa. At the end of this chapter Gordon is reunited with his last piece of important equipment from the original game, the crowbar.

"A Red Letter Day" is the second narrative chapter of HL2 and is used to reunite the player with equipment and characters from the original Half-Life. Also Gordon is revealed to the main antagonist, Wallace Breen through a mechanical failure much like the "resonance cascade" event also from the original Half Life. The pace of this chapter remains slow while the main in-play cutscene unfolds, at the end of the chapter the pace increases due to the botched teleportation.

Chapter 3: Route Kanal

Route Kanal is the first combat chapter in HL2. The player starts with the crowbar as their only weapon and this is the first chapter to use the sprint and flashlight mechanics of the HEV suit. The other weapons acquired in this level are the pistol, sub machine gun (SMG), gun turret, and grenade. The player also learns to swim and solve physics puzzles in this chapter as well as deal with barnacles, manhacks, headcrabs, and zombies. Headcrabs and zombies are discussed in the Chapter 6 analysis.

After the lock puzzle that is a soft gate solved by the crowbar and the opportunity to destroy some of the scanners, the crowbar must be used on two Overwatch Metro Cops. These Cops drop a pistol, the first projectile weapon the player gets to use in HL2 and there are plenty of uses for it throughout the chapter. Overwatch Metro Cops appear in areas that the player cannot reach so the pistol must be used to defeat them. Also explosive barrels (barrels that explode when shot) are introduced in this chapter and must be used to get by a soft gate. The barrel mechanic follows the teaching cycle with first the gate puzzle and then later in the chapter when the player can use the barrels to kill Metro Cops to save ammo for the pistol.

Since the player was only told in the last chapter that they need to make their way to Black Mesa East the player needs to be updated on their objectives so that they do not get confused or frustrated with their progress. This is done by a series of checkpoints manned by citizens and vortigaunts friendly to Gordon. These checkpoints are also used to adjust the pace of the chapter and break up the more intense combat sequences.

Route Kanal also has the first physics puzzle of HL2, a physics seesaw. The term seesaw comes from the playground ride comprised of a long board supported in the middle and the angle of the board can be manipulated by adding weight to either side of the seesaw. This first physics seesaw serves as the tutorial for all the physics puzzles in HL2 because the player has to move environment items onto the seesaw in order to progress forward.

Barnacles are very interesting enemies that the player faces for the first time in this chapter. They were also present in the original Half-Life. Barnacles are introduced using a classic teaching method from the original Half-Life and HL2, a crow is startled by the player and then flies into the branacle's tongue and it brought up the barnacle's waiting maw.[8] By using an NPC to show a new enemy mechanic, the player gets to see the mechanic in a low intensity way and the interaction of two entities in the environment gives depth to the world, making it feel more real to the player and increasing immersion. As the name suggests these monsters clamp onto the ceiling and release a tongue-like appendage that picks up anything it touches so the barnacle above can devour it. The barnacle mechanic is simple but because they are indiscriminate in what they eat, they can be used to eat other foes, explosive barrels, or used by the player to reach higher areas.

Metro Cops can release manhacks (small flying robots) which use their rotating blades to attack from a very short range. Because manhacks do not drop ammo or any other items, they present the player with an interesting choice: destroy them from a safe distance with a gun and use up ammo or from close range with a well timed crowbar hit. Later in HL2 the player can use the gravity gun to dispatch manhacks and so the choice to conserve ammo becomes less important if the player has mastered the gravity gun mechanics.

The first combat chapter of HL2 introduces the pistol and crowbar as well as explosive barrels. This chapter breaks the slow pace of the first two chapters with combat sequences that have little or no game narrative. Also the resistance checkpoints and puzzles that the player finds in Route Kanal cause fluctuations in the pace and keep the player interested in the limited narrative that is introduced in this chapter.

Chapter 4: Water Hazard

In this chapter the player must use the airboat, making Water Hazard the first vehicle chapter of HL2. The gates in this chapter are more obvious than other chapters because they force the player off the airboat and into conventional combat situations. Also there is a chopper (Combine combat helicopter) that harasses the player throughout the chapter is used to urge the player forward instead of allowing the player to explore.

While the airboat mechanics give the player a different experience, the same puzzle types and gates are used on the airboat. There are platforming puzzles for the airboat including using ramps for jumps and skimming from canal to canal. Without changing the barnacle attack mechanic, the player has a wildly different experience with barnacles on the airboat. While on the airboat, the barnacles tongue will pull Gordon out of the boat completely, forcing the player to kill the barnacle to return to the airboat and continue.

The player is forced off the airboat several times in this chapter by hard gates like boat lock doors and physical gates, which changes the pace and breaks up the airboat mechanics with combat mechanics the player learned in the last chapter. There is also another physics puzzle in this level that requires use of the gravity gun once the player is forced off the airboat. Many of the puzzles in this chapter are reflected in Chapter 7 when the player uses the scout car and in other chapters that require more advanced use of the gravity gun.

Water Hazard is also the first chapter that has an arena with a boss fight. The player is chased by a chopper throughout this chapter, a design technique that shows the player their objective early to build suspense and also foreshadow the upcoming battle.[d2] Besides forcing the player forward, it also assures the player that they are going in the right direction. The player is shown how to damage the chopper earlier in the chapter by learning how to use the weapon that gets mounted on the airboat. Upon entering the arena, the player is comfortable with the method of destroying the chopper because they have previously learned it. The mines that the chopper drops add a platforming element to the fight as well as a higher level of interest because the player must look up to fight the chopper and then down to avoid the mines. As with many arenas there is a very low paced sequence after the arena so that the player does not get fatigued.

Water Hazard is the first vehicle chapter of HL2. In this chapter the player must use the airboat to navigate the canals in hopes of reaching Black Mesa East. The pace throughout the chapter swings between encounters on foot, airboat sequences,

and chopper chases. The next chapter is a narrative chapter so that gives the player time to recover from the chopper boss battle in the arena at the conclusion of this chapter.

Chapter 5: Black Mesa East

Black Mesa East is a narrative chapter and its main focus is the gravity gun tutorial. Before the tutorial begins, the player is given some time to wander the facility and talk with various characters like Dr. Eli Vance and Dr. Judith Mossman. Like the second chapter, the player feels safe in Black Mesa East, this is done once again to allow the player to watch the in-play cutscenes instead of running from door to door looking for Overwatch. Besides teaching the player the gravity gun mechanics, this tutorial is used as the introduction of Dog, the large pieced-together robotic guardian of Alyx, and to show more of Alyx's personality like her dislike of Dr. Mossman.

This is the shortest chapter in the game depending on the time the player needs to complete the tutorial. Because the gravity gun is so vital and is used for the rest of HL2, this chapter could be considered the end of the game's tutorial or hook. All the skills used before now including weapons, driving, and platforming are all used in the rest of the game. Valve considers it vital to continue teaching the player throughout their games, but at the end of Black Mesa East all the major skills have been learned.[8]

The pace of this chapter is slow until the Combine attack at the end. Some of the activities the player does during the gravity gun tutorial with Dog can spike the pace, but overall this chapter feels like it has a low pace because of the fast pace of Chapter 4.

Chapter 6: "We don't go to Ravenholm"

"We don't go to Ravenholm" is the most unique chapter in HL2. Many players remember this chapter because it has a completely different pace and feel than the previous chapters. This is a horror and suspense themed chapter that would fit well in any survival horror game. This horror atmosphere is created by claustrophobic environments, use of darkness, and building suspense through audio cues. All the types of headcrabs and zombies flood Ravenholm and there are no Combine units. This is a much slower paced level because of the low amount of ammo and the traps that can be used to kill the headcrabs and zombies. After receiving the gravity gun in chapter 5, this chapter forces the player to use it in new ways like a drawn out challenge phase of the teaching cycle.

Gordon had to fight headcrabs and zombies in the original Half-Life. Headcrabs' mechanics are a lot like those of manhacks. Headcrabs must attack from short range and they drop nothing when defeated, presenting the same ammo dilemma as manhacks. Headcrabs attach to the head of humans and turn them into zombies, a habit that gives them their name. Normal zombies move slowly and either attack with their claws or by throwing objects at the player. Besides the normal types of zombies and headcrabs there are two new types of each in HL2: fast and poison.

The fast headcrabs have longer legs and as their name suggests they can move faster than normal headcrabs. Besides their speed, look, and sound their attack mechanics are the same as the normal headcrab. Fast headcrabs make fast zombies which can run on all fours, leap great distances, climb buildings, and attack with much more aggression than normal zombies. Fast zombies must be fought at high pace because of their attack speed and their chilling howl. The fast zombie sound cues allow the player to know they are coming, thereby creating suspense.

The poison headcrab is black and has a sound akin to a rattle snake. They can poison the player, reducing Gordon's health to 1 and forcing the HEV suit to automatically cure him. This affects the pace of the experience for the player because once poisoned they must stay in relative safety until the suit can sufficiently heal Gordon. The poison zombie is slow moving but can throw poison headcrabs at the player. Poison zombies take the most damage of any zombie type making them a priority to kill to avoid poisoning Gordon. By varying the kinds of headcrabs and zombies, the player is faced with similar foes that require different skills to defeat.

To break up the horror atmosphere in this chapter there is a helper character named Father Gregori who helps the player by giving Gordon the shotgun and showing him the correct route to get out of Ravenholm. Father Gregori is a loud and humorous character that offsets the mood of this chapter while giving the player narrative and objective information.

The lack of ammo throughout Ravenholm forces the player to find creative ways to kill the zombies and headcrabs that infest the area. The gravity gun can be used to throw saw blades, meat hooks, and explosives with lethal results. There are also traps that Father Gregori has setup that are a special kind of gate. These traps include spinning blades, electrified fences, and combustible propane gas. The traps are introduced to the player using the teaching cycle and because Valve likes to surprise the player there is a trap that backfires. Gordon can crouch next to spinning blade traps and turn them on, once the zombies and headcrabs hear the trap they come to attack the player and get splattered. In an area with a hard gate there is a spinning blade that breaks and if Gordon is crouched beneath it he

gets badly damaged or killed. This causes the player not to trust the traps and adds depth to the world by showing a different result than expected.

This chapter's theme is very strong and is amplified by the intimate atmosphere the player traverses with Father Gregori as well as the traps they must use. The unique elements in this chapter lead to a unique pace. The slower paced gravity gun and trap sequences are broken up by encounters with fast zombies and Father Gregori, but overall the pace of the chapter is low but intense. The intensity of the chapter is important because just as long stretches of the same pace gameplay can fatigue the player so long stretches of the same intensity.

Chapter 7: Highway 17

The scout car is the main focus of Highway 17 and it shares many of the puzzles and mechanics as the airboat in Chapter 4. After the slow pace and enclosed feeling of the previous chapter the player needs a different experience to avoid fatigue. The open roads of Highway 17 are that different experience. Antlions, large insect-like monsters, are introduced in this chapter and with them there are several new mechanics that the player must learn. There are also three Combine Gunships in this chapter and the rocket propelled grenade (RPG) that must be used to destroy them.

The scout car has three unique mechanics that the airboat does not. The first is that the scout car can be flipped over and the player is required to use the gravity gun to right the vehicle before they can continue. The second is that the scout car has a mounted weapon for the entire chapter. The last unique mechanic is that the scout car can get a boost in speed to go over jumps and solve platforming puzzle elements.

Antlions are not part of the Combine and will attack Combine units. In this chapter there is an endless supply of antlions if the player disturbs the sand. Antlions are only dangerous in swarms, which makes the thumper mechanics very important in this chapter. Thumpers are mechanical pistons that vibrate the sand which forces the antlions to stay away. Because of this mechanic thumpers become platforming puzzles, the player can move from thumper to thumper in relative safety or turn them off and allow the antlions to devour any Combine close by. Thumpers are also used to affect pace because they are placed in useful areas that the player should stop to explore.

One of the most interesting platforming puzzles in HL2 is in this chapter. There is a bridge that Gordon must traverse to turn off the suppression shields and continue.

The player must walk on narrow supports or jump to ruined catwalks. The interesting part of this puzzle is the return trip after Gordon cuts the power. He must go back across the bridge while under fire from a Combine Gunship. Gunships are synthetic flying enemies that must be destroyed using explosives like the RPG. However because the player has already crossed the bridge once in the testing phase of teaching cycle they are now challenged with going back across the bridge under much higher stress.

The pace of this chapter is much like the pace of Chapter 4. After the slow crawl through Ravenholm in Chapter 6 the open roads and fast paced antlions are a welcome change for the player. The pace of this chapter shifts between on foot sequences and sequences in the scout car, much like the first vehicle chapter. The inclusion of this second vehicle chapter is important because the chapters before and after this chapter are slow crawls. Also physical distance needs to be crossed by the player so that the narrative of HL2 is believable.

Chapter 8: Sand Traps

This chapter begins with the player still on the roads using the scout car. Unlike the airboat, which is only used in chapter 4 the scout car is used in chapter 7 and in this chapter, Sand Traps. The scout car gameplay ends in this chapter with a very fast paced sequence of dropship combat and Overwatch troops attacking Gordon and resistance troops in an arena created with 3 buildings, a lighthouse, and cliffs. After the gunship battle on the top of the lighthouse Gordon must navigate the cliff path allowing the player's pace to slow for the teaching of the main mechanic of this chapter, the antlion sand traps.

This chapter gets its name from the sandy areas that Gordon must avoid in order to not summon the antlions out of the ground, this is an example of a platform puzzle. The sand trap mechanic perfectly follows the teaching cycle. The mechanic is introduced by two friendly NPCs who act out a short in-play cutscene. After simple jumps which correspond to the teaching phase the player is forced to use the gravity gun to move objects for a testing phase of the mechanic. The challenge phase comes from the optional item crates which are off the main path but clearly visible to the player. This mechanic is also reused throughout the rest of this chapter.
The sand traps offer an interesting game pace choice because if the player is very careful in not touching the sand they can avoid fighting any antlions. If the player is not careful or simply does not care they can end up neck deep in antlions and the pace is completely different because then the player spends their time guns blazing. The player can use either strategy to complete the level if they can overcome the onslaught of antlions caused by not avoiding the sand traps.

There is an arena with a boss fight in this level that is used to up change the presumably slow pace of the sand traps. The boss is an antlion guard, a large creature that can charge the player and also "kick" debris at them to cause damage. The antlion guard is also used as a narrative tool for another very unique weapon and mechanic, the pherapod. The pherapod (usually called bugbait) is a softball sized gland of the antlion guard that can used to control the normal antlions. Once the player receives the bugbait they are given an in-play cutscene and tutorial on its use like many of the other mechanics in HL2.

Controlling the antlions is a very interesting mechanic because now the player has learned all their disadvantages (cannot go near thumpers) and advantages (there is an unlimited supply of them). The player must now disable thumpers and force antlions into suicidal or very dangerous battles without worry because another will take the place of any that die.

The changes in pace force the player to think more about what is in the next room than where they are in the overall story, because of this, foreshadowing is used to constantly remind the player of where they are in the narrative. Since the end of Chapter 6 Gordon objective has been to try to reach the prison, Nova Prospekt, and to try to rescue Eli Vance. This chapter ends with Gordon besieging the prison with a horde of antlions which is the setup for the next two chapters that take place inside Nova Prospekt.

The focus of Sand Traps is on the antlions and their mechanics. The pace changes quickly from the scout car sequences to the lonely and (hopefully) quiet platforming sequences involving the sand traps. The arena battle against the antlion guard is used to spike the pace between the sand traps and the tutorial for the bugbait. The use of the antlions in the latter parts of this chapter keeps the pace changing because of how the antlions can be used, something discussed in the next chapter.

Chapter 9: Nova Prospekt

This chapter has a large amount of gates and because of the architecture of the chapter the player usually has a chance to see their objective but there is no direct path to it, this is another form of foreshadowing, and also used as a cue to convey information to the player about their objectives.

There are turrets, tripod mounted automatic guns, positioned all around Nova Prospekt and they are used as a way to control the path the player takes. The mechanic for disabling the turrets (knocking them over) is shown to the player by the

antlions which they can control. Turrets are used in the next chapter by the player in a series of arena events, so showing the player now how the turrets are used, even if they are hostile, instructs the player on their effectiveness and mechanics.

Controlling the antlions presents an interesting pace choice to the player because they can choose to have their endless supply of antlions attack or they can go in guns blazing or both. This choice is a lot like the decision to stay off the sand traps in the previous chapter, if the player chooses to let the antlions destroy everything, the pace of the sequences can be much lower than if they try to defeat all the enemies alone. This chapter has very few item crates in the antlion sequences, which is a way to limit the player because if they use the antlions exclusively, the player has plenty of ammo, but some puzzles require player action to proceed and the player can take damage that requires health items.

Pace in this level is controlled by gates that require player action. There are also sporadic headcrab encounters and an antlion guard encounter which spike the pace. Overall this chapter's pace is driven solely by the player's choices in using the antlions and dealing with turrets.

Chapter 9a: Entanglement

This is the only subchapter of HL2. It is a subchapter because of its length and also because the setting does not change, Gordon is still inside the Nova Prospekt prison and he meets up with Alyx Vance. Alyx opens many of the gates (therefore they are story gates) in the beginning of this chapter allowing information to be told to the player via in-play cutscene and changing the pace from the antlion guard battle that ended the previous chapter.

It is important for the narrative for Alyx to be able to manipulate Combine technology. It makes her seem smart and also allows her to control story gates. Therefore it makes sense that she can change the targeting of the turrets, making them attack the Combine. This turret mechanic switch is much like the bugbait and antlion mechanic. The player was shown the mechanics of these enemies while they were hostile so they do not need to be instructed on how to use them against the Combine. The friendly turrets are used in a series of arena battles throughout this chapter, which changes the pace from the in-play cutscenes that the player watches from Alyx.

Prisoner pods are also introduced in this chapter as Eli Vance is trapped inside one. The pods are coffin like containers that move prisoners on rails inside Combine

structures. Pods become very important in Chapter 12 so showing the player early how the pods are used makes teaching them about their use easier later on. It is also another example of using foreshadowing to teach the player.

The investment the player has in the experience of HL2 is important in this chapter. The narrative has gotten exciting and now the pace may stay high for longer periods because the player will not get as fatigued as they would have earlier in the game. However, this subchapter's pace does change between the turret arena battles and in-play cutscenes with Alyx making it follow the same pace formula as the other chapters in the lesser trials.

Chapter 10: Anticitizen One

This chapter in has longer and more frequent periods of high pace compared to previous chapters. After the narrow teleportation escape by Alyx and Gordon in the previous chapter, the resistance has begun their uprising. In order to smoothly integrate the now ruined City 17 and the advanced state of the uprising it was necessary to have the teleportation take a week to complete. More narrative tension is built up over this chapter because Dog gets swept away in battle, Eli is captured, Barney needs to be rescued, and Alyx gets captured. This is used to add weight to the player's actions in the rest of the game and what they must accomplish.

Forcing the player back through the first set of streets they see in City 17 is a great design choice because it uses the feeling of nostalgia. The player sees these ruined streets and the uprising happening and they remember the events that already happened in the game.

The hopper mine (hopper) is introduced in this chapter. Hopper mines are land mines that stick into the ground using spikes and when triggered they spring into the air and explode. As with many other mechanics the hopper mine is introduced to the player through use of an NPC and it then continues to follow the teaching cycle. The player can use the gravity gun to unearth hostile mines and plant them as friendly mines. The mines can also be thrown at enemies using the gravity gun much like other explosive items. By forcing the player to remove or otherwise dispose of hopper mines the pace of player is once again impacted and controlled indirectly so the player still has the feeling of control.

Throughout Anticitizen One, Gordon is joined by resistance citizens that assist him in dispatching the Overwatch, zombies, and headcrabs that are still in City 17. The citizens share some mechanics with the friendly antlions from chapter 9 (Gordon can control where they attack and move) but there are several key differences. First

there is not an endless supply of citizens so once they die they are not replaced. Also some citizens are capable of healing other citizens and Gordon. This is important because some sequences have a noted absence of item crates and the need to protect the medic citizens becomes a priority. The choice the player had with the antlions again presents itself. How the player uses the citizens in battle impacts the pace of game experience.

The sequence in the warehouse is important because in several places the player gets to see a three-way interaction between combine, zombies and headcrabs, and barnacles. This adds to the chaotic environment that the narrative is supporting through the uprising.

Because Anticitizen One has resistance citizens that the player can control, and because the player is reaching the end of the game, the pace of this chapter is in higher than previous chapters and also switches less frequently.

Chapter 11: "Follow Freeman!"

Chapter 11, as a whole, could be considered a hard gate. The main objective of the chapter is to lower the suppression field so Gordon can get into the Combine Citadel. The overall pace of this level is high because the resistance uprising is reaching its peak and the player is quickly approaching the major trial of HL2.

Combine snipers have Barney pinned down in a ruined building in this chapter. There are also snipers at the end of Chapter 6. In that chapter the teaching cycle is used to show the player how to kill the snipers (throwing an explosive in their hide). However, the headcrabs and crossing lines of fire makes the sniper sequence in this chapter the real challenge phase of the sniper skill teaching cycle.

The Nexus building is protected by ground turret and ambushes of Overwatch troops. Ground turrets act as platforming puzzles because if the player steps into their range they raise up and open fire. Learning to defeat the ground turrets is again done by a teaching cycle. The first ground turrets are directly in the player's path and there is an endless supply of grenades that the player can use to destroy them. This acts as both the introduction and learning phase of the cycle. The next turret is encountered during a battle and is hidden around a corner, this is the testing phase. There is another turret inside the same room that the player cannot see form the door, because of this added difficulty and the probable lack of grenades at this point, this is the challenge phase. The turret skill is then reused throughout the Nexus building.

One of the main encounters inside the Nexus building is a platforming puzzle with ceiling turrets. This long puzzle breaks up the pace and also is used to give the player a stockpile of ammo and energy. This puzzle is even more important because the overall chapter pace of this and the previous chapter could fatigue the player if they are not given some prolonged break from the battles raging in City 17.

At the end of the previous chapter, the player is required to use the gravity gun to knock an energy orb out of a reactor to get a Combine gate open. There are three more energy orb reactors inside the Nexus building. This energy orb mechanic is foreshadowing for the player to see that the Combine technology is usually beaten by the gravity gun (other examples are manhacks and rollermines).

In Point Insertion, the player saw a strider walk by a group of Overwatch. This chapter features the first battle with a strider. Striders are giant three-legged synthetic Combine units that can destroy buildings and must be destroyed by the RPG. The teaching cycle is slightly modified for learning to kill striders. The player is told by allies that rockets can bring them down and this serves as the introduction phase. However, there are also resistance citizens that launch rockets at the striders signifying the learning phase. Gordon using the RPG to take down the striders in the first battle is the testing phase. The challenge phase of this skill is one of the best in the game. After defeating several striders out front of the Nexus building Gordon is forced to take on a strider alone. Without a rocket crate that can give the player unlimited rounds Gordon is forced to go through a platforming puzzle with the strider attacking him. Once Gordon finds the rocket crate, he can then destroy the strider, making the strider killing skill concrete for the player.

The energy orb puzzles in this chapter are used to control the players pace and keep them inside the Nexus building so that when the large courtyard battles with striders occur the player gets the full sense of scale. The need to find rocket crates to dispatch striders is also used to control the player's pace. This is the last chapter of the minor trials so the player is treated to a lot of RPG targets (striders) and large arena battles as a reward for making it this far.

Chapter 12: "Our Benefactors"

"Our Benefactors" is the first chapter of the major trial in HL2. Gordon must infiltrate the Combine Citadel to save Eli and Alyx Vance. The Citadel is a massive structure that the Combine uses as their base of operations on Earth and where the Administrator of Earth, Wallace Breen, has his administration and office. The Citadel holds prisoners, contains teleportation equipment, and is used to build synthetic Combine entities like gunships and striders.

The cliff walk at the beginning of this chapter is a perfect example of a vista. By forcing the player to do platforming puzzle elements on the cliff face they look up and down the entire Citadel getting a sense of its gigantic scale and how alien the structure is. It also gives the player a low paced sequence before the high-paced action inside the Citadel. The pods inside the structure are basically moving vistas. The player enters them and is treated to rich visuals that show the inner workings of the Combine and the Citadel. They are also used to control pace because the player can only move the camera when in a pod so it gives the player a chance to relax in-between battles. The pods also pose an interesting question to the player: "Where will Gordon get off?"

Once Gordon is caught after his first pod ride, he gets his weapons removed and destroyed save for the gravity gun which has been modified by the Citadel's automated defenses. Now the gravity gun has longer range and can be used to grab and throw organic matter including Overwatch troops. Another interesting side-effect of the gravity gun's modification is that now the weapons of the dead Overwatch troops are destroyed. This forces the player to use only the modified gravity gun throughout the level. This change also makes combat with normal troops mostly trivial, they can be tossed around and killed very easily. This is important for two reasons: it allows for fights against vast numbers of Overwatch and also it makes the major trial different but not too difficult. Because the Citadel is a Combine stronghold the large number of Overwatch troops makes sense in the narrative and gives the player a sense of how powerful they and the gravity gun have become. It also completely changes the combat without making it too hard, which a fatal flaw of many games is making the last levels so difficult that players simply give up.

To match the new power Gordon wields with the modified gravity gun there is also a new kind of suit recharger inside the Citadel. This new recharger can quickly refill Gordon's suit energy to a higher level and can refill his health. This is another example of making the gameplay for the major trial different instead of difficult.

Wallace Breen appears on screens throughout the Citadel and often talks about Black Mesa and the fact that Gordon is a physicist; this again is a play to the emotion of nostalgia. It also reminds the player of the scope of HL2 and how all of this started in the original Half-Life. This is a strong narrative tool that is amplified by the fact that Gordon never replies to him. Gordon has not spoken in any of the Half-Life games, a design choice that fits in with the philosophy of complete player control because the player cannot choose what Gordon says, he says nothing.

Another mechanic of the modified gravity gun is that it can be used to grasp and fire energy orbs. The player has seen the orbs as the secondary fire type of the combine rifle (an automatic weapon carried by the Overwatch also called the AR2)

and in the Nexus building power cores in the previous chapter. This is yet another example of the use of foreshadowing and modification of previous mechanics to teach the player new and interesting mechanics.

There is a boss fight in this chapter that is a strider battle that highly resembles the final encounter with Breen. It is used as the challenge phase of the energy orb teaching cycle and also allows the player to practice grasping orbs from the energy beams on either side of the arena and use them to destroy a large enemy.

The player's pace in this chapter is broken up between visually stimulating pod rides and fast-paced modified gravity gun battles. The players investment is peaking in this chapter, because it is the major trial, so the changes in pace a somewhat less important because the player can endure longer periods of high pace. The more important mechanics for pace in this chapter have to do with making the gameplay different instead of difficult because at this point the player just wants to reach the end of the game.

Chapter 13: Dark Energy

Dark Energy is the final chapter of HL2. This chapter opens with Gordon still trapped in a pod and unable to move but the player still retains control of the camera. The Overwatch has captured him and taken his modified gravity gun. The following in-play cutscene is the narrative climax of the game. Once the cutscene is complete Gordon is released from the pod and is back to where he started the game, defenseless.

Gordon soon receives the modified gravity gun again and is told by Alyx that his objective is to stop Wallace Breen. What follows is a very fast paced sequence including platforming, energy orbs, and combat. It is the culmination of all the puzzle mechanics in HL2 and the fast pace and intensity are a change from the in-play cutscene where Gordon was trapped in the pod.

Once Gordon reaches the top of the platform, the player has completed the final puzzle of HL2. Now Gordon begins the final encounter that closely mirrors the strider battle in the previous chapter. Because the player just had an encounter like this one at the end of the previous chapter, the orb and gravity gun mechanics are fresh in their mind and they need no teaching. The challenge comes from dealing with two gunships and destroying the Citadel reactor before Breen escapes.

After Dr. Breen is destroyed there is a short in-game cutscene with Alyx, and then the closest thing to an actual cutscene since the opening sequence. It is another

conversation with the G-man. How the G-man saves Gordon is a textbook form of deus ex machina, which reinforces the loss of control that the G-man represents. Deus ex machina literally means "god from the machine" and in a narrative it is used to describe a sudden unexpected ending to an impossible problem. Gordon and Alyx are caught on top of the reactor during an explosion that will most certainly kill them. Gordon is seemingly plucked from space and time by the powers of the G-man and saved. The pace in this short narrative chapter changes from low during the pod in-play cutscene to high during the final puzzle and Breen encounter and then back to low during the G-man cutscene. This ends HL2.

Conclusion and Personal Experience

I have played completely through HL2 three times and I could play it ten more times without getting bored. However, there are two aspects of the game that I left out of this analysis because they are not really innovative or interesting: the story and conventional weapon combat.

In hopes of not completely ruining the game for any readers that have not played HL2, I intentionally left story out as much as possible, but I also left it out because the story of HL2 is nothing special. The characters are well designed, believable, and memorable but the story doesn't really have any surprises. The most innovative part of the story is the in-play cutscenes and how they deliver the narrative to the player. The weak story is also hurt by the player control design decisions. The lack of objectives and formal cinematics makes expressing a compelling narrative very difficult because while story gates are used the player ultimately has control over what they see and hear.

Conventional weapon combat was also not discussed because while it is well-executed, it is not very innovative. The game has some great weapons (I especially like the Combine AR2 and the Magnum Pistol) and the enemies' behaviors and reactions are very believable due to their unscripted nature, but this is what every great FPS needs to have. However, the grenade mechanic of HL2 feels dated and several of the other classic weapons from the original Half-Life are just boring (pistol, shotgun, and AR1). Many FPSs that were released in the same time frame as HL2 (such as Halo 2[f]) moved away from allowing the player to carry over 10 weapons because it is very difficult to make the mechanics of that many weapons meaningful. In HL2, the tight ammo constraints of the crossbow and RPG try to make up for the large arsenal, but all it does is limit the player's use of some of the most fun and unique weapons.

HL2 is one of my favorite games of all time. It may not be the most fun, have the best graphics or story, but the design of HL2 is flawless. How the player's pace and flow is controlled and how they are taught mechanics through a teaching cycle gives a rich experience that is unmatched. The blending of narrative, combat, and vehicle chapters keeps the player on their toes and prevents fatigue and boredom while enhancing the feeling of flow. By teaching the player a wide range of related mechanics (such as fighting the antlions, then later controlling them) throughout the game the player is constantly shown something new that also feels natural and intuitive. If HL2 did not have a first person camera, it would never be considered a first person shooter because the more innovative and fun aspects of the game have little to do with shooting. The most memorable levels, Chapter 6 and Chapter 12, push the limits of what a FPS can do with combat, pace, flow, and intensity. The haunted house of HL2 is chocked full of friend and foe, combat and puzzles, and intensity and loneliness, but it offers a unique experience of player control that has never been matched.

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b) Half-Life, Valve Corporation, Sierra Studios, Nov. 1998
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> " *In short*
> *"infinite replayability"*
> *isn't a mere boast here.*
> "

GREG COSTIKYAN

EUROPA UNIVERSALIS

Two streams precede and inform the digital games revolution: the arcade, and hobby games. Curiously, most historical works on the field discuss the first but rarely the second, perhaps betraying the console orientation of most gamers: console games grew out of the arcade game phenomenon of the 80s, and arcade games were closely linked in their early days with pinball, exploiting the same distribution channels and basic business model. Computer games, in their infancy, were more strongly influenced by hobby games, because most computer game developers had previously played roleplaying games, wargames, or both. Hobby games and programming are alike, in that they attract the kind of geeky intellect fascinated by rules-based complexity.

As a consequence, early computer games often sought to model complex phenomena – games like *Balance of Power* or *SimCity* or *Civilization;* games that viewed the opportunity offered by computers not as a way to create another form of the deratiocinated, mass-market pabulum that dominates other entertainment industries, but as a means of bringing deeper, more meaningful engagement to the world. The proud boast of the Avalon Hill boardgame catalog had been that they offered "games for smart people;" computers, by hiding the complexity of deep games in code, offered a way to create games for smart people that could reach a wider audience. While others were hammering on arcade buttons and watching little sprites go "bloop" and "bleep," computer gamers were plotting world conquest, trying to control nuclear reactors on the verge of meltdown, and building cities.

Serious simulation and strategy games have been marginalized as the industry has come to focus relentlessly on best-selling genres and the lowest common denominator, but they retain a fanatical if limited following, and are now sold mainly via direct download online. Among the best is *Europa Universalis,* now in version III.

EU III is not a simple game. It is not for those whose idea of complexity is a game that uses the shoulder buttons. Indeed, it seemingly defies many of the assumptions most have about the nature of "videogames" – that they have something to do with the visuals, for a start. *EU III* does have animated little soldiers that move about the map, and provinces you can click on, and a visual representation of the capital city of each province that shows the constructions it contains, but fundamentally, the heart of the game is in text and numbers. As a player, you spend your time monitoring your stability, displayed as a number from -3 to +3 at the top of the screen; checking how you are investing your tax revenues, and adjusting sliders to spend more or less on different things; pondering your domestic policy sliders and which to adjust next, and considering your relationship rating (a number from -200 to +200) with other powers, and whether it's worth trying to change it. You're always aware of your income, your rate of inflation, and your maximum manpower, and you're juggling many different factors, trying to keep any one from spinning out of control.

EU III makes few concessions to its complexity, either; although it has a "tutorial," this is little more than a set of paragraphs you page through, with various control features being circled as you do. It may teach you the bare bones of the game's interface, but good luck trying to run a country after going through it. *EU III* is a game where you *do* have to "read the fucking manual;" and if it were a person, it would have a chip on its shoulder about that: *any* idiot can play *Zelda,* it takes a *real* gamer to play a game like *EU.* The manual is only a start, in fact; if you want to play it well, you're well advised to spend some time prowling the developer's forums for strategy advice. *Civilization,* which is about as hardcore a simulation game as most gamers experience, a game of fair depth and complexity, is as transparent as cubic zirconium by comparison to *EU.*

And yet for those who trouble to master its complexities, *EU* is an utterly fascinating game, one of the best of its type ever developed — infinitely replayable, enormously diverse, supporting a huge range of viable strategies, and with a deep and deeply enjoyable connection to history.

EU runs from 1453 to 1789 — from the fall of Constantinople to the French Revolution — though expansions have increased its scope from 1399 to 1821, to take in the tag end of the Hundred Years' War and the Napoleonic Era. You can start on any date in between, though the interface presents you with a series of set dates for interesting eras. You can play literally *any* country in existence in the period, from large powers like France or the Ottomans to the Cherokee or Congolese — albeit you probably won't get very far with one of the latter.

Perhaps the best way to give a sense of the depth of the game is to show it in action. Let's start as Austria in 1453; Austria's a good choice for a new player, it's not so large as to be overwhelming, but also not so small as to be a huge challenge.

Your monarch at start is Ladislas Posthumus; at least with the expansions, you receive historical monarchs on an historical schedule. Ladislas has two stars in military, making him competent on that score, and three in diplomacy and administration, which is quite good. In general, Austria tends to have good diplomats as its rulers, which is important for its survival and growth.

Fig 1: Austria's starting provinces.

Austria begins with eight provinces: Wien, Linz, Steiermark, Kärnten, Krain, Tirol, Trent, and Breisgau, along with an army of 17,000 men (5000 of it cavalry), and a small fleet, in Krain, of three cogs and two galleys. Tirol and Wien are the most populous provinces, and Tirol, Krain, and Kärnten all produce gold, which gives you a nice initial tax base — but has the downside that gold production contributes to inflation.

Fig 2: National Overview

Keeping the game paused, the first thing to do is to check on the overall national aspects. Austria is a feudal monarchy, with an honorable reputation and a nice initial prestige of 27; prestige is gained mainly through conquest, and lost mainly through refusing an ally's request to assist them. Whether or not an action affects your prestige is rarely your most important concern, but high prestige does give you bonuses to production, military morale, and so on, so it's nice to have.

Initially, the Moslem world loathes you, the rest of the Holy Roman Empire (you are the Emperor) likes you well enough, Portugal also likes you since you have a royal marriage with them, and the rest of Christendom is lukewarm. You are at war with nobody, which is a relief.

Fig 3: The Court

You have three advisors, two excellent and one superb; the superb one is Nikolaus von Kues, who provides +15 to production tech advance, which is very nice indeed. Ulrich von Cilli provides +9 to government tech advance, which is also nice; and Ulrich von Eyezing provides -0.15 to reputation. (Positive "reputation" points means you are viewed as less than totally honorable, makes your diplomatic efforts more difficult, and in extreme cases causes the rest of the world to declare war on you, so reducing it is good.) The first two are advisors the like of which you will only rarely have for the rest of history; von Eyezing is run of the mill. Since you are honorable at present, you might consider firing him, and hiring someone else more likely to be immediately useful; doing so, I find Piero in my available pool, who provides +12 investment to stability, and since we are currently less than maximally stable (at +1 in the -3 to +3 range), that's useful.

Fig 4: National Economy

The next thing to check are the economic sliders; these are, in fact, absolutely critical, and something you will refer to constantly during play. These sliders determine how your monthly taxes are spent. You'll see that all sliders are positioned at the same point, meaning they're all set equally; you will most definitely not want this.

To start with, while you do have a small fleet, Austria is not a major naval power, and unless by some chance you want to participate in colonization in the late game (not an obvious strategy for Austria), you are unlikely ever to need a large fleet. So we slide "Naval" all the way to the left and fix it there (double-clicking to make sure it doesn't change when other sliders move). Similarly, while trade income is nice and increasingly important as the game goes on, the countries that do best in trade are decentralized, plutocratic, free trade ones — and because Austria is an imperial power that depends on diplomacy and warfare for expansion, you will be playing a centralized, aristocratic, mercantilist one. Nail Trade to zero as well. Doing this

doesn't mean our Naval or Trade tech will never advance — but they will advance much more slowly. But we do free up resources to spend on the things that really matter. Obviously, if we were playing Venice, we'd make different choices.

What's of primary importance to Austria are Land, Production, and Government. The first increases the combat ability of land units, the second your tax revenues, and the third opens up "national ideas" and technologies. Where you choose to set these sliders is largely a matter of taste — but Von Kues is giving us a nice boost to production, and von Cilli to government tech, so we may not need to spend large amounts of tax revenue on either in addition. Rolling over any of these gives us important information — including the fact that one level increase in Government will give us a "National Idea," and one level increase in Production will allow us to build Workshops. Workshops are a critical, early game construction, vital to increasing your tax base, and a National Idea is always tasty.

The last two are "Stability" and "Treasury." Let's look at Stability first. Mousing over it shows us:

Fig 5: Stability Pop-Up

In other words, we're getting 12 points for free because our leader is a decent administrator, another 12 from one of our advisors — and a cool 41 points *a month,* because we are, by the Grace of God, Emperor of the Holy Roman Empire of the German Nation. *Austriae est imperare orbi universo*: Screw spending any money on this; though we start off at a stability level of +1, and every increase will improve our finances, we'll get there remarkably quickly anyway, and can use resources on other things.

Note the numbers "55.7/662.4"; that means we need to accumulate 662 points to get to +2 stability, and points accumulate every month. For us, at least in the early game, stability is hardly an issue; we can do outrageous things, and recover quickly. However, the larger your empire the more points you need to accumulate to increase stability, so by the end game, we will worry about every decision that might threaten it.

As for the Treasury slider — this is a bit more complicated. In addition to your monthly taxes — affected by the sliders — you get a batch of cash at the end of each year. In an ideal world, you use your yearly taxes for all expenses, and devote the entirety of your monthly taxes to technology (and stability) investment. And yet how imperfect is this vale of tears, and how glad we are to know that when the end comes for the Emperor Ladislas he, being a faithful adherent to the Holy Catholic and Apostolic Church, will go to a better reward in the next one. In the early game, and in moments of stress (like wartime) throughout the game, it will be necessary, or at least useful, to dip into our monthly tax revenue, by setting this slider somewhere less than nailed to the left.

But there is a cost to doing so, because *anytime* you take money out of your monthly taxes — that is, take it as gold instead of investing — you produce inflation. In Figure 5, you'll see that Austria's inflation is 0.0; it will not long remain such. It accumulates over time, and increases the cost of *everything* you do — but never increases your tax revenues. Let it get out of hand, and you will be badly injured. There are ways of reducing it — one is to adopt the National Idea of a Central Bank (which, as Austria, I do early), and late in the game you can build tax collectors, which also reduce it; but still, your goal must be to minimize inflation whenever you can. Austria actually has a bad problem here, because its gold-producing provinces also increase inflation.

Austria's yearly taxes are 61.2, at the game start, and our monthly expenses on troops and advisers is 5.2 (as figure 5 shows); 5.2 times 12 is 62.4, so we're already spending more in a year than our yearly nut, and we definitely need some mony for, e.g., diplomacy with our neighbors. I usually set the Treasury slider so we're losing 2 gold per month on our expenses (or, to put it another, taking 3.2 gold per month out of our monthly taxes for current expenses). If we do that, we wind up with an annual inflation of 0.23, which is too much (if you compound it over a century, say), but what's a monarch to do? (Get a Central Bank right quick, that's what.)

Fig 6: Government

The last thing we need to check is our government sliders. Austria is positioned toward aristocracy, decentralization, narrowmindedness, mercantilism, land over naval, and serfdom; it's in the middle on troop quality, and whether it prefers offensive or defensive military tactics. At the game start, we can adjust one slider one point in one direction; which you choose depends on your overall strategy, but mousing over anything tells you what a shift does (I'm mousing over "Aristocracy" in Figure 6). Moving in the direction of aristocracy will reduce our trade efficiency — well, we're screwed there anyway. It will also improve our production (mmm, more taxes), give us more diplomats (which Austria can use), and reduce our cavalry cost, while increasing ship-building costs. Well, we're not a naval power, and cavalry is the most powerful arm of the army in the early game (not later on, though), so this is good. Aristocracy it is.

Making any shift, though, reduces your stability by one, so we're down to 0; thank goodness for the Holy Roman Empire, which increases our stabiliy rapidly.

Please note I've yet to actually play the game; it's been paused all this time. I'm checking up on what we've got to work with, and making decisions for optimal play of Austria — and I would have made different decisions with a different nation, or if my strategy wasn't based on diplomacy and conquest, as it will be.

Now, at last, we unpause the game. Almost immediately, we will receive some invitations by people who want to ally with us; we don't have to respond for a month of game time, and the best bet is to wait almost that full month, then pause again, and see what you've got. If you agree to one alliance, alliance offers from others will dry up, because you've already aligned yourself to some degree; there's always a spate of diplomacy at game start, and we want to leave our options open. What I particularly want are alliance offers from nearby powers, especially smaller German petty states, because I plan to befriend, vassalize, and annex them without a war. Diplomacy is Austria's friend.

Fig 7: Diplomatic Offers

Sure enough, by the end of the month, I have offers from a number I want — Bohemia, Bavaria, and Wurttemberg among them. I'll take them all up on it, and Salzburg, too. Most of the rest are trash from the Eastern Med who want my help against the evil Turks, but I really don't want a war with so major a power early in the game, so Naxos and Albania and the like can just go hang. Urbino is tempting, as they'll wind up in an Italian war sooner or later, and that will give me a chance of picking up some rich Italian provinces — but no, not this early.

Could I be doing something else? Absolutely; at the start of the game, there's a Venetian-Milanese war, and one strategy is to intervene immediately, in the hope of picking up an Italian province (where the populations and tax bases are high). Another is to start a war with a smaller German power, and pick up a few provinces from the start, at the cost of a "bad boy" reputation with other powers, and another stability drop (but at a boost to prestige). But I prefer diplomatic conquest, when I can get away with it, and Austrian monarchs tend to have the diplomatic chops to make it feasible.

Not easy; feasible. Here's what you have to do. First, ally with someone, preferably much smaller than you, and adjoining. Second, form a royal marriage with them — a second diplomatic endeavor, and one they may refuse several times before they ultimately agree. I can only do one diplomatic endeavor with a target each month, so this could take a while — and even as Austria, I'm only producing six diplomats a year. Third, get your "relations" value with them up over 190.

Clicking on Bavaria, I see I'm 100 with them right now; I have some cash at game start, so I send them a diplomatic gift of 13.3 gold. I don't get to choose the amount — it depends on the size and power of the recipient. Unfortunately, this only increases our relations by 1.2; the amount is semi-random, and depends largely on how good a diplomat I am. That's a low number — sometimes Ladislas will see boosts of 20 or so with a single gift — but getting even a single power up above 190 can be an expensive proposition, and net of military expenditures, we're only earning 30 gold per year, now.

Still, not to worry, because after I have a marriage and an alliance, I have to wait TEN YEARS. Ten whole years, before I can vassalize them. When I crank the game's speed all the way to the max, one day passes in about one second of real time, so a year takes about 6 minutes. Ten years is a full hour of play, more or less. But taking a longer view, the game doesn't end for almost four hundred years, so what's a decade?

Vassalizing them will be nice, when I eventually accomplish it, because I'll get half their taxes — and they won't start wars on their own and drag me into them any more. In fact, between now and then, I pretty much have to fight when they do get into a war, because otherwise I lose the alliance, and even if I re-establish it later, the ten year clock starts ticking from day one. Luckily, Bavaria doesn't tend to tangle with major powers. Bohemia could pull me into a war with the Poles, but since the Bohemians aren't German, my diplomacy with them is a little less effective with them any way; I *really* want to vassalize the Bavarians, and maybe Wurttemberg, but Bohemia is third best. If I have to blow that alliance off later, well, so be it.

Ten years *after* I vassalize them, I can try annex them. They can refuse that, too, with a drop in relations requiring more gifts before I can try again — but if my monarch at that time is still a decent diplomat, I should pull it off eventually.

Are you getting the idea that this game isn't a wargame as we know it? That it's not a Risk-like game of global conquest? Good. In *Europa Universalis,* you almost certainly can't avoid war forever — and if you play aggressively, you can certainly wage a good many wars, if you like that. But there are many paths to expansion, and conquest is only one.

Naturally, gamers tend to be aggressive warmongers, and like to conquer everything in sight. How does *EU* restrain them from doing so? Another demonstration is in order.

There's Salzburg, just to my west. It's a single-province country, easy meat for me to conquer. Though if I wanted to do so, I shouldn't have allied with them; still, let me save first, so I can recover from this madness, and break the alliance, then declare war.
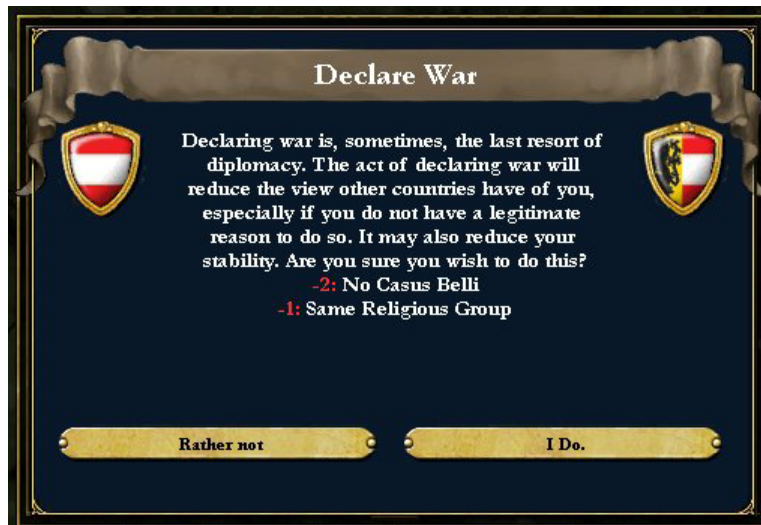
Fig 8: Declaration of War

Declaring war on Salzburg will instantly reduce my stability from 0 all the way to -3 — two levels because I have no legitimate casus belli, and one level because Salzburg and Austria are both Catholic nations. -3 is the lowest stability of the game, so low I may start to see rebellions even in my own native provinces. Declaring war will do more; it will also reduce my reputation, and my relationship value with just about every country in the game. Still, Salzburg's army is puny, and we conquer them readily.

And now what to do?
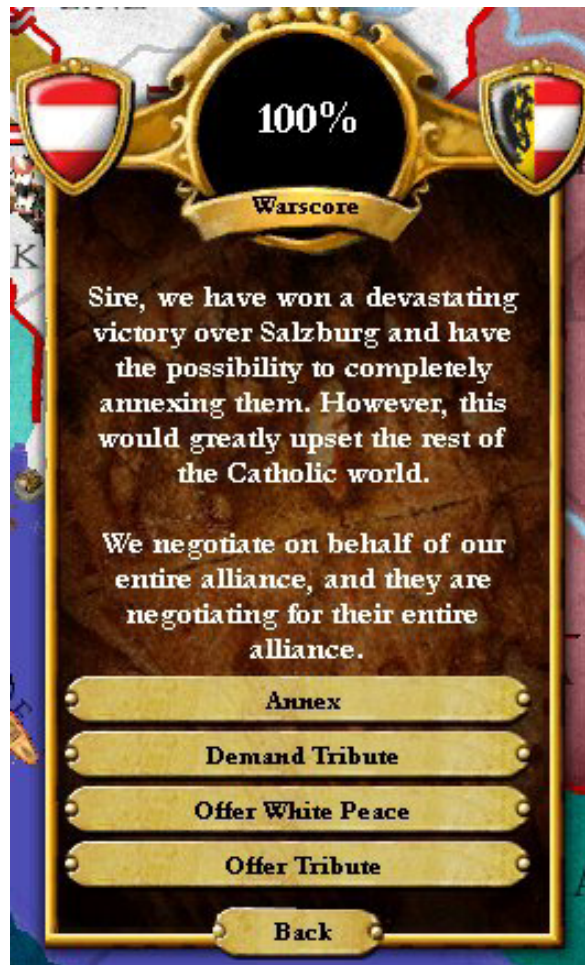
Fig 9: Victory! Of a sort

We could "demand tribute" and then vassalize them, but we're showing what being an overly aggressive player is like, so the hell with it. Annexation it shall be. (Yes, the English is a little uneven in the dialog here; the developers are Swedish, after all.)

We now merely have a 'respectable' (rather than honorable) reputation, and have lost 20 relationship points with every power in Christendom, except for our immediately allies (with whom we've lost 10 points). Four or five more quick wars like this, and expect to see French, Burgundian, and/or Aragonese troops besieging Vienna. Even if you're playing a militarily aggressive game, then, you need to spend time to take a breather — to let your bad boy points decay, and your reputation improve before the next unjustifiable war of aggression against a helpless foe.

The worst thing here, though, was that three point stability drop; even a point (for being of the same religion) is bad, but three is horrible. The upshot is that you need to spend ways figuring out how to get legitimate casus belli against people you want to defeat. The easiest way is to get invited into a war by an ally, but you can't plan that, and sometimes the invitation arrives when you're not well placed to fight; still, at that point, it's join in, or suffer a hit to prestige (for refusing an ally's request for help). And as far as needing a casus belli is concerned, a request from an ally is a freebie.

Some random events will offer a casus belli. You can also gain one on any power with whom you have a marriage by claiming their throne, but this royally pisses off everyone else you have a marriage to. In addition, certain provinces are considered "core" to you, meaning you automatically have a casus belli against anyone who owns one; however, except in certain circumstances (e.g., France in 1453, since England still owns French provinces), this generally means you lost a war to them, which is how they got one of your provinces, and you may not be inclined to fight them again soon.

War in the era is not a matter of fast maneuver and reaction; except in primitive colonial areas, every province is fortified, and conquering it requires a siege. In the early game, pre-cannon, this can take a year to complete; increasingly powerful cannon over the course of the game shorten sieges, but then, nations also develop the technology to build stronger, Vaubanesque fortifications, which take longer to conquer.

A typical victorious war works like this: You send in your one big (or preferably two) armies to defeat the main enemy concentration. Behind, you have several smaller armies, each consisting of a handful of infantry regiments and a cannon or two; they besiege enemy provinces, taking them one by one. In the meantime, your big army is chasing around the enemy one — since you defeated it initially, its morale is shot, and so long as you keep defeating it handily, you'll continue to do so, barring sudden reinforcements. Quite often, the enemy army winds up retreating back and forth between two provinces, with you following to beat them up again each time they reach their destination — *EU* players call this "pingponging."

Ultimately, if all goes well, you and your allies have besieged and taken every single province in the enemy nation. At this point, have you conquered them?

Well, no. I was able to annex Salzburg, but only because it was a single-province nation. At this point, you open negotiations with the defeated enemy, and demand several of their provinces as your prize. Unless this is a one-province nation, they will not surrender their capital province, and you will rarely, if ever, walk away with more than half of what they possess — even if you've captured them all. If defeat

is total, and you are by far the more powerful nation, you may get them to agree to vassalization — which, if you have a good diplomat ten years later, is good, since you may be able to annex them then.

Fighting a war for a long period has consequences, too. Your population becomes weary, and provinces start to rebel. You are almost certainly devoting more of your monthly taxes to coining money than normal, since you have to pay the salaries of the large army you have raised, so you are investing less in technology, and falling behind your neighbors. And every nation has a manpower cap; it replenishes slowly, but lose too many men in battle, or raise too many units, and you'll find yourself slowly melting in the face of a more powerful enemy.

In other words, in the real world — even in the real world of the 15th Century, when the nobility, at least, considered war a glorious thing rather than a horror — you can't just start conquering the world. Trying to do so has consequences, consequences that inevitably act to slow even the most aggressive player: war weariness, inflation, manpower loss, the disapproval of other powers, rebellion. You are, of course, an early modern monarch, and your ultimate goal is the aggrandizement of your state; world conquest would be cool, of course, if impractical. For an experienced player, *EU* is a flexible enough system that while actually conquering the *world* is pretty much out of the question, ending the game as the most powerful nation on the planet — even starting as, say, the Palatinate of the Rhine — is not. But you have to be *smart* about it — you can't just start invading weaker countries right and left.

Here's our Austria in 1540, not quite a hundred years on:

Fig 10: Austria, a Hundred Years On

As you can see, I succeeded in vassalizing and annexing Bavaria, but not with Wurttemberg, which remains independent, nor with Bohemia, which the vile Poles have annexed. A series of wars, some leading to conquests, others to vassalizations and later annexation (and aided by a random event that game me Venice as "core", and thereby a permanent casus belli on Venice), has allowed me to unite virtually the whole of Italy — many tasty rich provinces there. A war with the Ottomans brought me a chunk of the Balkans.

However, France has turned from a tattered, divided nation into a united powerhouse, and the Burgundians (who still exist, as they did not in reality) are uncomfortably close in Switzerland; the Aragonese still hate me for taking Naples, and Poland and Lithuania — unified under a single crown — rule not only their historic territories, but most of Hungary, bits of the Balkans, and most of the Ukraine. There will be no easy wars hereon.

My underinvestment in Navy, and to a lesser degree Trade, is hurting me now. During the war with the Ottomans (which was damn difficult, by the way), I conquered all of Turkey-in-Europe, and was strong enough to go further — but the Ottoman fleet in the Dardenelles prevented me from crossing into Asia, and my tiny and backward navy was no match for it. My merchants are almost instantly competed away from trade centers, and I earn virtually no income from trade. One way (which I had originally banked on) to recover from this is to build "manufactures" that provide investment income for Trade or Navy, and I now have the technology to do so. The problem is that in conquering Italy, I inherited no fewer than *five* universities, which contribute to Government investment — but each manufactury costs more than the previous one, so I'm essentially buying my sixth, which is prohibitively expensive. A pity, too, as I have any number of provinces that could support a refinery, and thereby help redress my deficit in Trade.

At this point, there are a variety of potential strategies I could adopt. One would be to ally with France to crush the Burgundians, which is tempting, but would end with me adjoining France, which may well be the most powerful nation in Europe for the rest of the game, unless I can surpass them — not comfortable. Or I could try to develop naval capacity to the point of participating in the colonial effort — there's still unsettled land in the Americas, and my Italian ports give me at least some hope of participating. Or I could pursue my vendetta against the Turks (I am Armenian, you know), but I'll either need a strong naval ally — Aragon, perhaps (the Spanish crowns have not united in this world) — or to beef up my navy quickly. Or I could push through Poland-Lithuania — they're physically large, but backward, and over the next century I should be able to take them, barring some clever diplomacy on their part — and into the colonial lands of Siberia and beyond. Call it the Austrorussian strategy.

Or I could simply concentrate on taking over the remaining independent German states, but that strikes me as boring — and of course would reduce my stability advantage as Holy Roman Emperor; the fewer states in the HRE, the lower my stability increase from being Emperor.

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Enough of Austria; one of the strengths of *Europa Universalis* is that even though a single system applies globally, playing different countries *feels* very different. Consider Portugal; considerably poorer than Austria, with powerful Castille surrounding it, but excellent naval technology — and the ability to begin exploration early. In the first few decades, naval technology limits it to exploration of the African coast, but the New World opens up soon enough. From a third rate European power, it has the potential to become a global one, participating in the riches of the Orient as well as the burgeoning prospect of the Americas. As Portugal, you hardly ever worry about diplomacy in Europe, except to try to avoid participation in wars you cannot afford — your every effort is aimed at exploration and colonization.

What differentiates the powers is not just geography — Portugal Atlantic-facing, Austria embedded in central Europe. It's also affected by government type and economic sliders; a commercial republic like Venice is different from a feudal monarchy. Austria looks for aristocracy, centralization, and Land over Naval; Portugal looks to Naval over Land, free trade over mercantilism — and narrowmindedness over innovation, because narrowmindedness produces more colonists (fleeing oppression in their native land, presumably)

The choice of National Ideas further differentiates nations — Austria goes for ones centered on revenue and the army, Portugal for ones that assist with the colonization effort, first and foremost.

Choosing to play another nation isn't simply deciding between vanilla and chocolate; what you think about when playing Portugal, is almost entirely different from what you think about when playing Austria. One rich, diplomatic, locked into central Europe; the other poor, peripheral, but with enormous colonial opportunities. The same can be said of almost any other power: Venice, seeking to dominate commercially. France, striving first to drive the Goddams from their soil and unify under *le roi* — and then to dominate and control the powers around them. Muscovy, seeking to survive, then push back the Khanates, the Lithuanians and the Poles — and then expand in the primitive lands to the east.

Or take up a greater challenge — something like Genoa, say. As Genoa, I once united Italy — then built a great colonial Empire in Central America, conquering the Aztecs.

For a real challenge, take a non-Western power. Play Delhi, the remnant of the Mughal Empire; unify India, stave off the Europeans, and develop as rapidly as you can to end as one of the top powers in the game, despite your disadvantages.

Or, as I once did, start as Bali. Take over as much of Indonesia as you can. Let in a few European powers, so their nearby presence helps your own technology advance, but keep their possessions limited. And work to get to the point where you can discover Australia on your own, before the Europeans, and settle it — ensuring that a free and never-colonized Balinese power dominates the South Pacific.

Playing a non-Western nation is challenging because their technology advances much more slowly than European ones. Basically, technology investments are much more costly for non-Christians, and also for the only government types available to pagans initially (Tribal Despotism, Tribal Democracy, etc.). Except for China — vast and rich, even if non-Christian — all are at a great disadvantage. Even ones close to Europe, and powerful, like the Ottomans, tend to lag behind over time. Yet with commitment and energy, you can still triumph.

It's even possible to do well with something like the Incas, pagan and tribal though they are. You devote all investment to Government until you get one "national idea," and take "exploration of the New World." This allows you to recruit Conquistadors, who can explore new areas; explore South and Central America before the Europeans arrive, shift your sliders toward intolerance (to get more colonists) and colonize as many provinces as possible. Try to annex the Central American powers, make sure to give plenty of gifts to Europeans who set up near you to keep them from trying to conquer you, and build a city next to a European-owned province. Once you've done so, your technology will gain more quickly (there's a bonus for being adjacent to someone with better tech than you), and also a random event will eventually, with luck, occur allowing you to adopt western technology. Doing so is a big stability hit, and you'll have to change your government type too, for additional hits — but you're now in the position of being a vast, backward, and impoverished European-style power, instead of a no-hope primitive one, and in the remaining centuries, have a real shot of becoming the dominant power in the Americas, and reasonably respected by the Europeans.

In short "infinite replayability" isn't a mere boast here; there are so many different playable countries, and so many strategies, and random events to ensure that no

two playings are alike, that you could, if you wished, play no other game for the rest of your life, and find something new every time. Even by comparison to *Civilization,* it's far more variable; in *Civ,* the differences between civilizations are minor, and the technology tree ensures that games play out much the same way every time.

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In some ways, however, *EU II* was a better game, at least for some kinds of players. The major difference between the two games is this: in *EU II,* almost all events were specifically tied to certain countries, triggered when appropriate. Thus, for example, Austria would ultimately receive claims to Bohemia and Hungary, and inheritance of Burgundy, as they did historically, unless history evolved in a way to make those events irrelevant. *EU III,* by contrast, has genericized all events, so that the *kinds* of things that happen in *EU II* can still happen, but to any power.

The advantage of this is that there's less of a feeling that the game locks players into historical paths; *EU III* is, in a way, a better game for gamers *qua* gamers. But there's a downside, too; by genericizing random events, *EU III* loses the specificity and deep historical connection of *EU II.* If I were teaching a college-level course in Early Modern History, I would require my students to play *Europa Universalis* — but *II,* not *III.* The events they'd see would leap from the texts they were reading, they'd learn a great deal of history by playing. This is less true of *III.* If *III* is a better gamer's game, *II* is the better historian's game.

The music in *II* is also amazing; somehow, Paradox got an obscure classical music label to let them include virtually their entire catalog in the game. As a result, playing *EU II,* you're listening to classical music that's tied to the era in which you are playing — early music at the beginning of the game, the Romantics by the end game. Playing *EU II* is an eye-opening education in classical music as well. Apparently they weren't able to renew the deal, because *III's* music is the game industry norm — decent but unremarkable commissioned music.

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In general, the treatment of history by digital games is shameful. *Age of Empires* is basically a thin historical veneer on the same gameplay offered by every other real-time strategy title; *Battlefield 1942* is a team-based shooter with World War II equipment, but teaches little or nothing about the period. While computer wargames still exist — like other strategy games, at the fringes, and mainly for sale via download — and they do pay due heed to the realities of the conflicts they simulate, war is of course only one human endeavor. We need games like *EU,* which treat history with

respect; consider the sheer effort involved in creating a year-by-year political map of the entire globe.

More than that, we need more "games for smart people," games that don't dumb down their subject material in pursuit of the million-unit best-seller that every major publisher chases today. And we need a way to create what the industry once had and has lost: viable distribution channels for games, like this one, that are created on lower budgets than mass-market titles, but can appeal to an enthusiastic niche audience. The question of whether or not the game industry will become, like every other form, a fountain of brainless, lowest-common-denominator pabulum has been answered; it has. Our solace must be that, just as the existence of Hollywood does not prevent the creation of the occasional, thoughtful independent film, so the existence of Redwood Shores does not prevent the creation of games like *Europa Universalis.*

"

*Perhaps I am becoming
a higher percentage Heart
than I used to be.*

"

BRETT E. SHELTON

EXTENSIONS OF INTERACTIVE FICTION TO THE SOCIAL SPHERE: ZORK TO THE KINGDOM OF LOATHING

Act 1: The Underground Empire

I used to walk the road through the forest, more of a path, actually, two lines created by old tires with grass and saplings growing between the parallel trails. At one point the road takes a bend to the left, going further into the canopy of western white pines that are scabbed with yellowing clumps of old sap. Traveling under the tall thin trees, munching layers of dry pine needles underfoot, you can hear the scolding of rival chipmunks to the shaded area in the east, the sun not visible through the trees in the southwestern sky. And moving further down the old road it stops abruptly. A mysterious end to a former road that I wasn't sure why existed in the
first place.[1]
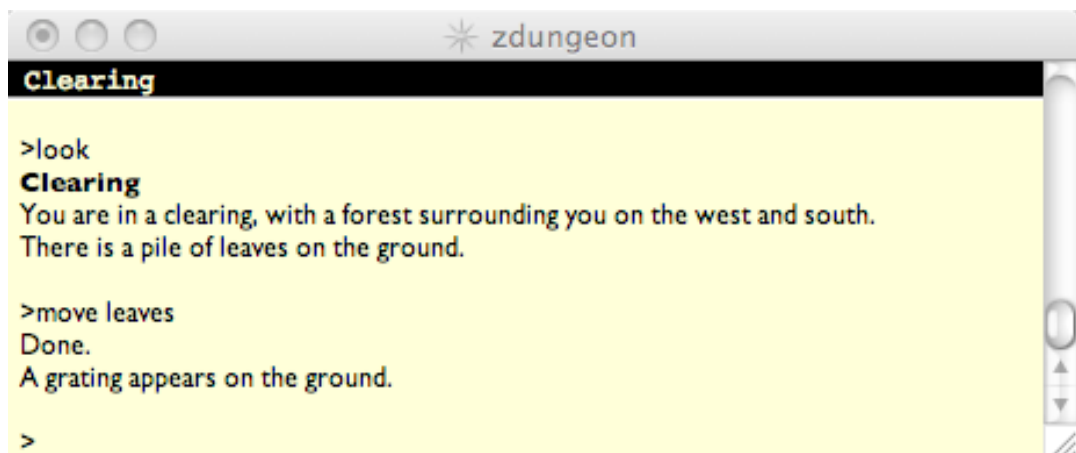
Z version of Dungeon. Originally created by Tim Anderson et al 1977.

But here, if one heads west winding through the trees and is careful not to step through anything that might look like poison oak, you will come upon an old abandoned car. It's really a body of a car, sitting in the middle of the forest, still bluish from what was probably its original color, but now speckled white, grey and rusty with who knows how many seasons of exposure. There's no glass nor tires, just the empty cocoon for any number of forest animals that have called it home over the years. Looking around its setting reveals a large number of trees in front, behind, and on either side of the vehicle. It's as if somewhere, sometime the car was magically deposited to the spot. Was it dropped from a plane in some sort of fantastic D.B. Cooper kind of caper? Were these mature trees transplanted to this spot, which somehow was a common road traveled by ancient Oldsmobiles or Buicks?

Once you manage to move from the old state highway through ancient rangeland and into the forest, moving further west will take you from the forest into a small clearing. A small house sits at the far end of a path, with what looks like a two story cottage with few visitors, prepared for the feet of snow that will come in the winter. On the other side of the house is an old flagpole, flying no colors but having a weathered thin rope that may still be usable to raise and lower a bounty. Standing here, on the west side of the house, there is a reservoir further west. To the south is the shoreline, and to the north what looks to be impassable forest.
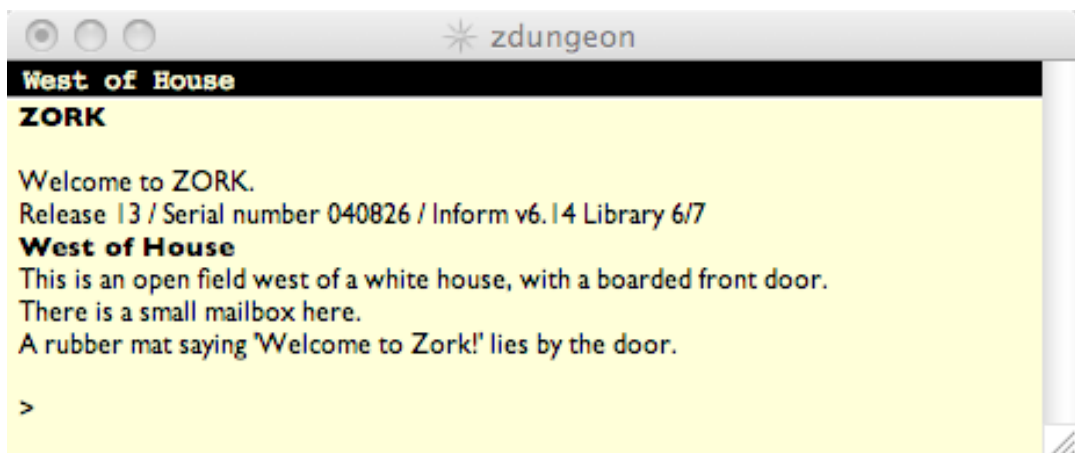
Z version of Dungeon. Originally created by Tim Anderson et al 1977.

One year during a water shortage, the decision was made that all southern valley farmers were to receive an additional measure for their irrigation fields. As a result, water regulators opened the sluice gates to let nearly all the water drain from the reservoir. Opening the gates created a lowland sea, which in turn created a strange landscape to the east of the house. Once a horizon of miles of lake that met with the large hazy mountains was now a scene of stumps, moss, freshwater carrion

and treasure. Well, *treasure* is subjective, much like what exists within the eye of the beholder, but for a young person carefully walking across such a new, fantastic landscape, it was all too wonderfully unfamiliar. Could this be the same area that existed all this time just outside the house? Walking the scene produced such wonders as lost fishing tackle, steel line adorned with shiny fenders, red glittering plastics and three-pronged hooks. A good hundred feet away from the shore was an old towel I recognized as one of my own, disappearing the previous summer which I only assumed had been swallowed by a forest creature from the outdoor drying line. There were large balls of marine jelly adorned with what looked like little eyes all over the outside of it, drying in the fall sun. I was just certain there would be a half-buried trunk way out in the middle, the result of some elaborate robbery-gone-wrong by a group of train outlaws for which the region was known.
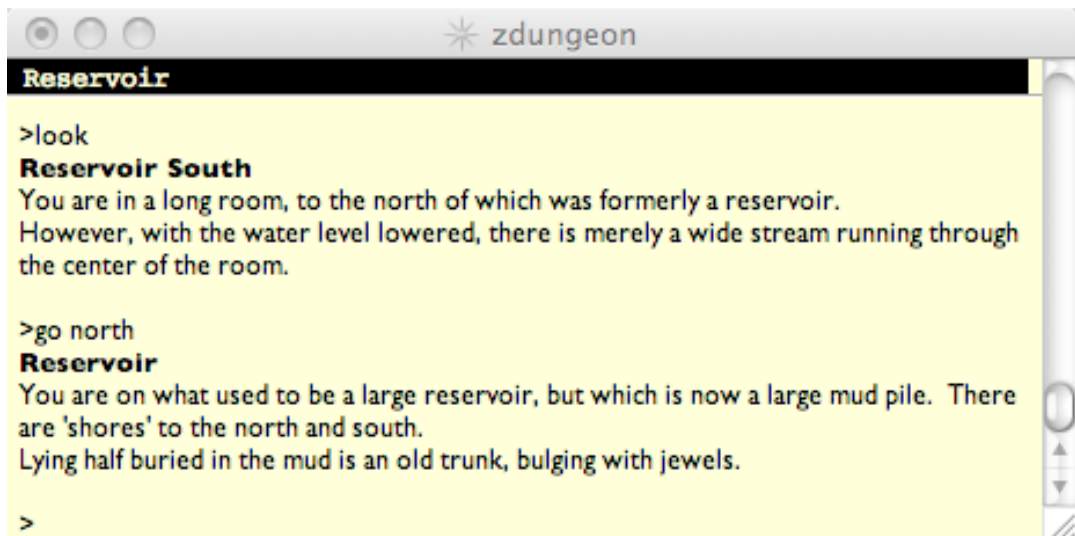
Z version of Dungeon. Originally created by Tim Anderson et al 1977.

When the lake was full, heading south you could walk along the shale and pebbled shoreline. After a short walk from the house, you find wooden fencing that led into the water from days before the man-made lake bordered a gulch and stream on the other side. Climbing along the top of the fence, the imperfect line gives way to a grove of northern birch trees. The birch grove was always alive with sounds of blue jays, grebes and finches either gathering twigs for nesting or protecting their turf from squirrels. Most birch trees aren't large or strong enough for climbing, but there was one southeast from where the fence ended that was perfect.

I remember climbing a series of smaller branches to make my way up high to the largest one, the one that when you scooted out a few arm lengths away from the

trunk, was a favorite spot for nest building. Every other year a new nest would take the place of the older one with various varieties of aviary vying for the prime location. One year I peered in to spot three light blue robin eggs, and I didn't climb the branch again that entire summer. Earlier, grandmother, an avid bird watcher, told me that if the mother senses that the eggs are disturbed then the birds would not return.
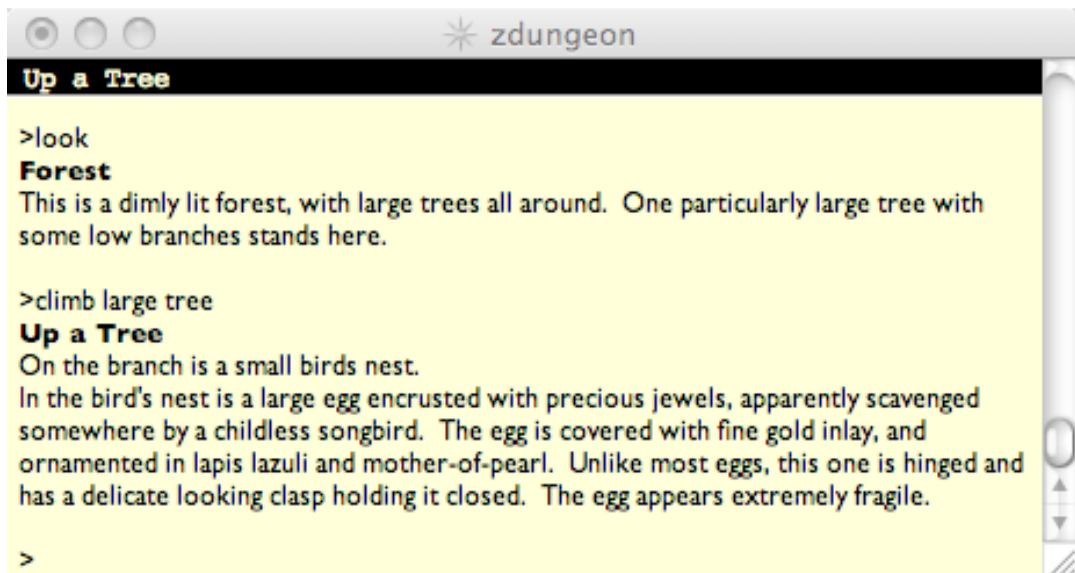
Z version of Dungeon. Originally created by Tim Anderson et al 1977.

Standing west of the house, you can enter through a sliding glass door which reveals a small area that has a few fabric covered chairs, an old couch, and a dining area consisting of a hardwood table and chairs over a rug. Stairs line the back wall of the room that lead up to two bedrooms and a slanted ceiling, the kind with bare rafters and aluminum roof, that on rainy summer nights would pound with each drop as if kids were banging trashcan lids together. On many occasions, the fog would hang heavy over the reservoir so that no stars helped light the area. Then when you entered the house, and especially the upstairs area, feelings of creepiness pervaded the rooms. What malicious creatures were waiting in the corner, had been waiting all winter, to spring upon unsuspecting fisherman returning from a long day on the water? The cabin itself was rumored to have built by a one-handed carpenter. Certainly there were some secrets the small dwelling held that had yet to be found. Perhaps a secret entrance from the pantry that led to a passageway behind the fireplace? Or more likely, sliding the rug from its safe position under the table would reveal a hidden trap door, that once opened would lead to a vast series of caverns and rooms in which untold amounts of trophies could be garnered for display on the mantle above the fireplace.
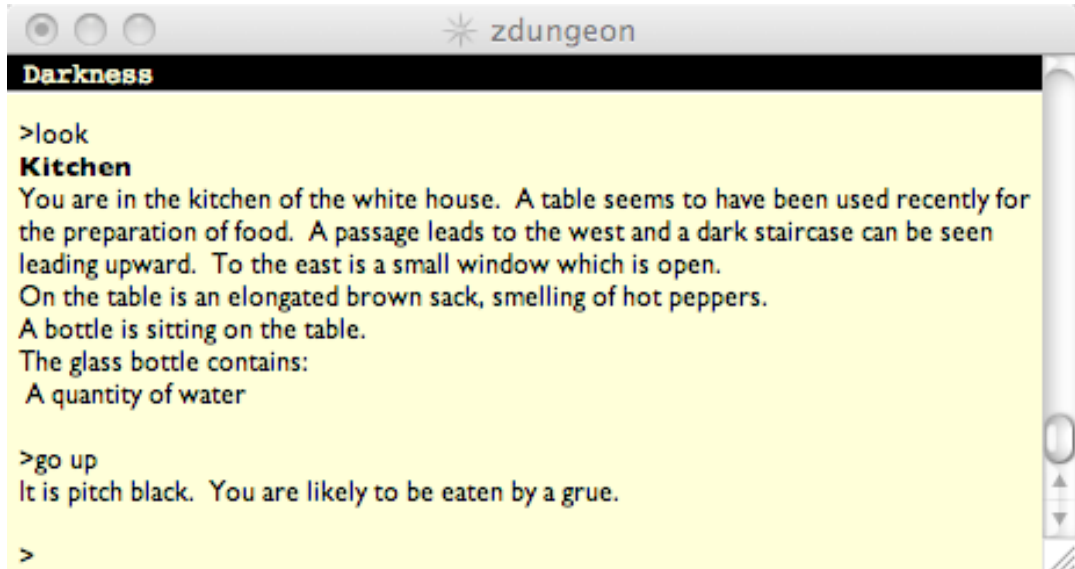
Z version of Dungeon. Originally created by Tim Anderson et al 1977.

Act 2: The Appeal of Adventure Interactive Fiction

Zork was not the first interactive fiction computer game, nor was it likely the best seller for its original company, Infocom. Many game designers would cite other adventure games of the era as being more compelling, more clever, better written or more lucrative. However, few would argue that *Zork* and its subsequent series of sequels had more influence on the collective imaginations of gamers in the early 1980s. The phrase, "You are likely to be eaten by a grue," certainly has a special place in all of computer gaming lore. I first played the game on a used Macintosh (original), when I borrowed a paint program from a friend and the 3.5 inch floppy was in the same travel box. Like many others who were new (or mostly unfamiliar) with the genre of interactive fiction, the opening screen leaves quite a bit to be discovered. *You are standing next to a mailbox, a house lies west of you....* A cursor is blinking on the screen. What am I supposed to do now?

As a child who was frustrated with school activities that didn't offer full sets of instruction, I was incensed. I was used to playing full console arcade games or an Atari 2600, with "shoot or be killed," and "run or they'll catch you" kinds of games. This game expects me to do all of the work! Yet there was something different about it too. I had the full collection of Choose-Your-Own-Adventure books. I ordered all the spin-off series of books that allowed the reader to make decisions, go to the

specific pages to see what would become of that decision, and feel as if I had some control of the outcome of the story. First, the action didn't happen unless I initiated it. I could sit there as long as I wanted and nothing happened unless I made a move. This kind of action-reaction was something unique to my gaming experience, and much like a branching-story kind of activity, empowered me. In many ways, it encouraged me to *think* between moves, like in chess, and presented me with what seemed like an open selection of choices, like in backgammon. It encouraged me to *reflect* on what it was I was doing, and what I had done before. Typing commands into *Zork* and scoring points encouraged me to continue to pursue activity that was rewarding. Besides collecting treasures, I felt at home with the genre, and very likely spent upward of triple-digit hours playing it. *Zork,* in my estimation, was a perfect combination of game play and adventure reading that allowed me the opportunity to fail and still finish the story in the way I wanted it to end. In essence, I was in control of the story.[2]

Interactive fiction, unlike many gaming genres, can allow for successful failure. Sure, you could die in *Zork* and have to begin again. More than once the Troll had my number, I carried the torch into the "gas room," or the minotaur took me out. But these opportunities for an unwelcome and unexpected demise were few and far between. Instead, *Zork* like most classic adventure games, chose to offer the player clever puzzles or intricate maneuvering in order to progress. Some of the best written challenges were ones that offered contextual clues as to how to solve them. When the player discovers the tube full of viscous material with the other tools near the dam lobby, one first wonders if this is the substance that can help turn the bolt to open the sluice gates. Attempting to apply the viscous substance reveals clues to its actual nature: it's sticky and *glue*-like. Hmmm,…perhaps something will be in need of repair. Perhaps a pile of plastic near the water's edge? More complicated kinds of gameplay require even more intricate solutions. Finding inventory items that have to be used together to solve a puzzle is especially satisfying. Who can forget the process of getting the Babel fish into your ear in *Hitchhiker's Guide to the Galaxy*? Most importantly, having the opportunity to try different solutions without necessarily dire consequences offers the gamer multiple opportunities to be vindicated and satisfied with their experience. In essence, this is how *Zork*, and other adventure interactive fiction games, let the reader finish the story. Yes, *Zork* has a definite beginning and ending, but a player can finish the game often without completing everything possible within the game sphere. Because the action is dictated by the player, and not pre-scripted, players often finish without gaining all of the points possible. Players can make progress, solving different puzzles at different times, all leading toward a predictable finish, but each and every completed game is almost assuredly played-out in a different way. In this sense, adventure interactive fiction set the table for the larger open space realms, from Zelda to World of Warcraft.[3]

Of course, perhaps my biggest connection to *Zork* was the elaborate environments it built in my head. From my experiences in my childhood cabin, reading *Zork* was a perfect extension of my own explorations of a wooded cabin in rural Idaho (see ACT 1). I related every scene, every "room" in *Zork* as the natural extension of my own world, with my own sense of what things looked like. People have asked me if I think the digital world will replace books. Well, the traditional sense of what books "are" may eventually be changed to a more lasting, more eternal form of media, but the experience of *reading* will not. As the world of digital games and computer activity continues to pervade the culture of young adults, literature remains as popular as ever. This popularity is in part due to the pleasure one receives from imagining what things look like without having them presented to you. For those who have ever uttered the statement: "The movie was good but the book was better," think about the characters and settings of that book. Do you remember what you *thought* the main character looked like? Or has that character's face, body, and clothing been replaced with the movie's version of that character? I resisted the movies based on the *Harry Potter* series by J. K. Rowling simply because I want my mental versions of Harry, Hermione, Hogwarts and Diagon Alley to persevere.

So, some of what makes literature great is also what makes text-based interactive fiction remain popular. Quite a large contingent of people keep the genre alive. Communities encourage and reward the best creations in interactive fiction each year (e.g., XYZZY awards, IFComp awards, Adult Interactive Fiction awards). An IF archive remains active, as does the Society for the Preservation of Adventure Gaming (SPAG) which provides updates and reviews of new IF games. Interest in IF has been drawn from independent documentary filmmaker Jason Scott whose movie, *Get Lamp*, is due out in early 2009 (Scott, 2008). The title of the film is yet another homage to games like *Zork*, the key element to lighting areas of the underground empire and useful for avoiding the evil grues. Interactive fiction has seen increased use in schools and for independent learning activity as well. Dozens of examples of interactive fiction for learning exist within curriculums from grade school through college (Short, 2008). Its educational use is especially exciting— the programs to build it are cheap or free. The programs are small, can easily be downloaded or sent via email, and virus-free. The interaction can be group or single-student driven, involves reading and problem-solving, and can be easily tracked for assessment purposes.

Interactive fiction, and *Zork* in particular, is great for these reasons and many others. However, what most IF does not easily allow nor encourage within normal gameplay is the social networking between the players of the game. Researched in many gaming situations, social networking is a major contributor to the motivation behind many popular commercial games, including MMORPGs (e.g., Bixler, 2005; Paras, & Bizzocchi, 2005, Steinkuehler, 2007). The social factor helps players behave as

teams, helps players exchange information with each other about gameplay. and helps (or hinders) the progression within gaming realms. In-gaming communication helps support the community that plays it, whether it be scoring, collaboration, the collection of achievements or virtual object elements, or just to "chat" about off-gaming topics. Therefore, a natural progression of a *Zork* game into the social networking sphere would be compelling and theoretically draw thousands if not millions of players. To me, this natural extension manifests itself in a game called "*Kingdom of Loathing*" (*KoL*).

Act 3: Adventure Gaming into the Social Sphere

KoL launched in early 2003, in part as a tongue-in-cheek response to traditional online and offline adventure games of the era, which were mostly comprised of fantasy-role playing kinds of gameplay. Zack "Jick" Johnson, creator of *KoL*, believed most role-playing fantasy games took themselves too seriously (Coldfront, L.L.C., 2008b):

> *Kingdom of Loathing is an amalgamation of all that is clever and funny in a variety of current and past online and real-life RPGs, text adventures, puzzle games, and first-person shooters, sprinkled with a healthy dose of pop culture. Jick has said 'Legend of the Red Dragon, which is an old BBS door game, basically is Kingdom of Loathing (obviously KoL is a bigger and a lot more complicated).'* [4]

KoL is essentially a RPG played through an Internet browser. A player spends turns in the game in a currency called "adventures" earned each day, and uses those adventures wandering throughout a black-and-white kingdom of stick-figure drawings and droll descriptions of map locations, other non-playing characters, and of course, monsters. The adventures can be used a variety of ways, but most often are spent to battle a vast variety of cleverly written opponents to gain player statistics (much like points), and collect item drops (in categories of weapons, food and drink, clothing, and other miscellaneous merchandise). The adventures align themselves with completing "quests" put forth by a number of different sources within the game, but most often by the "Council of Loathing" in the heart of Seaside Town. Solving the Council quests will advance the players throughout the game, eventually resulting

in the player defeating the ultimate boss creature. Players might spend hours every day adventuring in *KoL*, however, I (being a casual player) normally log in 2 or 3 times a week and have done so for the past year.

In many ways, *KoL* is a logical extension of traditional interactive fiction. The adventurer spends its "adventures" in much the same way one takes turns within interactive fiction. The player is awarded with more adventures during gameplay in a number of ways, most commonly through the acquisition of food and drink components and then "crafting" more elaborate forms of treats. *KoL* is primarily supported through excellent writing and wit, in much the same way interactive fiction is solely supported through the written word. Adventurers in *KoL* encounter battles with sabre-toothed limes. Defeating a furry monster with large teeth called a gnauga can result in the acquisition of gnauga hide. (Certain classes of players can then craft armor and weapons made from this fantastic substance.) Most of the adventures and items in the game reference popular culture, whether it be films, music or other computer games, catering to an audience in their mid-30s or even early 40s, that is perhaps older than the majority of today's gamers. The absence of elaborate 3D graphics is notable, yet actually provides a welcoming absence to the trend of most RPG experiences. Here, *KoL* relies on engaging the player through its writing and storytelling. After playing for a while, the simple drawings become endearing. It's not clear what the simple, stick-figure graphics add to the experience, but it's something delightfully "enough" for the player, much the way smaller portions of good food are more satisfying than the all-you-can-eat buffet. For the kind of game *KoL* is, and aspires to be, any other presentation of its environment would be distracting.

In a recent email conversation, Jick and original co-developer, content creator, humorist and writer Joshua "Mr. Skullhead" Nite elaborated on a number of connections between *Zork*, interactive fiction, and *Kingdom of Loathing*.

What were your influences from Zork, or interactive fiction in general, in first creating KoL?

> **Jick:** *I got into computer games early enough that my first handful of experiences with computer games were IF. Two in particular, Raaka-Tu and Madness and the Minotaur, came with the first computer I had, a TRS-80 Color Computer II that my dad bought second-hand from a friend of his on (I think) my seventh Christmas.*
>
> *I didn't play any of the Infocom games until quite a bit later, Zork especially--it was always a little too hard for me. I liked Wishbringer a lot (Brian Moriarty is, to this day, probably my favorite game designer). Because it was structured such that you could see a lot of it without being really good*

at puzzles.

If you consider graphical adventures to be the logical extension of IF, then it was even more formative for me as a genre -- the Sierra and Lucasarts games were a constant for me. LOOM, especially. It's funny--while KoL has a lot of writing, it doesn't really have a lot of story, which I think is the primary thing I liked about Wishbringer and LOOM.

Mr. Skullhead: *I think Zack (Jick) initially thought of KoL as not-particularly-interactive fiction. In the beginning, the content was the key--he thought of it as a story that you played through. There weren't many elements of choice in it (the initial game was awfully light on mechanics, as they were there to serve a secondary function to the funny text). As the game grew, it became more interactive. Both of us are big fans of text adventure games, but we saw Kingdom of Loathing as more of a Legend of the Red Dragon kind of role-playing game rather than interactive fiction.*

One of the direct homages to *Zork* that exists within the *Kingdom of Loathing* is a quest called the Strange Leaflet Quest. Upon acquiring a piece of paper deemed the aforementioned leaflet and "using" it, the player is presented with the familiar interactive fiction interface, with environment description followed by a space for the player to type commands directly into the game. The strange leaflet is one of the first objects encountered in *Zork*, describing the title and brief credits, found in the mailbox west of the house. In this way, *KoL* departs from its normal turn-taking adventure format and transports the player into an IF game *within* the normal *KoL* gameplay.

What were your thoughts behind building the Strange Leaflet Quest?

Jick: *I thought it'd be funny, a nice homage to the games of yore, and an interesting programming challenge. The version of it I wrote and designed was fairly simplistic compared to what it is now--when I hired Riff and Xeno, one of the first things they did as a writer and programmer, respectively, was to flesh out the Leaflet a lot.*

Mr. Skullhead: *"Riff and Zack were the main people who designed the Strange Leaflet Quest. That was one project I wasn't involved in, so I got to play through it like a regular player. I thought it was a clever way to put one of the games we loved inside of our game as a playable game. Now there just has to be some way to play pong inside the leaflet, and we'll be done."*

Besides the Strange Leaflet Quest, how does interactive fiction continue to influence the way you have evolved KoL?

> **Jick:** *Many of the members of Asymmetric's staff follow the annual IF competitions -- so we're definitely still thinking about IF when we're thinking about design. As far as any actual principles that make the leap from that style of game to ours, I dunno.*

> **Mr. Skullhead:** *With the big narrative events in KoL -- that's stuff that I have a lot to do with, events like the Crimbo holiday content -- it's very much written like a choose-your-own adventure book. I write the story first and the story drives the gameplay elements. I look to interactive fiction like Zork and choose-your-own adventure books to see how you can allow the player to make meaningful choices while still keeping control of the narrative.*

Some of the noted references to Zork have been the house, the mailbox, the leaflet, the sword, the references to Frobozz, the grue, the pile of 69,105 leaves, and the jeweled egg that you can't open (Coldfront, L.L.C., 2008a), are there other ways that Zork has impressed the KoL universe?

> **Jick:** *The sense of whimsy that Infocom's games had is obviously crucial to the kind of stuff we're doing now. To some extent, I get the sense that they were designing those games for themselves, rather than for the public, and I think the games were far more compelling for it. As far as specific references, I'm sure there are some I've forgotten about... :)*

An additional commonality between *Zork* and *KoL* is player identity and the single-player perspective. In *Zork* you encounter very few other people or creatures, the idea is very prevalent that you are alone and it is up to you to solve anything and everything that's happening in the environment. Consequently, it can make for an extremely lonely kind of experience. In *Zork*, there is no help from companions in the environments, and achieving one's goals also means to operate in a lonely manner. I find that keeping as many items in my inventory helped suppress those feelings of loneliness, in at least I had "my stuff" to travel around with. At one point in *Zork* the player has to drop nearly everything to fit through a passage with a tight space. It's a difficult decision to make, what small things to keep and what to leave behind. Even in a description within *Zork* of someone else "being there." It's a lonesome experience that the only person that might be there is working against you.

— Cellar —

You are in a dark and damp cellar with a narrow passageway leading east, and a crawlway to the south. On the west is the bottom of a steep metal ramp which is unclimbable.

The trap door crashes shut, and you hear someone barring it. Your sword is glowing with a faint blue glow.

It's a similar experience aligned with the game *Portal*, in that the only other companions in the environment are those working against you, further compounded with the infamous and lovable "companion cube." The companion cube is enticingly offered to the player and helpful (although, inanimate), only to be ripped from your possession at the conclusion of the level. The yearning for companionship in game spaces is quite effectively used against the players in this way. *KoL* and successful games like *Portal* also share interesting extensions of elements of *Zork*. Players are and must be aware of time and direction in order to be successful, yet the player is in control of their actions at all times, rather than having the game dictate time and movement required by the player. This element is in contrast to games that have timed levels, or creatures and functions that impose actions (often evasive) in order for the player to survive. Part of *Portal*'s genius, documented in many reports (e.g., Davidson, 2008), is the way the progression of the game actually helps teach the player *how* to play the game better, and use more complex strategies and player attributes. Similarly, *KoL* offers progression of quests only after the player has earned enough experience to be successful from previous "adventuring" in the game. Moving past personal experience levels, dropping information and hints at how to solve certain puzzles within quests, will unlock new quests but only when the player has proved herself worthy of advancement. In this way, the offering of more difficult quests and more intricate puzzles is "saved" until the player has learned enough to be ready for that portion of the game, yet they are presented within new and challenging material

Act 4: Customizing and Sustainability

Many models of video game motivation currently exist, and even more are emerging in the literature from across fields and modes of inquiry (Keller, 1988, 1993; Malone, 1980; Malone & Lepper, 1987; Shelton 2007). The majority of these models share common elements traced to most successful gaming activities through categories aligned with intrinsic and extrinsic motivation. For example, the CUPS model describes factors relating to *Challenge*—satisfactions gained through the completion of tasks, *Uncertainty*—practices that take advantage of players' curiosity and willingness to risk, *Proclivity*—the notion that the subject matter of the activity is enjoyable for the participant, and *Social Interaction*—the relationships between and fostered through

gameplay activity. Looking at *Zork*, players experience *challenge* by figuring out how the dam works or opening the jewel-encrusted egg. Players experience *uncertainty* by attacking the Troll and being rewarded through points, and players experience *proclivity* by hunting for and acquiring expensive and beautiful treasure.

My experiences in *KoL* also include each of these motivational factors. One of the most meaningful events happened in my first week of gameplay, when I came upon a description after consuming an adventure-gaining drink called a "Tequila with Training Wheels." The description quoted a lyric from the song *Nada* by The Refreshments, one of my favorite musical groups. While for most players, this kind of reference might have drifted by without notice, to me this was a meaningful sign of something personal. *KoL* is riddled with references like the *Nada* example, which endears the game to players like me, who feel motivated and satisfied with personal in-game experiences. As it turns out, to understand and be on the "in" of an "inside" reference is an extremely satisfying gameplay result.

As previously mentioned, *Zork* has many of the common elements found to be

important for sustainable playership. However, what is less supported is the *social interaction* that many of today's technology offers. When *Zork* was released in the late 1970s, there were few if any networked systems that would support the rich, massively multiplayer interactions the Internet can foster. Contrast that with the highly social interplay involved in the *KoL* universe that relies on the community of its players in so many ways. For example, within the game itself, there is a flea market where players can sell items directly to other players for the in-game currency of "meat." There is a mall that players can purchase to sell many items they have extra in their inventories. The currency system of meat-to-items being sold is most often self-regulated and behaves much like any capitalist economic structure that bends to properties of supply and demand. Some content is written especially for collaborative play, such as the most recent rollout of Crimbo 2008 (*KoL* version of Christmas) where the narrative outcome of holiday events was decided by the collective battles from the community of players. *KoL* supports an option for pvp, or player-versus-player kinds of activity, where *KoL* members that choose to enter into battle with other players (rather than just the in-game quest NPC battles), the winner of which has an opportunity to loot an item of interest from the losing player. There is even an option to customize your own stick figure avatar into something unique. Of course, that kind of purchase takes a lot of meat.

Besides the in-game social nature of *KoL*, there also exists a rich amount of community activity outside of the game. Many in-game sales are brokered through online auction sites such as eBay. The chatting feature, while actually part of the *KoL* browser system, offers players of specific clans or game special interest groups to communicate and share gameplay questions and answers. Many players enter these chat places and discuss non-game related topics as well. An extremely deep resource for *KoL* players exists in the *KoL* wiki supported by Coldfront (Coldfront, L.L.C., 2008a). This system not only offers information about the game origins and overarching storyline and game strategies, it also lists each location and item within the game on its own page that describes options, outcomes, and notes on such things as the possible origins of the pop culture references. There are pages that exist where more information is needed and encourages "spading" of information to provide the wiki with additional content. Players have used the wiki to collectively solve many of the puzzles within *KoL*. Of course, Jick and company have some secrets that have not yet been discovered, such as the process by which precious few ultra-rare adventures are encountered. The wiki also supports speculation on how these secrets might be accomplished.

I can say that much like good interactive fiction, it's the writing and humor that keeps me coming back, including the personal in-jokes, like I mentioned with the Nada song reference. The KoL wiki seems like a community built around pulling these references (with a lot of guessing). What is your experience with the wiki?

How do you feel about that community?

> **Mr. Skullhead:** *I find the KoL Wiki amazing, myself, and it provides a valuable resource to us as we develop the game. It's useful to see how people are using the content we've created, so we can see if what we think people will do with a given update is what they actually do. I also use it for research -- when I wrote the Crimbo history for the last Crimbo holiday, we didn't have any of that text lying around any more, so I had to check the Wiki. They're kind of the social memory of KoL, and that's awesome.*
>
> *I also am an egomaniac, so I love checking the wiki after new content comes up to see if people find all of the pop culture references. I do agree that KoL is kind of a treasure hunt for those references, and I love seeing people catch even the most obscure things I throw in. It really builds my sense of camaraderie with the community.*

So, we know that catering to certain styles of gameplay, or building a game that supports players that have different motivations for returning and sustaining their gameplay, is crucial in creating a strong community of players. These motivations are evident in the different features and types of activity available in the *KoL* universe.

In considering what kinds of players there are and what activities are needed to support them, we can reference the fascinating article offered by Bartle (1996) which categorizes the folks in MUDs (multi-user dungeons/domains) as exhibiting traits of achievers, explorers, socializers and killers. Further, he offers the card suits as an easy way of remembering the overt characteristics of these categories: "achievers are Diamonds (they're always seeking treasure); explorers are Spades (they dig around for information); socializers are Hearts (they empathize with other players); killers are Clubs (they hit people with them)" (Bartle, 1996). He goes on to further describe "the inter-relationship of two dimensions of playing style: action versus interaction, and world-oriented versus player-oriented." MUDs being the precursor to today's multiplayer RPGs, we can further abstract these traits specifically to *KoL*. As offered on the Coldfront *KoL* wiki:

> **…they are terms that describe your general style of play**
> **and the manner in which you feel rewarded by the game:**
>
> **Diamonds** = Players who want to be the biggest, strongest, fastest (the folks that want to be on the top of the leaderboards)
>
> **Spades** = Players who want to see the whole game, to explore everywhere (who want to get every trophy, get every tattoo, see every location, complete every quest)
>
> **Hearts** = Players who want to socialize, meet others, do good deeds (and end up often in chat/forums)
>
> **Clubs** = Players who want to triumph over other players (PvPers) The categories are not mutually exclusive - people often exhibit various amounts of the traits in each category. (Coldfront, L.L.C., 2008a)

Extended from Bartle's test, a well-known clan in *KoL* called "The Rye" made a version of the Bartle test specifically aimed at its players (therye.org, n.d.). An automatically generated report of the results offers something along the lines:

Your results are as follows:

Heart: 30.56%
Diamond: 16.67%
Spade: 45.83%
Club: 6.94%

Your original scores were as follows:

Heart: 110
Diamond: 60
Spade: 165
Club: 25

One could speculate that similar kinds of tests, verified through statistics for both reliability and validity, could say something significant about what kinds of audiences prefer different kinds of activities within computer games. Further, educational technologists could then customize gameplay activities based on the types of gameplay preferred by specific students. If our current trend of game customization toward specific kinds of players is to be fostered, one might consider the way *KoL* offers a variety of activities within its domain, to sustain membership and engage players in the most effective of ways.

KoL offers a unique method to let players "win" the game, yet keep returning to play additional times; it's called *ascension*. Upon completion of all the *KoL* quests, players get the option to ascend, restarting the game from the beginning, and choosing to be a different player with different traits and playing the same game with additional, modified content.

> *Ascension exists to keep the game interesting for players once they've completed all the quests and gotten all the trophies and acquired all the items and collected all the meat and have basically run out of other things to do. There is new content available only to those who have ascended, and to see the whole game you will have to ascend at least 3 times, if not more. There will be new leaderboards related to ascension that will give more players the chance to see their names in lights, as opposed to just the few that started playing the game in 2003. (Coldfront, L.L.C., 2008b)*

Why do you think people keep coming back to KoL, and returning to play? What is the biggest motivation for KoL players?

> **Mr. Skullhead:** *I think there are several, and no one is more important than the others. Some people keep playing to optimize their gameplay and get on leaderboards, which works because KoL does have a pretty deep strategical underpinning. Others keep playing because we continuously update -- others stop playing for a while and check back now and then to see what's new. Others come for the game and stay for the community -- we have plenty of folks who don't really play turns anymore, but they still log on every day to chat. The nice thing is, those people usually get into new content, too, so we can keep them excited about the game.*

> *I think the constant updating, constant refining, and close communication with the player base are the things that have directly led to our continued success.*

> **Jick:** *I think people initially get hooked on the 'always leave 'em wanting more' aspect of the limited-turns model, but the people who stick around in the long term do so because of the community. It's a good batch of people.*

Finally, I would be remiss without mentioning how much I admire *KoL*'s unique business model. *KoL* is free for all players who have Internet access: just create a username and password and you have all of the game available to you. They do not have any advertisements or product placements within the game to earn money. Instead, they encourage players to "donate" to the game makers and server hosters, a group that by all accounts is only a small handful of people. Instead of earning money through game sales or advertising, donations are encouraged within the game by offering an in-game reward called a "Mr. Accessory" that is added to the inventory of the gamer's account. Referred to as "Mr. A's," they can then be traded or sold within the game for some limited (and therefore often highly sought after) items. Players may individually donate any amount they wish, and their abilities within the game are improved, but a player who doesn't donate anything might just as well succeed. With many Mr. A's, it is easier to produce many of the rewarded leaderboard efforts in the game, such as quick ascensions and pvp prowess, so the most serious of gamers might end up donating much more than what they would spend on a COTS game. How much do the creators of *KoL* earn with this technique? One measure for answering this question is to consider the number of unique accounts that have logged in during a given time period. Generally, the numbers are: 1,000 players at any given instant, 30,000 per day, 60,000 per week, and 100,000 per month. Approximately 1,250 new accounts are being created every day, but the number of players that log in per day/week/month has remained relatively constant. (Coldfront, L.L.C., 2008b). Clearly, this method of earning is dependent on keeping existing gamers active, and attracting new gamers as well. This places a lot of pressure on the development team to keep improving the game, creating new actions and activities, fixing any bugs that emerge, and catering to its constituency. Because of the success of this model so far, it is equally as clear that the development team uses its talents effectively, and understands the motivations embedded within Hearts, Clubs, Spades and Diamonds that keep players engaged.

Grue

Grue	**Familiar number: 11** **View in-game:** 1 2 3 4 5 6 7 8

In darkness is strength
Thrill me, chill me, fulfill me
Creature of the night.

Ability: Attacks opponent, depending on amount of moonlight, and does spooky damage.

Hatchling: grue egg

Familiar-Specific Equipment: moonglasses

The Cake-Shaped Arena: Strength: Hide and Seek, Weakness: Scavenger Hunt

Combat Messages   [edit]

- Regular messages:
     <name> attempts to bite it, but misses.
     <name> bites it for X damage.
- When there is too much moonlight:
     <name> cowers, shielding its eyes against the bright light.
- With lucky Tam O'Shanter equipped:
     <name> latches its teeth onto your slain foe's wallet and spits out some extra meat.
- With miniature gravy-covered maypole equipped:
     You think you see <name> dancing around the maypole, but it's too dark to really tell.
- With wax lips equipped:
     A gleam of white (and bright red) in the dark indicate that <name> is smiling with his wax lips.

It has taken me a long time to finally realize that the drawing of the Grue is actually darkness surrounding grue eyes. Instead, I always thought it looked like a small, fuzzy creature much like a Gnauga without teeth. Was that your intention, or am I completely off?

> **Jick:** *It was always meant to be eyes in darkness, but I think EVERYBODY who looks at it sees it as some kind of fuzzball.*

Well, since everyone thought it looked like a fuzzball, I added my discovery to the *KoL* wiki and contributed back the gaming community. Perhaps I am becoming a higher percentage Heart than I used to be.

———————————

[1] The screen captures are from a Z version of Dungeon, an early work that would become Zork (Anderson et. al, 1978-1979), and viewed on a Macintosh in the Zoom interpreter v1.0.3 by Andrew Hunter.

[2] There are many excellent examples of Interactive Fiction, the style and creation of the genre, research and archives of the games, stories, and research regarding it. I recommend Nick Montfort's "Twisty Little Passages" (Montfort, 2003a) and exploring Emily Short's Internet resources for overviews (http://emshort.wordpress.com/.). A short list of other research-related materials includes: (Desilets, 1999) (Duncan & Shelton, 2006) (Duncan, et. al ,2006) (Granade, 2005) (Howell & Yellowlees, 1990) (Ladd, 2006) (Montfort, 2003b) (Nelson & Knight, 2003) (Shelton, 2005) (Shelton, Neville & McInnis, 2008) (Tillman, 1997). The IF Archive is an ongoing collection of IF resources: http://ifarchive.org/ ; and the Society for the Promotion of Adventure Games (SPAG) has many items of interest: http://www.sparkynet.com/spag/ .

[3] In early 2009, a group within Activision Publishing, Inc. (Jolt Online Gaming) has breathed new life into the series, promising a forthcoming RPG web browser version of the Great Underground Empire called Legends of Zork. See http://www.legendsofzork.com/

[4] The screen captures are from various places within the Kingdom of Loathing are courtesy of Asymmetric Publications, LLC. The screen capture from the Coldfront KoL wiki is courtesy of Coldfront LLC.

Acknowledgements

> *In a way, the game fetishizes objects, according them greater importance than actual witness testimony.*

MIA CONSALVO

PERSISTENCE MEETS PERFORMANCE: PHOENIX WRIGHT, ACE ATTORNEY

The year is 2016, and you are Phoenix Wright, newbie defense attorney, working for famed lawyer Mia Fey. The justice system you work under schedules trials immediately after apprehending suspects, and allows trials to run for only three days — after that, if the Defense Attorney (DA) has not proven a client innocent, there is an automatic conviction. To prove a client's innocence, the DA must find the actual killer and prove their motive. The player can investigate crime scenes for evidence and interview witnesses to prepare for trial. During trial, success demands skilful interrogation of individuals, using evidence and reasoning skills to find contradictions in their testimonies, wear them down, and find the truth. Text-heavy and featuring a limited 2D, static world, *Phoenix Wright* nonetheless is challenging and enjoyable — offering players a game that rewards close readings, curiosity, persistence and style.

Phoenix Wright: Ace Attorney began life as the 2001 Nintendo GBA game *Gyakuten Saiban,* released only in Japan. Four years later, Capcom ported the title to the DS platform, and re-released it with a new chapter added in order to take advantage of the DS's touch screen. The newer version, known in Japan as *Gyakuten Saiban: Yomigaeru Gyakuten*, literally translates as "Turnabout trial: Revived Turnabout." The game was released in North America in late 2005, Europe in 2006, and Australia in 2007. The game can be described as a combination murder mystery, adventure game, and courtroom drama. Its release in North America was met with unexpectedly high demand, going on to sell more than 100,000 units (Phoenix Wright: Ace Attorney, 2008). Two sequels have been released (*Justice for All; Trials and Tribulations*), and the series continues with a new main character — Apollo Justice — in the 2008 release of *Apollo Justice: Ace Attorney.* Extremely well localized, the game has become something of a cult hit with fans, and it appears that Capcom will continue the series for the near future.[1]

Phoenix Wright: Ace Attorney consists of five chapters or cases, with the first four playing with the 'turnabout' of the original title. Named "The First Turnabout," "Turnabout Sisters," "Turnabout Samurai," "Turnabout Goodbyes," and "Rise from the Ashes," each episode presents a new case for Phoenix to solve as well as a continuing narrative that develops around the recurring characters of Phoenix, Mia Fey, her sister Maya, and a few others. But rather than move in a linear fashion through this game of progression (Juul, 2005), this paper concentrates on two cases from the fiction of the world, exploring how elements of the game including the Court Record, the interaction options given to the play, and the localization of the game for western audiences interact with the fiction, and how that combination yields a reading of the game that highlights performance, thoroughness, and persistence.[2]

The first turnabout: Localization

The *Phoenix Wright* games were originally created in Japan for a Japanese audience, although the company likely had plans to sell them elsewhere, since the original game included both Japanese and English versions of the text. Players are allowed to choose which language to use when booting up the game, and because the Nintendo DS is not region locked, English-speaking players outside of Japan likely could easily find the game through an importer, play it, and then spread word about it via the Internet.

Furthermore, the level of localization found in the "Japanese-only" product on the English setting strongly suggests a more global future than just Japanese gamers who wished to practice their language skills. Much more work goes into localizing a game than simple language translation. Edwards calls the process "culturalization" rather than localization, in order to convey a sense of how complex the process can be (2008). And culturalization plays a critical role in *Phoenix Wright*, as the game is text heavy, relying on numerous puns, name-based gags, pop culture references, and the like. While the legal system itself is a fiction, the game relies on wit and exacting uses of language in both dialogue and writing to succeed. Likewise, the player herself must engage with the language of the game as a primary means of gameplay — through interviewing witnesses and defendants, in cross-examinations, and in the reading of pertinent evidence. Thus, getting the content right is something *Wright* must do (pun intended).

As I've written elsewhere about localization, game developers must take into account not only translation of dialogue, but also elements of the game such as graphics, holiday references and celebrations, cultural norms for behavior, idioms and slang (2006). Further, localization is *not* about strict translation, but about altering cultural expressions that might interfere with a game player's understanding or enjoyment

of a game. However, just as the translation isn't exact, neither is localized content a true picture of another country or culture, but more usually a pastiche of symbols, icons, and broad references (2006).

And *Phoenix Wright* is much more than an action or fighting game, with only basic dialogue or directions to rework. The game's localization team, luckily quite candid about their process, worked tirelessly to re-frame a game deeply entrenched in Japanese popular culture into one that North American audiences would find amusing, rather than confusing. Most obviously, the title of the game itself changed — from a focus on the trials (Turnabout Trial) to the central character- Phoenix Wright himself. And Wright's name is also not translated but changed, to allow for his colleagues and friends to play with the meaning of his name in the English as well as in the Japanese versions.

In Japanese, Phoenix Wright starts out with the name Ryūichi Naruhodō (成歩堂龍一). The name "Naruhodo" can be translated as "I see" and is a phrase often inserted in conversation to signal attentiveness or agreement "hai… naruhodo…" ("yes… I see…"). The Japanese version of the game can thus use the character's name to play with the inexperience of the main character, a brand new defense attorney, who may *not* see (or understand) what is going on. Alternately other characters can point to Phoenix's inexperience ("Don't you see?"), echoing the player's potential confusion about how to proceed in a particular case. Naming the English version of the character "Mr. I See" would obviously have been inappropriate, if not ridiculous, and thus the localization team endeavored to give the character a name that would also allow for different types of wordplay within the unfolding narrative, as well as simple puns, such as "Right, Wright?" or "I believe you may be wrong, Mr. Wright."

The team went a step further with Wright's first name, going "back and forth with the translator and the R&D team" in order to decide on "Phoenix," picked to signify the bird that eternally rises from the ashes, thus a character figuratively named to overcome defeat, to eternally struggle and eventually triumph (Ameba, 2008). The character also has a nickname — Nick — used by his close friends, which is more casual and not overtly marked in terms of ethnicity or race. Thus the name Phoenix Wright draws from ancient mythologies (including Egyptian, Phoenician and Greek) and employs a homophone in the English language to create a name that's versatile for various kinds of wordplay.

And the game is a constant play on language. This is an adventure game based on laws and courtrooms, heavy on oral testimony, cross-examinations, and textual and visual evidence. For example, the third episode in the game, "Turnabout Samurai," involves the alleged murder of one television actor by another — both of whom

star in a "tokusatsu" show, or a live action television drama that employs special effects, reminiscent style-wise of such shows as *Mighty Morphin' Power Rangers* (Phoenix Wright: Ace Attorney, 2008). The case revolves around defending the "Steel Samurai" (the interestingly named "Will Powers") from what you suspect is a frame-up, by investigating the studio lot where the show is filmed for evidence and crucial testimony from witnesses. Some evidence is found after talking with a young fan-boy ("Cody Hackins", a play on code hacking) who is obviously an otaku — a hardcore fan who is typically an avid collector, socially awkward, and a lover of techno-pop culture such as anime and videogames.

Cody's style of talking relies heavily on localized slang, such as when he remarks to Phoenix, "Man, how can one person be so lame?! If you were a superhero you'd be Lame-o-man!" Other characters in the case also employ slang, such as Sal Manella, the director of the show. The writers went even further with altering Sal's testimony, going not for more familiar spoken idioms, but playing on the written form of leet-speak for his speech patterns. Thus he claims as his profession "I make the Steel Samurai, n00b! ROFL!" Use of such terms as "n00b" and "ROFL" obviously would not work as well (if at all) if spoken. Thus allusions created by the localizers go beyond even spoken idioms, due to the textual rather than oral nature of testimony in the game.

However, the game does keep many fictitious Japanese references, possibly because it would have been extremely difficult to expunge all evidence of "foreign" content. The use of the Steel Samurai show is only one example of a reference that could easily be seen as Japanese in origin. Another might be in "Rise from the Ashes," where one eyewitness, Angel Starr, sells lunch boxes of rice and fish, similar to the bento boxes that are popular in Japan. Yet perhaps references to Japanese media and popular foods need no longer be erased, or even heavily modified. Recent interest in Japanese pop culture, such as manga, anime, and of course videogames, has been well documented (Allison, 2006; Napier, 2007). Furthermore, while most Japanese companies attempt through localization to erase the 'cultural odor' of their products (Iwabuchi, 2002), more recent hardcore fans seem intent on preserving as much of the local Japanese 'flavor' as possible (Honeywood, 2007). Thus leaving some of the "Japanese-ness" in the game might be as much of a draw as the game's skilful use of language.

The second turnabout: The interface

Four of the five cases included in *Phoenix Wright: Ace Attorney* take minimal advantage of the DS's touch screen and microphone, relying instead of a simple point and touch of the stylus to choose interaction options, and to advance

narratives. The fifth case, "Rise from the Ashes," was designed with the DS in mind and goes much further, allowing players to do such things as rotate and zoom in on evidence while examining it, assemble together broken objects, and dust items and scenes for fingerprints or blood. During all cases in the game, players can use the built-in microphone to shout "Objection," but the option to do the same via text is also available — making it a choice for the player of whether or not to vocalize interactions. Likewise, all testimonies are given as text, and only a few phrases are vocalized by actors — such as when prosecuting attorneys scream their own 'objections.'

The game also provides a fairly utilitarian interface that offers the player an array of options that spell out potential avenues for action. In considering what the interface actually privileges, it's important to point out that *movement* is not one of them. Similar to more traditional text-based adventure games, the player does not have an avatar to steer through space, nor even is she given options for steering herself closer to or further from game elements, other characters, or objects. Instead, the game gives her four basic commands as large buttons (when not in court) — Move, Examine, Talk, and Present. Pressing "move" gives the player another menu of locations that she can visit at that point in time. As she progresses through episodes, some new locations may open up, while others become irrelevant or disappear from view. She can always visit her office, and she can usually visit the Detention Center at the local jail (to interview her client, most often), the Police Department, and the crime scene, which often has multiple locations/scenes. Yet that movement is always immediate and unseen, with no avatar to steer, and no sense (unless given through dialogue) of the time involved in such travels, or relative distances.

In the context of the game that spatial distance is not necessary, and thus it disappears or collapses from the player's view. In distinction from worlds such as Azeroth in *World of Warcraft* and Middle Earth in *Lord of the Rings Online,* players are not promised an expansive world to explore, with many exciting and exotic locations. Rather, they are confined to a few, small locations, all of which must be viewed on a single DS screen. While some scenes allow the player to pan the view left and right, most are portrayed in a single screen, and most action involves characters that are static — while they may be active in arguing a case or examining a clue, their virtual bodies, if shown at all, may have a small sprite animation to keep them visually interesting, but they never move in and out of scenes on their own.

Perhaps the element of the interface most central to the game is a large arrow on the bottom touch screen, which advances dialogue and the game generally. Unremarkable in its own right, the arrow button is the central driver of action in the game, keeping the player active in moving the plot forward. Interestingly, the arrow almost always has only one direction — forward. The only time this changes

is during a cross-examination of a witness, when the player can move forward or backward between sections of testimony, to better judge what parts might be faulty, or require the presentation of evidence to expose a contradiction.

Given those limits, the game seems to be a fairly straightforward game of progression, as detailed by Juul (2005). While the screen with four options appears to offer players a choice of how to proceed (should I move to a different location and examine it, or talk with the person in front of me?), there are always a pre-determined number of activities that must be completed for the story to move forward and the game to unlock access to a succeeding section. Thus while not a game totally on rails, players cannot choose *not* to interview particular people, or examine certain locations, at least if they wish to progress within the game. The game's linearity stresses thoroughness, forcing players to ask every question as it becomes unlocked, and to use the cross-hairs to examine every nook and cranny of each location, to ensure all available clues and information are found. Those activities may not be difficult, instead usually being quite tedious, but the player must go through them to advance through the game, much as MMO players must engage with a grind in order to level their avatars (Consalvo, et al, 2008).

A majority of interface elements work to create a game that is largely menu driven. Players have choice — but choice that is strictly defined and controlled by the game's code. One can move or talk, but not sing or create. If I choose to talk with a witness, I have a list of questions to ask or topics to bring up, which might unlock further options, but they are always pre-defined. Asking questions in different orders yields no changes to how characters respond, or in the game's subsequent story. If during a cross-examination the judge asks me whether I wish to present crucial evidence, I can choose to do so or not, but if I choose the 'wrong' answer, I will either be re-directed back to the same question, or penalized for my choice, thus forcing me back again to the option, where I must 'decide' on the right answer. Thus, the game privileges a linear approach to gameplay, rather than offering the player opportunities for emergent choices or results. While this may seem a limitation, within the design of the game it works quite well — as Juul would argue, the fiction of the game helps to support those rules. In courtrooms, defense attorneys simply must not talk out of turn, or decide to shoot witnesses rather than question them. Likewise, the player is still given choices, and gameplay excitement and interest lies in piecing together inconsistencies and enjoying the wordplay in the game. So while a strict path is set out for the player, that path is consistent and promises its own set of pleasures.

The third turnabout: The Court Record

In any recent episode of *CSI,* viewers will find investigators pouring over crime scenes, collecting evidence that will undergo various sorts of testing — ballistics, fingerprint, DNA, and the like. The agents believe that to do so is crucial in putting together a case against a particular suspect (or in exonerating another), because people lie, but "evidence speaks for itself." Following in that tradition, *Phoenix Wright: Ace Attorney* allows the player to gather evidence by searching crime scenes, by interviewing suspects and witnesses, and through talking with sympathetic police officers such as Officer Dick Gumshoe (who isn't nearly as sexy as any of the *CSI* folks). In any case, real or fiction, evidence is critical. But in *Phoenix Wright*, evidence takes on especially interesting properties.

Consider some of the objects collected as evidence in the game's Court Record for the case "Turnabout Samurai:" Phoenix's ever present lawyer's badge, a letter of request, autopsy report, cardkey, photo, Samurai Spear, empty bottle, trailer key, memo, script, Mr. Monkey, Cody's camera, steak plate, and sleeping pill bottle. While some objects are standard and would seem self-evident for a crime investigation (autopsy report, a photo) others are specific to the case itself (Mr. Monkey, Samurai Spear). To play the game, the player must accumulate a variety of such objects, which can come about by diligent searching of crime scenes, or interacting with the correct individuals. Along the way, some artifacts' use value is exhausted (such as the letter of introduction, which the game discards from the Court Record once the player uses it correctly), while others maintain currency over the span of the entire case. It's the player's job to carefully examine evidence, to see if it offers important clues (such as a time of death or cause of death in an autopsy), or if simply the existence of the object is important, when for example a witness gives testimony during trial that a piece of evidence can contradict (such as a photograph of their actions).

Let's look at an example from this case to further clarify the role of evidence and the importance of objects to the game. At first glance, the Samurai Spear would seem to be a critical piece of evidence, as it was the murder weapon allegedly used by Will Powers to kill his victim, Jack Hammer. Yet, as a different piece of evidence — Cody's camera — helps to reveal, Cody witnessed the fight (which he believed was a run-through of a scene) and saw the Steel Samurai do something unbelievable — he lost the fight. Cody actually deleted the photo of the Samurai losing, but the presence of the digital camera, and the questioning of Cody by Phoenix, help to prove to the court that someone is trying to frame Will Powers for a murder, thus making the camera more important than the spear. Backing up a step, it's also key to know that another artifact from the Court Record was instrumental in getting Cody to talk to Phoenix in the first place — an "Ultra Rare Premium" collector's card for

the television show (The Steel Samurai, of course) which Cody coveted. Phoenix managed to 'bribe' Cody into talking to him by presenting him with the desired card, which he obtained from another witness, Penny Nichols, in exchange for giving her an "Ultra Rare" card to complete her own collection. Phoenix obtained the Ultra Rare card from Wendy Oldbag, one of the studio's security guards, who gave it to him as thanks for his giving her a cardkey to Studio One, which he found when examining the Staff Room at the studio. While most evidence doesn't travel such a circuitous path, this journey does indicate the value of objects in the game. Part of the game, then, is figuring out the role of objects and how they can best be 'spent' as currency within the game. Thus objects do seem to have both use value and exchange value in a very simplified sense. During investigations objects can allow for direct access to new locations, such as through keycards, or indirect access, such as through the trading discussed above. During trials, objects become important in a different way, as they function to 'set the record straight' and help explain what really happened in a particular case.

Similar to *CSI*, objects in Phoenix Wright 'speak for themselves,' albeit only if they are presented at the correct time during a witness's cross-examination. More accurately, they serve to demonstrate how a witness is lying, and thus not speaking correctly. Going back to Cody's camera, Phoenix must present it during the trial to goad Cody into admitting what he saw and did the day of the crime. But even when evidence is presented that correctly shows a contradiction in a witness's testimony, the witness is generally allowed to re-cant and re-state what they saw or did during the period under scrutiny.

Thus, Cody at first claims that he saw the Steel Samurai win his fight, but upon being pressed, claims he looked away at a crucial moment, to configure his new digital camera. Phoenix then presents Cody with his photo album, showing the pictures Cody has taken of every single Steel Samurai fight. Shown this evidence and with further prompting from Wright, Cody admits he did indeed witness the final fight, and took a photograph, but then erased it. The reason? The Steel Samurai had lost the fight — something unspeakable to the ultimate fan. But to reach that conclusion, Phoenix must repeatedly present evidence, and then press the witness for clarification. Objects are thus a currency for interactions — they help to reconstruct the past, and are a mediator of relationships between individuals in the cases.

The accumulation of objects is central to playing and winning the *Phoenix Wright* games. Objects are a reward for careful searching of scenes, and a prize for asking the right questions. In a way, the game fetishizes objects, according them greater importance than actual witness testimony. People, of course, can lie, while evidence presumably does not. It's curious that in the game, prosecutors are regularly depicted

as willing to go to any lengths to get a guilty verdict, including instructing witnesses to lie on the stand. Yet objects (as evidence) in the game are in a privileged position. Evidence may not actually speak for itself, but it is always genuine, never faked. While it may be mundane, its importance lies in how it can be exchanged — what it can buy for the player. It might purchase further access, better testimony, perhaps even an innocent verdict. Evidence is key, and thus holds power within the game.

The fourth turnabout: Take that!

Of course evidence cannot present itself within the game, and thus interactions form a central part of gameplay. *Phoenix Wright* gives the player a limited set of interaction options, and here I'd like to focus on how Phoenix can interact with other characters in each case and in the game overall. So for example in the second case, "Turnabout Sisters," Phoenix must figure out who murdered his boss Mia Fey, in order to clear his client, her younger sister Maya. To do so, in addition to investigating the crime scene (Mia's office), Phoenix must talk with a range of individuals, including the accused (Maya), an alleged eyewitness (April May), an attorney reluctant to take this case (Marvin Greenberg), and an unnamed hotel bellboy.

Talking with individuals is as simple as moving to the area in which they are located, and then choosing the "talk" interaction option. From there, the player is presented a range of choices from the broad to the specific, such as "the case" "the day of the crime" and "you and the chief." Sometimes asking about certain topics opens up further options for questioning, as does the presentation of certain pieces of evidence to the witness. It's not possible to always know what evidence or dialogue tree will elicit more information, or which information might be key to continuing the investigation, and so players are forced to cycle through all dialogue choices and present all evidence, if they wish to avoid getting stuck in their progression in the game. Phoenix must investigate all dialogue options, and choosing one option never changes the others, or alters the path of the game's story. Choices are presented as optional to give players a sense of choice, although all choices must eventually be taken, all avenues explored, for the story to continue.

Where this changes is in cross-examination, when there is indeed only one right answer in how to interrogate witnesses, and perhaps expose faulty testimony. Consider again the Turnabout Sisters case, and the testimony of April May, the alleged eyewitness to the murder. During her testimony, Ms. May mentions that she saw the defendant, Maya, strike Mia with a heavy object — more specifically a clock in the shape of the sculpture "The Thinker." She says she knows it was a clock (it has no clock face with traditional hands) because she heard it say the

time, as she listened from her adjacent hotel room. Phoenix is then given several options for challenging her testimony and arguing that she couldn't have heard the clock — because the clock was empty, because the clock was broken, or because the batteries were dead. In this instance, choosing any of the options (even though the first is the correct one) will lead the judge to examine the clock, and discover that the clock is missing it's clockwork. Prosecutor Edgeworth then asks when the clockwork was removed, and the judge will ask Phoenix to prove that the clockwork was removed prior to the crime, and not after it. At this point, the game takes a higher stakes approach to testimony — while Phoenix claims "I have proof," the player must then produce evidence to substantiate that claim. Produce the wrong evidence, and Phoenix loses one of five "health" marks, moving him closer to a guilty verdict. Produce the correct evidence — here Maya's cell phone, already presented once before — to play a recorded conversation that indicates Mia had removed the clockwork earlier in the day, before her murder. And that evidence is linked to Phoenix's claim that April May heard *about* the object being a clock, because she was wire-tapping Mia's phone (Phoenix also presented evidence of wire-tapping that he found while searching May's hotel room). After being contradicted, April May loses her composure, but claims that even if she wire-tapped the phone, she has proof (an eye-witness) that she was indeed in her hotel room at the time of the murder, and thus could not have committed the crime. What remains for Phoenix to do now is find out why Ms. May was wire-tapping the phone, and how she might be involved in the crime as well as in finding out who actually killed Mia.

What such cross-examinations and initial interviews demonstrate is the particular qualities required of the player — a desire for thoroughness coupled with a sense of curiosity. As the defense attorney determined to avenge your client, you *must* want to find out who was actually responsible for the crime, and you must be thorough and persistent in your pursuit of that goal. In doing so, the game forces the player to make a close reading of the text of the game — not unlike what I'm doing here. Because options do not change, and the course of the trial cannot be altered based on player input, the correct response for the player is to find contradictions through close scrutiny of the people and evidence involved. In a throwback to hermeneutics, the player is trying to discover authorial intent — here the wishes of the developers, as to how they have constructed the case. Rather than being open to interpretation, just as in a courtroom drama, a certain decision must be reached, and there is only one correct way to interpret evidence, one truthful account from each witness called. The job of Phoenix is to comb through the evidence, to pick apart testimony, to reach those elements of the one true answer — who really committed the crime.

The final turnabout: Performing law

If you are thorough and persistent in playing Phoenix Wright, you *will* complete each case, and ultimately win the game. The reward for each case won is a continuation of the larger story about Phoenix, and a subsequent new case, except of course for the final one, which instead hints at the forthcoming sequel. The game allows players to save at any point, meaning that frequent saving can keep a player going, exploring each avenue, go down dead ends, present all evidence, until the correct combination is found. Once the player achieves proficiency in closely reading the text — the evidence and testimony — success is guaranteed.

If all of the above is true, what is fun about playing *Phoenix Wright*? Is it simply a game about unlocking 'a' to get 'b' and then testing their correct combination to reach 'c?' Of course, simply describing the gameplay runs the risk of erasing the experience of playing, making it seem that the game is nothing but a series of steps to encounter, ponder, and resolve in some way. But of course while some trial and error is to be expected, there are pleasures involved in a playing of *Phoenix Wright*, revolving around how one actually plays the game.

One way to reinsert pleasure into the experience is through considering performance, specifically playing style. The game offers 'do-overs' that a real life courtroom would never provide, but those missteps, stutters and hesitations on the player's part are also roadblocks to game success, both in literal progress and in stylistic performance. Thus, I may play the game, but if I continually have to restart courtroom testimonies for striking out with the judge, I haven't really played well at all.

One way to understand those relative failures and successes is through Butler's notion of performativity, which she originally developed in relation to gender (1993). In *Bodies That Matter,* Butler argues that gender and gendered identity are not static, inherent parts of our selves, but that instead we all perform our genders, continually enacting them and reifying them in a daily, ongoing process. This is of course not to suggest that such performances are voluntary or easy to change, but that we are implicated in our gendered identities, which are dynamic in their expression.

The concept of performance or performativity can also be mapped onto gameplay, as we think about the actions the player takes in a game and more specifically how those actions are taken. Burrill has written about performance studies in relation to digital games, developing the concept of 'digital choreography' to describe a player's relationship with his avatar (2008). While Burrill's work opens up conceptual space for thinking about performance in gameplay, his work focuses on how avatars move through the space of a game — something that is not a feature in *Phoenix*

Wright. However, we can still employ the concept, modifying it slightly for our own ends. Thus, performativity can also map onto my own (as the player) activity within the game, and my relative success or failure in achieving my goals. In doing so, success becomes about specific ways to succeed — in *Phoenix Wright*, that can pertain to carrying out investigations thoroughly, and cross-examining witnesses correctly. What does correctly mean? When characters present their testimony, Phoenix can press them for more information and he can present evidence at any time to contradict their statements. Once a cross-examination begins it cannot end until the following condition is met — the player successfully presents the right evidence at the right times, forcing the witness to change testimony until the narrative is driven forward. If I present the wrong evidence, at the wrong times, or the right evidence at the wrong time, I suffer penalties from the judge, and if I do so often enough, I receive a guilty verdict for my client, and must re- start the current day's courtroom proceedings. Alternately, I can save my game before each cross-examination starts, or indeed at any point during the cross-examination. However, while saving is easy, it also interrupts the flow of the game. After hitting 'start' to save, the game is suspended, and I have to reboot and reload the game from the save point. While that's much easier and quicker with a DS than with a larger game console, it does take me out of the fiction of the game world. It also interrupts my performance, feeling like a stutter in the flow in the game. The more cautious I get in a cross-examination, the more I save, and the more tedious the game will seem — it becomes all about dropping a breadcrumb behind me for each statement. Yet if I wish to play dangerously I can forsake saving, letting courtroom scenes play out and risking my carefully won progress when I must cross-examine a witness.

One route is more conservative; the other is risky. In playing a scene without saving, I have felt myself grow more anxious as another cross-examination looms — wondering whether I will be able to get through it successfully, perform it to exacting standards. In contrast, when I save frequently, I know my progress is assured, but the constant stop and start ejects me from the game world, and feels suspiciously like cheating. In both scenarios I am playing the game legitimately, yet in one case (the former), I have more style, I am performing without a safety net. In the second scenario, my performance feels more limited, my style less game-like and more cautious. The play element in the second scenario has been lost, or at least diminished. By contrast, in the first case I am freely playing, almost twirling about like the player of ilinx (vertigo) games (Caillois, 1961), seeking that feeling of heightened awareness and danger that I cannot achieve by safely saving every 30 seconds. The game makers could have enacted auto-save, yet their method creates a tension for the player over how to play — and rewards riskier gameplay with a stronger sense of immersion and less breaks in the performance — thus with more style. To do so is to perform as a lawyer, a successful lawyer, in vindicating your clients and enacting justice.

Finally, let me return to Butler and her original conceptualization of performativity. Just as for Butler gender is a process and an activity, so too is gameplay. Through my playing of *Phoenix Wright*, I call the game into being, and in some sense, myself as a player. How I choose to play is also dynamic, yet it is likely that as a player I will have developed strategies that have worked well for me in the past, or I simply might have a particular style that I enjoy, regardless of consequences. Off-topic, I enjoyed the *Buffy the Vampire Slayer* game immensely, yet could never work out strategies for winning, always preferring instead to run and jump into fights, simply for the sheer thrill. Yet in *Phoenix Wright*, my style is more conservative. That style does tend to reduce my enjoyment of the game a bit, at least in one sense — the immersion in the world of the courtroom breaks with each time I hit Save. Yet in another way, I am performing my gameplay in a way that makes sense to me as a player — and I do so iteratively, each time I play, with each game I pick up. And like gender, I can alter that performance, although that can be difficult to do, as it contradicts a growing sense of myself and a certain comfort level with my performance as a game player. But the strictures around the performativity of game playing are not so tight as those around gender, so I can perhaps experiment and shift styles, with little in the way of sanction. Yet overall, in the end, I do enact a game playing performance, and with each game I play, I, like all gamers, call myself into existence as a gamer.

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[1] **In addition to the first game, I've played the second in the series (And Justice for All), and have plans to play the rest, although I haven't done so yet.**

[2] **My reading of Phoenix Wright is based on playing the game through in its entirety once, re-playing specific cases a second time, and referring to a script FAQ (Mead, 2006) online to ensure dialogue and other details from cases were correct.**

" *To accomplish this, games use an interactive trope that I call futile interactivity.* "

NICK FORTUGNO

LOSING YOUR GRIP: FUTILITY AND DRAMATIC NECESSITY IN SHADOW OF THE COLOSSUS

In Shakespeare's masterpiece Hamlet, Ophelia must die. There is no possibility that Hamlet's unfortunate lover can give up on Hamlet and walk away, nor can Hamlet realize the harm he's committing on her. A core part of the arc of the play is her degeneration and her death. Of course, the play spends a good deal of time getting us to care about Ophelia, and to feel bad for her doomed relationship with Hamlet. This naturally leads us to *not* want her to kill herself. But because the play's plot is that Ophelia kills herself, all of our desire that Ophelia endure is hopeless. It is this tension that creates the tragedy – the audience develops expectations and hopes that the story's plot will necessarily dash, and the futility of that hope is what gives the story an emotional power. We call this tension *dramatic necessity,* the power that stories of artistic media create by constructing desires and expectations in the audience that the narrative will then inevitably subvert and betray.

When it comes to the medium of games, however, the possibility of dramatic necessity has been repeatedly challenged. Theorists and critics as varied as Umberto Eco[1] and Roger Ebert[2] have denounced the possibility of interactive media such as games ever reaching the emotional power of plays or film. They argue that the very idea of agency undermines dramatic necessity, and without a sense of dramatic necessity, a game can never reach the emotional impact of other, more fixed kinds of narrative art. Let's take our Hamlet example again. If the play was instead a game, the argument goes, then you would imagine you would have some kind of gameplay control over the important parts of the story. So, to continue our example above, a user could have the choice of whether to have Ophelia kill herself or get over Hamlet. Of course, if one really did sympathize with Ophelia, one would probably choose to have her not kill herself. This fulfills the audience's hopes, but it eliminates the tragedy by not having that hope dashed. On the other hand, a user

could also choose to have Ophelia kill herself, but simply knowing that one *could* have chosen have her survive undermines the power of the decision to have her commit the act. The problem is that as soon as you add agency to the story, the story is not determined, and without that tension between the audience's desire and an *inevitable* outcome, the story loses its emotional power.

But is it true that agency invalidates the possibility of dramatic necessity? Isn't it possible that agency in an interactive narrative can be *used* to create the tension between expectation and inevitable outcome? I argue that several games have attempted, and a few have succeeded, in using control by the user to construct this tension between desire and outcome. To accomplish this, games use an interactive trope that I call *futile interactivity*. To demonstrate this trope, I offer Shadow of the Colossus, a game that is a triumphant example of how agency can be harnessed to a necessary end, and how a game interface, system, and interactivity can be used in concert to create a genuine tragedy. Warning: The following essay contains many spoilers about theme and plot of Shadow of the Colossus. If you have not played the game, and have no information about the game's story, I highly recommend that you postpone reading this article until you have finished the game first. Reading this article before playing will deeply compromise the power of the game. For those interested but concerned about Shadow's difficulty and time commitment, there are several good walk-throughs available on the internet that can accelerate your completion of the game.

Hunting the Colossi

Shadow of the Colossus, developed by Team Ico under the vision of Fumito Ueda, begins with a warrior (Wander[3]) riding to a distant temple carrying a dead woman (Mono), presumably a lover from the dedication the warrior shows her. After destroying a set of shadowy enemies, the warrior is contacted by a distant voice that identifies itself as Dormin. Wander indicates that he wants Dormin to bring back the woman's soul, which Dormin explains may be possible, but only at a great price: the destruction of the 16 colossi that are the incarnations of the idols in the temple, using the special sword the warrior carries. The warrior is undeterred by this challenge:

> **DORMIN:** *In this land there exist colossi that are the incarnations of those idols. If thou defeat those colossi — the idols shall fall.*
>
> **WANDER:** *I understand.*
>
> **DORMIN:** *But heed this, the price you pay may be heavy indeed.*
>
> **WANDER**: *It doesn't matter.[4]*

Even in these early moments, Wander displays a kind of fatalism and almost apathy that is atypical in a hero. But, as we will see, there are many ways in which the warrior that the player controls is not typically heroic.

From here, the game proper begins. Each colossus that the player is tasked with killing is, in traditional game terms, a boss. Eschewing standard level design, Wander faces no preliminary opponents in his quest. Instead, the player begins by searching the largely empty environment for the next colossus. Once the colossus is found, the player must figure out how to find and attack the weak spots on the monster's body. In this sense, each colossus is a puzzle that the player must solve. The puzzles take a number of different forms: simple, instructional puzzles, such as the first colossus "The Minotaur"[5], where the player learns the basics of climbing and finding the weak points of the colossi; strategic puzzles, such as the fourth colossus "Equus Prime", where the player must figure out how to access the climbable parts of the colossus that are here too high for Wander to reach; timing puzzles, such as the fourteenth colossus "Destruction Luster", where the player must time a number of jumps and climbs of different ruins to get to a safe area in which to kill the lion; and combinations of the above. But despite these differences in the types of puzzles, the core emotion of the play is similar throughout the game, in that the player must experiment and explore each colossus in a difficult and at times frustrating process, and that the reward of play is the sense of triumph that comes from having struggled against the complexities of the problem and figured out a solution.

This presentation of a challenging puzzle which leads to a sense of triumph upon completion is a standard mechanic in digital games, one that extends back to the early text adventure games such as <u>Zork</u> and <u>Planetfall</u>. However, <u>Shadow</u> is not content simply to allow the player this feeling of success. The troubling of this mechanic begins with the ride to find the first colossus. The player is not tracking down a monster terrorizing a village or threatening the world. The colossi are hidden away in caves and grottos, deep canyons and forgotten cities, and as the environment is almost devoid of life (living things beyond Wander, Agro (the hero's horse), and the colossi consist of a handful of lizards, birds, and turtles), it's hard to see what harm the colossus could be doing. In fact, the more colossi Wander finds, the clearer it is that they are all sequestered away from anything they could harm, so that Wander's mission feels a great deal more like a whale hunt or a safari than a world saving quest.

Beyond their isolation, many of the colossi themselves seem to be relatively harmless. While some of the colossi attack Wander as soon as the warrior arrives, many entirely ignore Wander until he engages with them. The most striking example of this is the thirteenth colossus, "Trail Drifter". When the player arrives in the desert realm, the colossus is flying in lazy circles, with no awareness of Wander at all. To engage Trail Drifter, the player needs to shoot it down from the sky by puncturing

its air sacs, and then ride up to its wing to jump on to its body. After Wander stabs at its weak spots a number of times, Trail Drifter dives into the sand, knocking Wander loose. But when Trail Drifter resurfaces, it returns to its lazy circles in the sky, *completely ignoring the warrior once again.* Trail Drifter never, ever attacks the player, and so the player must repeatedly assault and eventually destroy a creature that means Wander no harm. Trail Drifter is the most extreme example of this in the narrative, but several of the colossi follow a similar pattern, simply ignoring the player until forced to defend themselves when the player invades their space or makes the first strike. This creates a troubling feeling that if the player had just left the colossi alone, nothing bad would have happened. Despite the size and destructive power of the colossi, it's hard to shake the feeling that Wander is the aggressor, and that the player is the monster, ruthlessly hunting down and killing innocent beasts in the barren wilderness.

This troubling sense is then reinforced by the visual decisions made about how the death of a colossus was depicted. All of the treatments of the end of a colossus are aimed at denying the player any sense of heroism. Each stab that the player makes on a weak spot of a colossus lets loose a gory stream of black blood in an awful hiss. The colossi howl and writhe in pain as they are attacked. When they are seriously wounded, they stop and respond to the wound. For example, when the fifteenth colossus ("The Sentinel") is stabbed enough times in the arm to advance the fight, the "reward" cutscene shows the colossus dropping its club and sharply clutching its shoulder, hunching over in pain. And when a colossus is finally killed, its death is shown in a sad, slow cutscene finale. A melancholy score begins to play as the creature crashes to the ground in slow motion. A long shot taking in the full magnitude of the beast follows its limp and lifeless collapse. The game then lingers on the body of each colossus, reminding the player that a unique being has been finally extinguished. Overall, the rewards the player gets for the hard-fought battle certainly do not strike a purely heroic tone.

This tragic death sequence, when combined with the isolated context of colossi and their inherent harmlessness, is carefully designed to make the player feel bad for killing the colossi. The further one goes into the quest, the more seemingly pointless death the player inflicts. Of course, both the plot of the game and puzzle mechanic each level employs push the player to be clever, to struggle, and to feel a sense of accomplishment about the destruction of the colossi. Ultimately, the player is continually left in a conflicted position, triumphant about the completion of the puzzles but regretful that this puzzle-solving lead to the painful death of a largely innocent creature. In this way, the game's core challenge pushes the player to struggle, but then betrays him by poisoning the rewards of the struggle. All by itself, this ambivalent approach to the game's core objectives creates a new kind of gaming experience.

Futile Interactivity in Play

However, <u>Shadow</u> goes a step further with a very short denouement that occurs after the death of each colossus, and it is in this moment we begin to see the depth of sophistication the game takes towards creating a tragic experience. When the cutscene of the death is over, the player regains control of Wander, now alongside the corpse of the dead giant. Right away, a cluster of black tentacles grow out of the body and move towards the character. But depending on where Wander is in relation to the colossus's wounds, the tentacles may or may not be immediately visible to the player. Regardless, they approach. The tentacles travel at a speed faster than Wander, so they will inevitably reach Wander, and when they do, they violently pierce Wander's chest, apparently killing him. The camera zooms out and Wander himself collapses lifelessly, and the screen transitions to a dark tunnel with a light at the end, where the player hears a woman's (perhaps Mono's?) distorted voice and cries. A fade transitions the player back to Dormin's temple where he sees the idol of the newly-defeated colossus crumble just before Wander re-awakens and stands. This scene serves a very specific gameplay purpose; it is used to return the player back to the temple immediately when the level is finished, without the player needing to repeat the long and potentially tedious process of riding back to the temple after every battle.

But the very purpose of the scene raises an interesting question about its construction: why is the player given control of Wander again if the point of the tentacle death is simply to reset the player to pursue the next colossus? After all, since the outcome of the scene is always the same, why is it necessary to make the player suffer through controlling the death of Wander each time a colossus is killed? Wouldn't it be easier just to remove the player's agency, and make this scene another part of the previous cutscene, such that Wander is automatically killed and returned to the temple as soon as the colossus falls? The answer lies in how the player experiences this moment as the player moves from colossus to colossus.

The first time the player kills a colossus, the player has no idea that the tentacles are coming, and thus is likely killed entirely by surprise. The player looks around after their successful battle, trying to figure what to do next, and is then suddenly and unexpectedly struck and killed. (Remember that since the players have never killed a colossus before, they don't know they are returning to the temple, so the death scene could be a genuine character death.) Soon enough, though, the player realizes that the tentacles will arrive after every level, and can attempt to avoid them. The third colossus "Gaius" provide an interesting case study of this. The battle with Gaius takes place in a striking location; in the center of a large lake, there is a spiral ramp that leads to platform high off the ground. Wander must spend a relatively long time simply running up the circle to reach the arena. There is no particular gameplay function to this location; it is striking to fight the colossus from

such a scenic position, but the core puzzle to defeating the colossus could just as easily occur on the ground. However, when the colossus is killed, the location takes on a new significance. Descending from the platform is very easy, and if the player simply jumps off the edge, the player gets down to the lake very quickly. This means that if the player is fast, they can get a huge lead on the tentacles in their escape. But despite the fact that the player can run for a long time (in this case, over half-a-minute) without being caught, the tentacles eventually reach Wander with the same fatal results. The setting here seems designed to allow the player to escape the inevitable death sequence, but the player is betrayed by the setting and led into the same trap.

The final scene with Gaius points to the purpose of all of these level-ending moments. The key here is that the player is given no indication of the purpose of the scene. The first time, the player has simply has control, and is confronted with a sudden, but apparently avoidable, failure. The player then encounters the scene again and again, in different circumstances and with different apparent means of escape. Because the player has control of Wander, the player can try to run, but the player learns over time that no matter what he does, Wander must die at the end of every fight with a colossus. Ultimately, the control the player has over Wander after killing a colossus rings false, because no matter what action the player takes, the tentacles win. Inevitably, after enough attempts, the player becomes resigned to the fact that Wander is going to die, that the agency he is given is a lie, and that the struggle for survival in this moment is pointless.

This small scene is an example of a trope that is reused over and over in <u>Shadow of the Colossus</u>. I call this trope *futile interactivity*. In a scene of futile interactivity, the player is given agency, apparently as normal. The player can control the character and is set to an implied or stated objective that appears accomplishable. It is essential that the goal seems normal for the game in which it occurs, and the player have a natural-seeming control of the character. However, the scene is designed so that the goal is impossible to achieve. The outcome of the scene has been set by the designers, and nothing the player does can avoid it. When the trope is well-constructed, the player attempts to pursue the apparent goal with the belief they can succeed. Thus, the players can struggle in a typically gamer fashion to make the goal, and feel the same ambition and emotion they do when they attempt to win in regular play. But the futility of struggle, the fact the scene will end in a pre-designed way regardless of the player's choices, means that through the use of agency, the designers can set up the player to feel a certain way as they control the character, but can then betray those feelings when the scene resolves to designer's and not the player's objective. In this way, futile interactivity gives the designer a way of *using agency* in order to create dramatic necessity.

Shadow is certainly not the only game that uses futile interactivity to achieve its goals. A simple example of this trope can be seen in Call of Duty 4. There is a scene in this FPS modern war situation where the player is given control, in the game's typical first-person perspective, of a random bystander to a nuclear explosion. At first, there is no clear sense of what to do; the player just looks around for the goal of the scenario. However, when the explosion goes off, the goal is clear – escape. However, as the radiation poisons the character, the player's ability to run is diminished, until the character collapses on the ground and dies. The mechanic of this scene is clear: the player is given control of a character in a seemingly normal way and then given a clear goal (escape from the nuclear explosion). But the scene is constructed so that the goal is impossible (the radiation makes it impossible for the character to escape) and the character fails. If the scene works, players are driven to want the character to survive, but then betrayed with the character fails despite their best efforts, and that tension is the core of a tragic experience.

Shadow of the Colossus is doing something similar to Call of Duty 4 in the ambivalence it injects into the defeat of the colossi and the death transition scene at the end of each battle, but there is an important distinction between the use of futile interactivity in the two games that points to the greater theme of Shadow. One important component of futile interactivity is the ignorance of the player to the predetermined outcome of the scene. The key formula to creating dramatic tension using futile interactivity is that the agency gives players the sense that they have control over the scene, and thus they care. If the players know that they don't really have control over the character, or the outcome is pre-ordained, they don't play in the scene the same way. They know they are simply going through the motions, and as a result, they can't feel that surprise or betrayal when their actions lead to undesirable or unexpected ends. For this reason, the trope of futile interactivity functions in a similar way to a mystery plot. You can enjoy rereading a mystery story, but knowing the solution, you can never experience the same surprise and thrill from it that you did the first time. In the same way, once you know the explosion witness in Call of Duty 4 cannot escape the fallout, it's impossible to feel the same struggle. It's still a striking scene on a second play, but it no longer carries the same emotional power.

With this in mind, what makes Shadow of the Colossus unique is that it repeats these scenes of futile interactivity over and over again. You do not experience the death-and-return scene only one surprising time, nor do you experience it a handful of times as you try different means of escaping the tentacles. Instead, players experience the same futile interactivity every time a colossus is killed. Over the sixteen core battles the player is forced to fight, it is impossible for the player to fail to see that the death scene is futile, and that Wander is simply destined to die at the end of every level. Part of the arc of play from colossus to colossus is the discovery of the tentacles, the struggle to attempt to escape them, and then the resignation

that death is inevitable. The battles with the colossi and the tragic air with which their death are handled are a much more complex collection of tropes and emotions, but there is a similar sense of resignation – the realization that Wander is not saving the world, and the player is facilitating the full, and at least morally ambiguous if not downright evil, extinction of a group of awesome beasts by pursuing the goals the game puts forth. In both of these scenes, futile interactively is employed to create a movement from hopeful struggle to resignation.

Wander's Struggle

Realizing this, we have a key into the deeper themes and emotional aspirations of Shadow of the Colossus. The concepts of struggle, futility, and resignation are woven through the entire game. Every aspect of the experience, from the control scheme to the interface to the characters and narrative to the level design, all work together in the construction of a single emotional message. By analyzing each of these elements, we can see how Shadow of the Colossus moves beyond its success as an action puzzle game into a genuine experience of tragedy.

Returning to the opening scene of the game, we can already see the seeds of the theme being planted. Wander's response to the suggestion that a price would need to be paid for Mono's soul – "I don't care" – speaks less to a gallant hero than to a hardened and focused warrior. The warrior doesn't speak much; in fact, he never again utters more than the name of his horse after the introductory scene. And while the silent hero is hardly foreign to video games, Wander's difference from other digital protagonists becomes clear in the signals he does send. The most common sounds that Wander makes are grunts, groans, and cries. His running animations are accompanied by heavy panting, and when he climbs a writhing colossus, he grunts with the effort. Even when calling his horse, Wander yells a harsh and almost desperate shout. All of the audio feedback Wander provides points to a journey that is *hard*, and a hero that has to struggle as he completes his quest.

The cues of just how hard the journey is are further reflected in the character's animations. The warrior moves in fits and starts. When he runs, he lumbers and occasionally trips as he moves from one height to another. At times he flails as though he were propelled by sheer momentum. When he jumps, he reaches awkwardly to grab what's above him. If he has one hand on a ledge, he will swing back and forth in a feeble attempt to get the momentum to the next handhold. Swimming is a frantic and explosive full-body movement. Even on Agro, there's something inelegant about the way Wander moves. Agro behaves like a horse, so maneuverability is limited and slowing down takes time. To keep Agro in a full sprint requires the player to regularly spur the horse with hard slaps on the shanks. Combat is no different. Stabbing a weak spot takes all of Wander's energy; he rears

up with all his strength and throws his whole body into the strike. Things are perhaps most pronounced when the warrior is hit. When struck by a colossus, Wander can fly several relative meters, tumbling and spinning into a crumbled hump. If he is knocked down, he stays down, for an uncomfortably long time. The avatar can lie on the ground for up to several seconds without moving when grounded, regardless of how the player attempts to stir him with the controller. When the warrior does finally rise, it is slow and pained, and he can take a moment to regain his balance. And when the player does have Wander stop and heal, he does so by crouching to his knees, with his head hung heavily. All of these visual and audio cues point to just how difficult Wander's entire quest is.

The idea of the struggle is not only a part of the surface of the game. Wander is in fact defined by his ability to endure. Following the tradition that Team Ico established in their previous game <u>Ico</u>, the interface and character stat display are kept to a minimum in <u>Shadow</u>. The visual display in the lower right is the whole of the view of the character's mechanics, consisting of a pink circle, a bar, and a display of the currently equipped item. The bar is used to measure the character's health and amount of damage Wander can take. The pink circle is used for a few different purposes: to show how long Wander can grip a surface without falling, how long Wander can hold his breath under water, how far Wander can hold his bow taut, and how much force he can tap in his rear up for a sword strike. What's similar about all these uses is that they all say how far Wander can push himself when he endures suffering or applies force – a word for it might be stamina. But if we accept this, it means that excepting the current weapon Wander wields, he has only two attributes: stamina and health. This means that the system entirely defines Wander by his ability to endure. All of the challenges that the player is faced with and the puzzles that player must solve at that core are dependent on Wander's endurance. This is an unusual way to define a heroic character, and it provides a mechanical reinforcement of the theme depicted in the character's representation.

While a health stat is far from uncommon in action games, the stamina stat represented by the circle is part of the core system that makes up the particular gameplay of <u>Shadow</u>. Each battle against the colossus is a unique encounter, but there is one element that they all share. In every battle, to a lesser or greater extent depending on the particular creature, Wander must climb the colossus to its weak point and then repeatedly stab it. All the colossi act in some way to shake Wander off or knock Wander loose, especially after being wounded, and if Wander is not actively holding on the colossus (i.e. if the player is not holding down the L1 button), Wander will be thrown and injured. Of course, having grip as an attribute means that player cannot hold the colossus endlessly through its stirring and thrashing. As Wander holds on, the pink circle slowly shrinks to nothing, and when the circle eventually disappears, stamina runs out, causing Wander's grip to fail and leading to an immediate fall. As a result, part of the puzzle of every colossus is the alternation

between holding on to the colossus and letting go to rest and regain stamina. In other words, the most core mechanic of the game is the decision to *hold on* and the choice to *let go* at the right moment. Mastering how long to grip before Wander must let go is a skill that is at the heart of game's challenge.

The idea that a key skill of the game deals with knowing when to let go has particular resonance within the narrative. Returning to the beginning of the game, we recall that Wander's quest is to restore life to his dead companion, a goal which is repeatedly called into question even as it introduced. Emon, the priest who features prominently in the endgame, describes Wander's quest in a less than noble light during his introductory voice-over :

> **EMON:** *In that world, it is said that if one should wish it, one can bring back the souls of the dead…/But to trespass upon that land is strictly forbidden…*

The feeling that Wander is doing something he shouldn't isn't even lost on Dormin, who comments to that effect before offering Wander his mission:

> **DORMIN:** *That maiden's soul? Souls that are once lost cannot be reclaimed…/Is that not the law of mortals?*

This general sense of violation has no effect on Wander. Wander shows this initially with his indifference to the difficulty or sacrifice he will need to make in this adventure, but Wander's determination is continually reinforced throughout the game. This is shown in all of the resilience and willingness to withstand harm that Wander shows in his every action, from his panting run to his rigorous climb to his slow recovery from injury.

And just as critically, Wander shows no remorse over his actions. All of the disturbing elements of the killing of the colossi are lost on Wander. He shows no reluctance when riding through the wastes to find his next target, no hesitation when confronted with the colossus in initiating his attack, and no hint of sadness or iota of guilt about killing his prey. Given how powerful the death scenes are constructed to be, it is striking that Wander does not participate in that emotional movement at all. Wander shows no reaction when standing next to the corpse of the colossus and equally no reaction when he is returned to the temple. We almost always find Wander in the same position upon his return. He is unfazed by the violence he suffered and the tentacles pierced him, and generally his only reaction upon awakening is to look up to sky to await Dormin's next order. Wander demonstrates an incredible level of focus and apathy through these scenes, and that single-mindedness is his strongest character trait.

But the fact that Wander's return to the temple follows the same form each time does not mean that Wander is unchanging. One example of this is that Wander

himself is not completely oblivious to the potential hopelessness of his quest. At the middle point of the game, just after the defeat of the eighth colossus, the return to the temple is interrupted by a sequence in which we see Mono rising from her altar through a blurry, dream-like filter. Interestingly, this is a scene where the player *does not* have control, and so when Mono begins to slip into the distance, there is nothing the player can do to have Wander catch her. But this dream does nothing to daunt Wander's quest, and after a brief visit to his fallen love, he returns to his hunt with the same sense of cold determination he had earlier.

Leaving aside this brief moment of awareness, Wander's transformation through the story is primarily one of loss. This is manifested in two developments throughout the game. The first is Wander's bodily degradation from level to level. The struggle that Wander goes through to defeat each colossus and the death he suffers after each victory take their toll on Wander, represented by his slow loss of color and weight. The effect is subtle from level to level, but by the end of the game, the change is dramatic – Wander has gone from a healthy-looking warrior to a white, gaunt shadow of his former self. This is a purely visual change; the player suffers no gameplay effect from the transformation, but the degeneration is no less striking. And Wander suffers a similar emaciation of his social world when Agro is taken from him on the path to the final colossus. Agro is lost as the horse throws Wander across a collapsing bridge, plummeting to his seeming death in order to further Wander's quest. At this moment, Wander is allowed a moment of emotion to grieve his loss, but it is only momentary. After a few calls and a lingering look into the chasm, Wander turns back to his climb with no further reference to the loss. Between both of these developments, Wander's quest can be seen as a set of sacrifices, both of body and of companionship.

Letting Go

It goes without saying that all of these losses could have been avoided if Wander simply gave up on his quest. In fact, there is nothing in particular that makes the progression through the story necessary. Wander is not saving the world, and no further harm would befall anyone if he walked away. All of the suffering – the obvious pain and struggle attached to the hunt and assault, the destruction of relatively harmless or isolated creatures of great beauty and scale, the bodily deterioration of Wander, the loss of Agro – all of this could be avoided if the quest was given up. On top of this, Wander's quest is to do something that the game has repeatedly reminded us, through Emon, Dormin, and even Wander's own dream, is unnatural and outside of normal possibility. Wander could choose to accept Mono's loss and move on. Wander could *let go*. But he does not. Instead, he pushes himself through immense suffering and enormous destruction, all in the name of clinging to the hope of defying death, all to *hold on* to Mono. In contrast to the game's demand that the

player learn when he must let go, the avatar the player inhabits fails to learn this lesson and desperately holds on despite everything that indicates the quest should be let go.

The culmination of this theme appears in the game conclusion. The priests arrive at the temple, just as the last colossus is killed. They then reveal the depths of Wander's folly:

> **EMON:** *So it was you after all. Have you any idea what you've done?! Not only did you steal the sword and trespass upon this cursed land, you used the forbidden spell as well...*

The shaman's observation drives home the truth of Wander's character. The player's avatar is a reckless and heedless character who has broken sacred law, stolen from his people (Emon's first sentence shows he personally knows who Wander is), and brought down great harm all in the name of his goal. The shaman wisely sees that Wander has been used by Dormin and bluntly points out the tragedy of Wander's folly:

> **EMON:** *It is better to put him [Wander] out of his misery than to exist, cursed as he is.*

Emon orders his troops to destroy him, but even in his weakened state, Wander does not stop. Wander is pierced by an arrow and then stabbed through the chest by the priest's guard, but still manages to struggle on, painfully rising from the ground, stumbling over to Mono at the altar, and pulling the sword from his torso. Even at this late stage, faced with his raw depth of his foolishness and overwhelmed by his opponents, Wander still refuses to let go.

Through this process, Wander's body is slowly consumed by Dormin, newly-released from imprisonment as a result of the destruction of the sixteen colossi. Dormin's rise leads to the final two interactive scenes of the game, both instances of futile interactivity and both powerful indictments of the character's and, as a result, the player's choices in the game. In the first scene, the player gets a moment of interaction that reveals the final movement to betray the assumed nobility of Wander's quest. And in the final scene, Wander and the player are forced to face the game's lesson in a poignant synthesis of mechanic and meaning.

The cutscene above completes with Dormin having taken full form around Wander's body, and turning to attack the fleeing priest and warriors. At this point, the player is given control over Dormin, the final colossus. After having hunted and destroyed sixteen of these creatures, the player is put in the reverse position of being the giant under attack. It is hard not to feel empowered in this moment, given the obvious strength and destructive capacity of the monster the player now controls, and the player is directed by the scene to unleash that ability against warriors who are

clear analogs of the character the player has been controlling the entire game. But whatever destructive orgy the player expects is not in the cards. First, the player's vision is largely obscured by Dormin's smoky body, and the warriors are so small that they are hard to pinpoint in the haze. More significantly, the player's controls have been completely remapped without warning, so that trying to do basic actions such as jumping or striking cause entirely unexpected results, such as breathing fire. Dormin is extremely slow, and moving forward even a single step is an elaborate effort. And the warriors on the ground are quite fast, quickly firing off arrows and skirting away from Dormin's strikes. All of the controls and all the parameters of the scene are stacked against the player, so attempts to eliminate the priest's entire group are doomed to failure, and the potentially rewarding combat scene is instead an exercise in futile interactivity in which the player is doomed to be defeated.

However, the betraying of this expectation of wanton destruction is not simply a disappointment. Until this point, the player's perspective on the colossi has been consistent – the colossi are huge, menacing creatures that will destroy Wander after one false move. Playing the colossus, on the other hand, does not make one feel like a powerful and dangerous being. In fact, the feeling is almost entirely the opposite; Dormin is slow and awkward, and the advantage is held by the smaller, quicker assailants who seem able to inflict a constant barrage of weak attacks on him without reprisal. Being allowed to act from the perspective of the colossus ultimately reveals how vulnerable the colossi are, how much more the helpless victim they are than the aggressor. Giving the player this perspective, and enforcing the sense of helplessness with the confusing controls, limited vision, and encumbered movement, provides the final push of sympathy to the giants that the player has spent the game destroying. By playing as a colossus, the player ultimately has the opportunity not to wreak havoc, but feel the victimhood of the hunted monster, and have a final interactive experience of some of the pain and injustice he has committed.

When the priest's company escapes the room, Wander's stolen sword is thrown into the pool, and Dormin is immediately sucked into the emerging vortex. This is the beginning of the game's final interactive scene. The player again controls Wander, now back in the main hall of the temple , no longer possessed by Dormin or covered in black. At the end of the hall is Mono, lying on the altar. Behind Wander is the vortex, sucking him back into apparent oblivion. The player has complete control over Wander at this point, and the controls have returned to normal. If the player does nothing, Wander is sucked back to the vortex and the scene ends. Wander can sometimes walk against the suction; sometimes the force knocks him to the ground and pulls him, rolling, backward. However, the floor is covered with carvings and cracks, so there are many handholds on to which Wander can cling. There are no instructions and directives. The player is simply left in this scene to fend for himself.

It is possible that a player may immediately allow himself to be sucked into the vortex and out of the scene, but given that this is the very end of the game, it is unlikely that this will happen. First, the player has been conditioned to pursue Mono, as Wander's interest in clinging to Mono despite her death has been reinforced in repeated cutscenes, and in the potentially even stronger play element that the altar bearing Mono is always right in front of the player at the start of every level. So, in addition to the core desire to avoid potential death from the vortex, there is the implied goal that Wander should reach Mono. The fact that Mono is opposite the vortex makes this goal even easier for the player to adopt, even if it is not the initial intent. But even if the player never thinks about Mono, simply acting against the suction brings Wander closer to his goal, and reinforces the theme of Wander's single-minded unwillingness to let go of Mono.

The other reason why an immediate failure is unlikely is a mechanical one: over the course of the game, the player has gotten very good at holding on. As mentioned earlier, every colossus has tried to shake Wander off somehow, so any player that has gotten to the end of the game has become quite skilled at timing grip, such that the player can time a series of holds and releases in order to keep moving forward. The hall space is also designed with all of its rough and carved features to facilitate the player's ability to avoid the suction. This means that for even an averagely skilled player, it is possible to remain in hall for a long time without being sucked into the vortex, and once players get a hang of the rhythm of the suction, they can make good progress up through the hall. Assuming the player figures out the rules of the scene quickly, it is actually possible to remain in the middle of hall indefinitely, slowly creeping forward, occasionally losing ground, but never in danger of being eliminated. All of the training the player has received has prepared him for this moment, and the result is that the scene appears as a challenging environment of gripping and creeping, with the goal of finally reuniting Wander and Mono.

But it is this expectation that the futile interactivity of the scene dashes. Wander will not be reunited with Mono; the player will never be able to reach the altar. The mechanics of the suction are designed so that it is extremely difficult to get to the altar at all, but even if the player does reach the staircase to the altar, the suction will not allow the player to get to the top, and will quickly pull the player back to the middle of the room. So it is not that the player *can* remain in the room indefinitely. The player *will* stay in the hall indefinitely if he keeps pursuing Mono, too skilled to be caught in the vortex, but faced with the mechanical impossibility of reaching the altar. Nothing else ever happens in the hall. The player can take as much time as he wants, but it is inevitable that the player eventually realizes the futility of the scene. In the end, the player must accept that there are only two possibilities: continuing to hold on despite the fact that the goal of reaching Mono will never be reached, or letting go and giving up. Nothing changes until the player gives up, at which point Wander falls into the vortex and the game transitions to the final cutscene.

Embedded in this scene of futile interactivity is the core theme of the entire game. Wander is a tragic hero, motivated by single-minded dedication, recklessness, and grief to try to resurrect his dead love. Simply put, Wander's flaw is that he is unable to let go of Mono. He clings desperately to the unholy and unlikely possibility of bringing her back, which leads him through a series of destructive actions: stealing the sword, trespassing on forbidden lands, killing sixteen mostly harmless and occasionally truly innocent giants, sacrificing his truest friend and companion Agro, and allowing himself to be corrupted and sickened until death. But none of this sacrifice gets Wander closer to his wish. He holds on despite the pain, the ruination, and the growing awareness of the impossibility of his quest. And the culmination of this is the stark interactive metaphor of the final scene, Wander struggling to reach Mono at the altar, fighting the inevitable for a goal that is unachievable. And what the scene represents is the moment of transformation of the tragedy. The player realizes that Wander cannot continue to hang on. Just as they learned fighting the colossi that one's mechanical grip cannot last forever, so too do they realize that there is also a time when they must let go of the quest. When the player makes that decision, Wander does as well, finally giving up on his struggle, and allowing the healing of the game's end to occur. Fittingly, once Wander gives up, Mono *is* restored, Wander is reborn as an infant, Agro returns, and the group of them together find a secret garden and discover a previously-unimagined sign of life, a deer that slowly approaches Mono. It is only when Wander realizes that he can never be reunited with Mono and chooses to let go that the tragedy can end.

Shadow of the Colossus is simply one example of a game that defies the arguments of Eco and Ebert. Shadow is clearly a tragic story, and it is a story with a single outcome dictated by a sense of dramatic necessity both mechanically, in that the game was literally programmed to have its one outcome, and thematically, in that the tragedy that game represents, the unwillingness to accept death and let go of a lost loved one, can only have one outcome – the realization that one has to accept the loss. The genius of Shadow is the way the theme is continually reinforced throughout the game in variety of different tropes: the moral ambiguousness of Wander's quest to kill the colossi; the stoic and single-minded nature that Wander exhibits; the use of animation, audio and visual effects to demonstrate the depth of Wander's struggle; the choice of attributes used to define Wander and thus the player's ability to affect the system; and the construction of the colossus puzzles to feature the concept of grip and choices to hold on and let go as the game's core mechanic. But perhaps the most powerful of these techniques is the game's use of futile interactivity. By constructing interactive scenes where the player is lead to believe that he can succeed when the goal is in fact mechanically impossible, the game uses multiple moments of futile interaction to give the tragedy its emotional power. From the small scenes of Wander's death at the end of each colossus level to the grand finale of Wander's last attempt to reach his dead love, the player

is taught through play about the futility of the struggle and the necessity of letting go. In this way, <u>Shadow of the Colossus</u> creates a tragic play experience by harnessing the power of interaction to enforce a particular dramatic necessity and thus demonstrates one way that games can achieve the same range of aesthetic themes and emotional possibilities of other narrative media.

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[1] **Eco, Umberto. "From Internet to Gutenberg." Lecture. The Italian Academy for Advanced Studies in America, Columbia University, New York, New York. 12 November 1996. See specifically the final paragraph regarding War and Peace.**

[2] **Ebert, Roger. "Publicity material notes that 'Chicken Little' was a Male." Victoria Advocate. 26 November, 2005. 46.**

[3] **Different sources list different translations in English of the character's name ("Wanda"). I have chosen Wander for ease of convenience. This choice has no bearing on the argument, as the character's name is never mentioned in the course of the game.**

[4] **All quotes in the article are drawn from the US version of Shadow of the Colossus.**

[5] **All colossus names are drawn from the Collector's Dengeki PlayStation Magazine released the week of August 18th, 2005.**

"

*But as the phrase
"just this one last turn"
came out of his mouth,
he knew he was stewed.*

"

**KURT SQUIRE
SHREE DURGA
BEN DEVANE**

CIVILIZATION 4

"Josh – I want to get a Civ4 game together for a book chapter we're writing. Can you help?"

"Sure. Hardest part is when. We have a half day of school on Friday 'cuz of finals. Let me ask my mom if I can get a ride."

"What about Morgan?"

"He goes to my school. I'll ask him."

The organization of our Civilization games had not always been so easy. It had taken years for us to reach the point in which we could just get together casually on a weekday afternoon, and fire up a multiplayer game. This process used to be much more institutionally, verging on bureaucratic. We held weekly gaming sessions – shifting to three days per week during the summers – using the *Civilization* series for three years at an after-school youth center. Part of a game-based afterschool program focused on teaching history, geography and trade, these game sessions all started at the same time, lasted three hours, focused on historical-based scenarios and included introduction and debrief periods. These sessions were larger than just the five of us – sometimes they involved five adults facilitating and over twenty young people playing in up to five multiplayer games. The ease with which we gathered on short notice made the game feel more like a hastily organized summer cook-out than an intensely managed after school program.

The surprising ease with which our recent multiplayer games were organized belied the difficult reality of trying to squeeze in a multiplayer game around everyone's schedules. When we started the Civ club in 2004, things were simpler for all of us. Josh and Morgan, who were 10 and 11 at the time (respectively), had relatively little to do after-school other than ride bikes or play soccer. Now, their afternoons are occupied by homework, athletics and other activities. For the adults, times were then easier too. We all had less email, conferences, writing and family commitments to negotiate. The contrast was not simply a product of collective nostalgia either, for a cursory glance at our collective calendars showed that returning to our old hours – participating in a three-hour Civ gaming session each week (three times a week in the summers) would be an impossibility.

It was in this way that we met in the afternoon of a school half day in our computer lab. Quite a bit had changed in the year since the afterschool program ended. Now 14 and 15 years old respectively, Josh and Morgan towered over all of us – even the six-foot tall Ben. The adults, of course, could not go without remarking on such striking changes.

"Cripes, how tall are you guys?" Kurt couldn't help but ask.

"I'm 6'2", he's 6'3," Josh said. Competing time commitments meant that neither could come to *Civ* club regularly for a couple of years. It quickly became clear, however that both still had the same keen interest in history, politics and social issues that they had developed during their participation in the *Civ* club.

"Are you still interested in politics, Morgan?" Last time we had seen Morgan, he had told us he wanted to become a Senator as a result of playing Civilization.[1] We were curious to see if this interest had "stuck".

"Oh yeah. I want to go into politics or criminal justice."

"What do you think about Obama," (we had to ask).
Morgan replied enthusiastically. "I like him, and I think he's going to bring real change."

"I like him too," chimed in Josh. "You know, Obama has already brought change by signing executive orders like closing down Guantanamo and stopping torture." The contrast between Josh's initial attitude towards history and his current attention to history and current events was striking. When he first began his participation in the *Civ* club, he described his opinion of school and social studies in unflattering terms (reported in Squire, DeVane, & Durga, 2008):

Josh: *I don't really like school, unless there's something fun going on, that's the only time there's actually something to do. You just sit there going [puts hand on head to imitate sleeping]. That's all you ever do really.*

Interviewer: *How do you feel about social studies?*

Josh: *Umm social studies can be fun depending on what you're doing. Last year we made a mountain out of graham crackers and we made it stuck together out of frosting and in the end we got to eat it.*

Ben, Josh, and Morgan contemplate the future of the world.

Since then, Josh had gone from "B"s and "C"s in social studies to mostly "A's". On this day both Josh and Morgan had just finished their respective final semester exam in history that they both declared were "easy" for them. While history interested him, Morgan explained, he reported with slight hyperbole that in his world history class he already "knew it all from Civ". In short, the two young men have an impressive knowledge of history and current events for their age. While we would not claim that the *Civ* program alone is responsible for their relative erudition of history, it has been a driving force in their interest and expertise, alongside supportive teachers, parents, independent reading and an interest in the History channel.

The Setup: Selecting Civilizations

Consider, for example, the discussion around what historical mod we would play that day. At the after-school club, we commonly played multiplayer games using a mod related to a historical theme or time-period that one of the participants was studying in school. Consequently, we have developed and played many scenarios over the years, ranging in topic from ancient Mesopotamian civilizations to the 100 Years War to the Industrial Revolution. This practice enabled us to not only create scenarios that might have immediate pay-off in school, but also (and probably more critically), created an atmosphere in which it was normal (and indeed desirable) for participants to talk about the academic study of history in relation to their game play. Asked if they preferred playing a random game-generated map or a historical scenario, Josh and Morgan both quickly agreed that they wanted to play a scenario, and they immediately began discussing what they were studying in school.

"Right now, we're studying Mongolia," Josh started off. He then asked Kurt about the relationship between Genghis and Kublai Khan, which none of the adults could recall with any degree of certainty offhand (Kublai is Genghis' grandson), which lead Josh to consult Wikipedia about the matter - a practice that was encouraged in the *Civ* club. The discussion then turned to how one would play as Mongolian in a game of *Civilization*.

"Well, Mongolia is sandwiched between Russia and China," Morgan (who often played as Russia) added. Ben added that there wasn't much arable land in Mongolia. Josh and Morgan both nodded as if Mongolia's low precipitation rate was common knowledge for a 14 year old. Josh quickly added, "If I was Mongolia, what I'd do is attack Russia or China," citing the arable land available there. The discussion turned to the expansion of the Mongolian Empire from 1206 to 1227 and its historical impact on Asia. Both Josh and Morgan already knew a good deal about the Mongols from other sources.

It should be noted that Josh immediately and casually began to design a successful game play strategy from the perspective of Mongolia as he considered how to offset the disadvantages of the countries geography. This kind of thinking about historical scenarios from different perspectives – e.g. thinking of oneself as a country and thinking about how to balance variables in order to negotiate a complex system – is precisely what playing *Civilization* is about. This is the kind of historical thinking high-end *Civilization* players like Josh and Morgan engage in constantly. At the most basic level, playing *Civilization* has given Josh and Morgan an entrée for

studying world history. It made history interesting and something at which they can develop expertise. At a more advanced level, it has helped them build them build a fluency with historical terms like Mongolia, and provided them in depth knowledge of cultural geography in different historical periods. Both Josh and Morgan had played as Mongolia, Russia, or China many times over the years, and as such it was easy for them to think as a leader of a nation would. Moreover, it scaffolded thinking about the interaction of variables in a complex historical systems - e.g. how regional food supplies affect trade networks, how trade networks influence foreign policy, and how the distribution of natural resources shapes the use of new technologies. It was striking to see how facilely Josh slid into this kind of historical analysis.

Finally, we settled on "Desert War", a North African / Mediterranean Mod from World War II. Josh, who embraced most any war-related scenario knew about Rommel's successes and proceeded to tell us all about them, so he was in. Morgan also had an interest in World War II, so he voted for the Desert War scenario as well. Immediately, this led to light hearted ribbing about who would have to be the Germans. Morgan, who most every game ended up at war with Ben, suggested that because "Ben attacks people for no reason," Ben should have to play as the Germans. Josh joined in: "Oooo. You're going to be evil, Ben!"

Ahh… the game had started. For us, a good *Civ* game involves much more than simply the human-computer interaction; it's profoundly social, and a giant meta-game of posturing, trash-talking and negotiating surrounds every game. Even though we hadn't played in about a year, Morgan was already settling into his familiar pattern of blaming any and all conflict on other players (usually Ben). His strategy was to begin establishing very early on a moral justification for his people to attack another civilization (also usually Ben). The justification for Morgan's "retribution" could be most anything: Past slights from a player, the anticipation of a battle over a precious resource (frequently iron in our "classic Rome" scenarios), or fear of a future strike (pre-emptive warfare). Although Morgan often embraced a doctrine of pre-emptive warfare, it was never his *desire* to go to war. He was simply "defending himself" and responding to global threats.

Unfortunately, the game soon crashed, as it often does on custom mods downloaded from the Internet. Ben restarted the scenario but quickly chose to be the French instead of the Germans. This time, the kids made Kurt be the Germans, and Kurt acquiesced since he was of German descent. This led to a discussion of everyone's ancestry (which included Scottish, Irish, Cameroonian, German, English, and Indian). Over the years, we have consciously connected game play to family histories in order to connect participants' personal lives and histories to the game as well as

highlight and leverage the multi-cultural nature of our participants. As discussed in Squire's (2004) dissertation, many players (particularly those who originated from countries that were colonized) take pleasure in attempting to change the course of history.[1]

"Are those all of the cities the Germans have? Heh. Good luck with that," Ben observed as the game rebooted. Trash talking, table talk, and other verbal negotiations are all a part of a good *Civilization* game – both in terms of strategy and in terms of personal enjoyment. For example, when two civilizations meet, there is usually a verbal exchange of "neutral observations" such as "Oh, I see that you still have warriors? I bet you could use some horses," or "Oh, the Romans have swordsmen. Who do you plan to attack with those?"

To mitigate personal conflict, we instituted a policy that all trash talking has to take place "in character", so that a kid could criticize "The Romans" or "The Germans" but not a specific player. (This also made sense because the historical inequities that define many scenarios make it untrue to say that the relative strength of any civilization was related to one player's actions). Further, this strategy encouraged kids to note which civilization was which and adopt historical vocabulary. By now, this pattern of discussion had become automatic so that none of us even really realized we were doing it.

This practice has overall been a good one, but it occasionally breaks down, as when Kurt (playing as Germans) attempted to "trash talk" Ben (playing as Italians).

As Ben said, "Germans, we should form an alliance," Kurt responded with, "Yes, but I'm not sure your people are really worthy of joining the German… Ok, trash talking really isn't cool when you're the Nazis. That could get weird really fast. Sorry."

Soon, we decided that in the interests of time, we would play a stock version of the game (no historical accuracy) on a small map.

Early Exploration

After the initial banter, we settled in. Although we were playing on fictitious map, everyone made familiar choices on which civ to play. Josh was Egypt for its ability to expand rapidly early. Morgan was Rome as he liked its combination of military and construction. Kurt was the Aztecs for the religious and military bonuses (useful in a multiplayer game full of aggressive teenagers) and Ben was India for its fast workers and religious bonuses. Initially, the table talk was light as players built their cities, first warriors and explorers and tried to get a "handle" on the map.

These choices were in many respects a continuation of past games. Each person played a civilization similar to previous ones. Josh, Morgan, and Ben had each played as that civilization a significant portion (maybe even majority) of the time. Even Kurt's playing as the Aztecs (an unusual choice for him) was in direct conversation with previous games, as he knew that Josh and Morgan frequently attacked other civilizations and he wanted to have a counter-strategy in place.

Kurt settled into a quick lead on the "point system," which is a rough indicator of each Civilization's strength. Although most of us rarely play for "points" on our own, it becomes important in multiplayer games.

"Kurt's in the lead over there. How many cities do you have?", asked Ben, drawing attention to Kurt's early lead.

"Oh, not many," Kurt lied. He actually had 3 and was working on numbers 4 and 5, whereas Josh and the others had 1 or 2. Kurt had settled into a familiar pattern of rapid expansion with a light military designed to defend his perimeter. He had scouted the boundaries of his continent and found an unpopulated corner of the island where he could build cities that would require light fortification. Kurt did not want Josh, or anyone else for that matter to know how many cities he had. If Josh, who was directly North of him figured out that Kurt had this many cities so early, he might also infer that Kurt was spread thin and attack him to make him pay for this aggressive early expansion.

From this exploration, Kurt also found two barbarian camps located between him and Josh. He also identified an area rich in gems and iron that was in between them, which he ascertained would quickly become a contested region. Kurt then shifted his strategy toward containing the barbarians (through building a chariot that could hunt them down), and building a settler (and an archer to defend) who could settle near the gems. Kurt's diplomatic goal was (like often) to draw little attention to himself while solidifying this basic infrastructure.

Josh was right behind Kurt in the score. He had one large, well-developed city. He was pouring lots of resources into building workers and buildings for the city so as to make it an early dominant capitol. Josh (somewhat unusually) had built nearly zero military – something no one would have anticipated.

This scenario highlights how no one game is entirely its own; each game is an extension of previous ones, with players' previous strategies and diplomatic actions coming into play. Kurt adopted a strategy anticipating a potential early attack from Josh. Had he known that his lone chariot could have nearly destroyed Josh … he certainly would have considered it. However, from the adult's perspective, taking

a student out of the game early isn't fun (or productive), so it would not have been likely.

In Josh's case, we see a similar kind of strategy happening. Josh knew there was little, if any chance that Kurt would mount an early attack, so he started building the infrastructure of his civilization virtually ignoring his military defenses. In an especially novel move, Josh was building cottages and hamlets, which in 20, 40, and 100 turns begin to pay great economic dividends. In general, his strategy might be characterized as "investing early".

In many respects, this strategy, while new, was a variant of Josh's well-developed strategy of allying with the nearest adult player, who he used as an insurance of sorts against attacks.[2] Still, virtually ignoring military was extremely unusual for Josh and as such constituted a "bluff" of sorts against Kurt, who was still concerned that Josh would attack him. In the meantime, Josh would build an economic empire that would be forceful later.

This vignette also highlights how any game can also be examined along an individual's trajectory. Each Civilization player in the group maintained his or her own personal history of the game, including evolving theories of satisfying ways to play the game (goals, such as a peaceful victory that players might find personally rewarding), and then strategies for meeting them. Each player's game play can be considered as an evolving hypothesis of entertaining game play: An evolving way of playing that is personally both effective and rewarding.

The players were beginning to suspect that civilizations of both Ben and Morgan were on a different continent than those of Josh and Kurt, as there had been no contact between the two pairs of civilizations despite extensive exploratory efforts on everybody's part and a relatively small map. Ben's civilization was surrounded by jungle terrain, which hinders food production in the game, causing him to lag behind on the scoreboard. Ben grumbled about this handicap, observing how hard it was for civilizations in this position to get a good early start, which can only be removed once a player has obtained iron working (a technology that requires significant investment of resources and time to obtain). Until the surrounding jungle was removed, his cities could not support a regular-size population. Soon, the game announced that the religion Hinduism had been founded by the Indians (Ben) causing the players to rethink what Ben's strategy was. Although Ben had a low point score, he clearly had a strategy in mind.

Morgan lagged behind in points as well. As the group discussed this, Morgan explained that civilization was located on a narrow peninsula. As such he did not have a lot of land to use to produce food because he was encumbered by the sea.

This geographic limitation of his food supply placed him at a population disadvantage similar to Ben's. As such, he had to spend valuable time researching technologies that would improve his ability to harvest food from the sea. This immediately struck the adults as strange; most civilizations are given ample of room for building a few cities early on, so perhaps Morgan was also formulating a long-term strategy.

This table talk around various point totals and discoveries is typical of early game play in which players are sussing out the maps, one another's relative strategic strengths and settling into a strategy. Although high point totals reflect strength, players with lower point totals may be investing in discovering a religion (like Ben did) which can pay off great dividends later, or a great wonder (such as Stonehenge or the Pyramids) which means that the player's points are temporarily suppressed as they invest in the wonder.

Much like in real life, events in a multiplayer Civilization game are constantly open to interpretation and re-interpretation. Players attempt to "spin" what is happening to best meet their individual goals. Sometimes, this means downplaying one's strengths so as not to draw too much attention and motivate others to form alliances. Other times, it means drawing attention to one's successes in order to scare off would be attackers. Each event – from the sighting of a galley on the ocean to the discovery of a religion is open to interpretation, with players vying to explain what is happening and make a case for their interpretation.

What is at stake in these negotiations is more than interpretations, but a "historical" narrative of the state of the world, player's intentions and what the likely outcomes are going to be. In arguing that he has no room to expand, Morgan is claiming that he is unluckily placed in a bad spot, simply struggling to survive, and has no intentions of attacking anyone else. (Isn't this always the case for Morgan, who as the reader may recall is constantly building a moral case for his future actions). Ben is similarly "stuck in a bad spot", resorting to religion as a way of strengthening his civilization (although will he use this religion later to create a fundamentalist government that dominates through military, or a global network of temples that fills his coffers?). Meanwhile, Kurt and Josh, who are doing relatively well but are under-developed militarily, just hope that no one notices so that they can continue their plans.

Of course, all of this table talk occurs "on top" of the other game play of building cities and infrastructure, scouting for resources, fighting barbarians, selecting technologies to pursue, maintaining military defenses and constructing buildings. Nitsche's (2006) distinction between the planes of gaming is useful here. There is the first level of the game, the game as it is coded and occurs in the box. On the second level, the game is as it is actually enacted on screen. The third level is the game as the player imagines it in his / her head; the fourth plane is the action actions

occurring in real space (the mouse clicks, and so on). But what we are discussing here is the fifth plane of gaming, the social plane in which players interact. To an observer, the activity would at this point look very social (although it would make little sense), with players talking back and fourth with the game as the focal, shared object for understandings.

The "real" game play does not occur at any of these levels, but is at the intersection across them. Part of what makes a civilization game compelling is when these five elements all work in concert, with the player developing a robust mental model (level 3) of the game system which is being responded to by feedback occurring on screen (level 2), and then negotiated through social interaction (level 5) and so on.

After about 30-45 minutes of play, the game was humming along on all five levels, and a feeling of immersion overcame the room. As a player, the feeling might be described as "familiar" and "welcoming," the feeling of picking up an old, neglected musical instrument, and / or reuniting with old friends around a poker game. Indeed, we began sharing with one another how good it was to get together again. We were struck by how "at home" it felt to be back in our familiar chairs and having our familiar discussions, despite years of little contact. Clearly at some point we all went beyond the standard relationship of researchers and research participants, and became old friends of a sort. It is hard to describe this feeling, other than to say that we have also experienced similar feelings playing poker with old friends or raiding with a long-standing guild. There is something about gaming together, temporarily coming together to construct a ludic environment that is separate from the daily grind that is compelling.

Immersion: Settling into the Rhythm

As the game becomes established, Josh begins building momentum. He builds the game's first wonder, Stonehenge. Building Stonehenge, generally considered a peaceful, infrastructure type of wonder has several effects: It centers the world map, giving the player a general sense of his location; it provides a free obelisk in every city (which generates culture), gives +8 culture points per turn to the city that builds it and increases the likelihood of a civilization developing a Great Prophet. Kurt and others pause briefly to make a mental note of this. Josh is at least semi-serious about a peaceful, expansionist strategy (or he just did one heck of an expensive bluff). However, it also means that he is probably about to expand fast. For Kurt, this means that the areas between them are likely to become contested quickly.

Josh deflects this attention by highlighting how he's focusing on science and not religion (which suggests a long term strategy and potentially peaceful victory

scenario). Interestingly, Josh comments that these two are "incompatible in the game as well as real life," making a somewhat subtle assertion about his own beliefs about religion and science. Josh points to the technology tree as evidence for this incompatibility in game. This is just one small example of participants using Civilization as a model to think through "real world" phenomena – which have ranged from current events to foreign policy, to the factors behind geopolitical strength to nature of knowledge in the world.

In response to this development, Kurt immediately shifts his priorities from one of exploring many routes to one of specifically sending a chariot up towards Josh's territory to force him to build a defense. Meanwhile, he will expand his cities to the North to contain Josh, and create a network of archers to defend against barbarians. The luxury of building up a civilization and ignoring Josh was over.

Soon, Kurt and Josh meet. Kurt's Chariot skirts around Josh's borders somewhat passively aggressively. There are no defenses in sight. The very presence of Kurt's chariot hints at the fact that Josh is vulnerable. Josh has sent explorers into Kurt's territory as well, and is plotting expansion near Kurt's borders. Both Kurt and Josh meet the Incan civilization (controlled by the computer) and quickly hammer out a quick informal agreement to both be at peace but to consider allying if the Incans attack. Although all is peaceful on the Kurt / Josh front, the potential for conflict is rising. Secretively, both Kurt and Josh build galleys that can "discover" Ben and Morgan. Discovering other civilizations enables the trade of technology (very helpful in an economic or military war), and enable a military alliance if necessary.

On the other continent, Ben and Morgan continue their game of cat and mouse. Both discovered the location of Morgan's civilization first, and teases Morgan about not knowing where he is, calling his bluff on being surrounded by ocean.
"You're right there!". Ben's immediate concern is to tame the jungle, so he has built many fast workers who can transform his civilization. They make an open borders agreement, which enables both to enter one another's territory. Although this may, at first glance seem like an entirely peaceful kind of move, it is also risky. Trade routes form between cities, adding to their economies. Similarly, religion can spread between cities. However, both players can now see one another's cities, resources (like iron) and move freely within their borders. Open borders creates an implied trust as each player is now exposed, but it's a trust that is all-too-frequently broken.

Ben's strategy here is to spread his religion (Hinduism) into Morgan's territory. Spreading one's religion makes it more difficult for that civilization to maintain war against you, and tithes some of their money back to you. In this case, it was a defensive move, anticipating Morgan's inevitable attack against Ben.

As a part of his move toward global interdependence, Kurt researches "writing" and quietly begins trading technologies with Morgan behind the scenes. This move gained Kurt leverage against Josh (by forming a global trade network he was not a part of), while also staving off Ben (who with his religion has a long term built-in advantage). Bolstering Morgan (Ben's neighbor) increased the odds that Ben would need to build military units for defense against Morgan – which siphons resources off from his economy. Just like in the real world, encouraging a protracted cold war between other countries can be an effective defense.

In terms of a multiplayer gaming community, this kind of trading and negotiating has the added benefit of rebalancing the game so that no one person becomes too powerful. As a multiplayer competitive game, Civilization frequently acts as a self-correcting system rebalancing itself out; if one civilization becomes too strong, the others knock it back a peg through alliances and trade. As adults, we are able to ally with weaker players and / or give them help through favorable trade deals to keep the game fun. It was very common for an adult to take a new player under his / her wing and form a "team". Because few of our games ever go to completion, the zero-sum nature of the stock game rules don't really apply, and each kid can feel as if she is achieving some level of success.

Investment: Conventional Conflict.

"The Romans attack the Indians" flashed across the screens of Josh and Morgan. As a person who knew their game play history together might have guessed, Ben and Morgan were at war.

Roughly three and a half years ago, Morgan and Ben became perennial arch-enemies within the *Civilization* game series. Although many of the facts underlying the rivalry remain contested, there seems to be a general consensus about the formal start of the rivalry. Morgan and Ben were playing a multi-player game at the Civ club with several other participants. Ben had established himself at the top of the scoreboard by building a small but highly populated civilization, and Morgan was not far behind in second place in the score count. Morgan began contemplating military action against Ben's civilization, but wanted to recruit allies to ensure his victory. Morgan began passionately imploring the others playing to ally with him against Ben, and assured other players that there would be a swift victory. Ben challenged him, claiming that he had been nonaggressive during the game and did not deserve to be attacked. Bristling, Morgan turned to the other players and started a passionate refrain, "But he always attacks people for no reason." While Ben maintained and still maintains that he is and always has been a relatively nonaggressive *Civilization* player, Morgan's exhortation became a near-ritual utterance during games in

which Ben and Morgan were both playing, and lead to a multi-year rivalry between the two.

"What are you guys doing over there?" Kurt asked, but Morgan and Ben were both engrossed in conflict and only mumbled out answers. Morgan claimed that he was preemptively defending himself from an attack, and Ben, flustered and surprised about the attack declared that he was "screwed." Pressed for an explanation, Ben clarified that he had not built many military units or infrastructure as he was not expecting an attack this early in the game.

Morgan had invaded Ben's northern border with around four strong military units - three Axemen and one Praetorian. The Praetorian, Rome's unique military unit, is particularly powerful during early periods of the game, and Morgan had decided to pursue an offensive strategy using them. To explain further, the game gives each civilization a unique unit that has a strategic advantage during its time period. If one has any designs on going to war, it is generally good idea to do so during the time period in which the unit is strongest, as Morgan did. Still, the attack may have been unprovoked – Ben even had an "open borders" agreement with Morgan to facilitate trade at the time of the attack.

Ben, perhaps worried about Morgan's display of overwhelming force and losing face as a result of a defeat by his rival, suggested that it was getting late and might be time to end the game. However, this suggestion was rejected by all the other participants, and so Ben faced his fate. It took Morgan a few turns to move his Praetorian unit from Ben's northern border to his Northern city. Unfortunately for Morgan, this delay allowed Ben to reinforce his city with walls and a couple of extra units, which resulting in Morgan losing his Praetorian unit, as well as his other offensive units, when he attacked the city. Morgan groaned and shouted, "How could this happen?" in disappointment and disbelief. Ben, meanwhile, gloated over his unexpected victory.

"See what happens when you try that? You lose!" Ben exclaimed. "I thought I taught you not to attack cities with defensive bonuses head-on."

Morgan continued his offensive against Ben, but the element of surprise had been lost, and with it his large military advantage. Ben, however, had to shift his civilization out of its technological and religious strategy, and into a full war mobilization, thereby costing him precious turns that would make it harder for him to catch up to Kurt. Morgan continued to bemoan his initial loss, and claimed that Ben had just "gotten lucky." The war between Ben and Morgan continued in stalemate for a half-hour until it was time for Morgan and Josh to leave for home.

Back on the other side of the world, the conflict between Josh and Kurt had died down, mostly because Josh was being overrun by barbarians and was on the verge of extinction. Kurt's archers had effectively chased the barbarians up into Josh's territory. They had created a settlement outside of Josh's borders (something Kurt neglected to tell Josh about) and now they were knocking on the doors of his capitol city, just like the Mongolian horde did to first the Chinese, and then Rome 1000 years ago.

"I need help now! Can you send that chariot over to help?" Josh asked.

"Absolutely. I'll send him right there," Kurt responded. However, Kurt's chariot was characteristically slow in responding, getting sidetracked by small skirmishes and stuck in the mountains along the way. By the time he arrived, Josh's capitol city had been overrun.

"Barbarians have taken over Thebes!" lit up the chat logs. Moans and groans of sympathy for Josh, who had just lost his main capitol, including all of his cottages, hamlets, and even Stonehenge.

Before anyone even realized what happened, Kurt's chariot appeared and took Thebes away from the barbarians, meaning that he had just captured Josh's capitol – with Stonehenge — for himself.
"The Aztecs have captured Thebes!" flashed across everyone's screens.

Josh was now reeling. He had caught a bad break and lost most of his civilization to first the barbarians, and now a more powerful human enemy.

Taking Josh's capitol city this way – under the conditions that it was a barbarian city was now a barbarian city – was technically not an act of aggression but surely would be read as such if not given back. Kurt's score shot up way past Josh's on the list.

"Do you want it back?" Kurt asked, as if the answer would be anything other than yes.

"Sure," Josh said as non-chalantly as possible. Kurt open up the trade window and offered Thebes. In return, Josh offered some gold. Both accepted.

And with that, the war ended, with Josh substantially weakened from the battle. In truth, Kurt probably had to return the city because couldn't he really hold it anyway. It was too far from his capitol, culturally still very "Egyptian" (making it likely to revolt), and still exposed to barbarians with a lone chariot as a defense.

And with that, the chapter had closed. For Kurt, the next strategy was to dominate the continent and box Josh in on the Northern half of the continent. With a little luck, he could even expand into Josh's territory "peacefully" through building a strong culture. To achieve this, he would focus on applying his military to beat back barbarians, "cranking out settlers" to fill in the unsettled areas, and establishing cultural outposts along the borders with Josh. Simultaneously, he would think about founding a religion and getting a jump up on technologies compared to the rest of the game. In short, he was in the midst of a "golden age" and needed to fortify his position while others were reeling.

For Josh, the challenge was to seek out revenge on the barbarians and perhaps even enlist Kurt's help in doing so, but making sure that Josh received all the spoils. Josh had on his side the reality of a moral justifiable war against the computer, and he intended to take back what was his.

One More Turn

"Umm Josh, don't you have to go?". It was 4:25. Josh's mom got off of work at 4:30, and if Josh wanted a ride home, he needed to call her now.

"Yeah, umm, well… I'll find a ride home..." His voice trailed off as he turned back to the screen.

"Kurt, don't *you* have to go pick up your son?"

"Yeah… but I can wait a few more minutes. I can get there in 20 minutes or so. I can wait one more turn. Josh do you want a ride?"

"Maybe," Josh said.

"What about you, Morgan?" Kurt asked. Although he was starting to somehow justify to himself that he could turn a 30 minute drive into 20 minutes and afford to be a few minutes late, the reality of having two teenagers stuck in the computer lab overnight was beginning to hit him in the face. They needed to call this game now.
"Morgan can go home with me," Josh suggested.

"Kurt your phone is ringing. It's Constance." Constance, his wife, had called.

"Whew, you're getting Walt…. Wait, if you are, why are you still there?" It was now 4:40. Kurt tried his best to explain how for research purposes, it was important that they finish this just this one last turn, but as the phrase "just this one last turn" came out of his mouth, he knew he was stewed.

"Just one more turn" is a common phrase among *Civ* gamers (one that Constance herself knew and had used many times), meaning, "I'm hooked on this game right now and don't plan on finishing yet." *One more turns* have been known to last hours, even days.

With that, Kurt turned off his monitor, unplugged his phone and stood up.
"That's it. I have to go. NOW." Kurt stumbled out the door, not even looking back as if the remainder of the room had some sort of a disease. "I don't care what you do… finish it, don't whatever… I'll call you when I'm on my way."

With that, the game was over.

A Community Game Well Played

Just what makes Civilization so compelling is the subject of countless reviews, articles, and message board ruminations, and probably beyond the immediate scope of this article. However, a few things are worth mentioning. First is the "just one more turn" phenomena. Part of why Civ works is that it creates overlapping goal structures. Players develop immediate goals (like Ben's desire to clear the jungle), which break down into subgoals (build workers), and then are subject to modification as orthogonal goals (develop a religion), and new conditions (Morgan is attacking) take place. Civilization's game play is to a large extent an endless series of cycling between goals, strategies, and sub-goals as players adjust to the game's conditions.

The second pleasure is one of learning to "think like the system." As Ted Friedman (1998) points out, a primary pleasure of civilization is very cyborgians, a feeling of "entering" the game world and thinking like the computer. One's civilization is on the one hand, a creation, much like a pet. However, it is also in a very real sense, one's own creation, as the buildings, roads, and technologies are all artifacts of the player's decisions. The player then, feels immersed in that particular game world, with its history and peculiarities. With *Civilization*, a game series with multiple titles and infinite permutations of any one game, the relationship to the underlying "system" becomes quite amorphous. It no longer is any one map, civilization, or even set of rules; rather, it is a relationship with a mode of being.

If single player *Civilization* games have us feeling like cyborgs, multiplayer civilization games are unique in that they are a *shared* experience. The feeling of a *Civilization* game might be described as a *shared* cyborgian hallucination in the sense that they involve multiple people vicariously being part of this same synthetic system. It is the creation of a group's actions, a virtual world that builds and responds to

players' actions, but then goes away when the power switch is flicked off. However, while it is alive, the multiplayer *Civilization* game is like a living breathing entity responding to players actions. In many ways, *Civilization* games do begin to capture that mystical goal game developers have long had of creating "interactive" jazz, as players collectively create games these shared compositions.

Time is in many respects an apt framework for thinking about *Civilization*. On a minute, moment-to-moment kind of level one can describe the rhythm and feel of a Civilization game, which as Will Wright once aptly described, is like settling into a comfortable leather chair. The turn-based nature of the game means that one can settle in and linger over key decisions and events. Much like a chair, the game becomes even more familiar and comfortable as it matures and ages.

Drawing from Davidson's (2008) framework, we might also look at a *Civilization* game as it evolves through time. There is first the set-up. This is made more complicated here due to the reality of coordinating multiple people (and in that respect resembling a raid in an MMO more than say, a traditional console game). The next phase we experienced, which we labeled exploration shares much in common with Davidson's notion of *involvement*. It is here that we are introduced to the game and explore its internal dimensions. In Civilization, the player's practices are much more about exploration in terms of defining immediate goals, identifying resources and devising strategies to get them. However, the key idea here is that the game (when it succeeds) creates a coupling between the player and the system that leads to immersion.

Much as Davidson described, our next phase might be characterized as immersion. Here, we had each developed multiple sets of overlapping goals that were "humming along" in order to produce an immersive experience. It is intriguing that a game such as Civilization, which is famously built around "interesting choices" as opposed to more visceral action would produce such a similar curve as Davidson's analysis.

Within a multiplayer *Civilization* game, we see that this immersive experience is deeply mediated by social context. The processes by which participants become immersed is only partially explained via human-computer interaction; in addition players' desire to commune with other players, to settle old scores, or try out new ideas within a group also drive players.

The key idea here is that in these multiplayer *Civilization* contexts, it is difficult to separate the game play from the social contexts in which it is situated. The pleasures of the game very much involve connecting with friends, settling into familiar and comfortable social roles (and jokes), and trying on and developing a social role. In this case, the game play is not unlike that of an MMO such as *World of Warcraft*, in

which case a player might experience being the trustworthy tank, the lethal damage dealer or the supportive druid. The game play is about trying on and playing with different roles within a social context that evolve over time.

As such, Civilization game play is in most respects like an MMO but also like a friendly game of poker. Players are, after all, generally working in direct competition. One player's success comes at the expense of another's (although most realize that collective entertainment is goal; otherwise the game would not ultimately be interesting). Players are both creating and sustaining a social gaming context, while also pursuing individual goals.

Games like Civilization provide excellent models for "family" oriented games (particularly games on the Wii), which exist in large part to create social cohesion. The experience of a shared virtual world (which we have described as an hallucination) can be profound. One can easily imagine other kinds of shared experiences that families or social groups might benefit by having.

Regardless, this example of a well played Civilization game reminds us of the social origins of much of gaming, and calls into question where the boundaries of a game begin and end. With many games, analysts are tempted to examine the code, the representations, or even the game being played in the player's head. With this case of Civilization, this sort of analysis doesn't even begin to capture the "game" being played. The game is reminiscent a game of poker in that it has a living, breathing social history. It is difficult to understand the game phenomena I few rigidly draw the boundaries around one particular game session; instead, to account for the game play, we need to see these games as a part of a group's history.

The social community provides the context for the play, both in terms of being an audience and being the "game" that the player is playing against. Each participant here was, to some extent, playing the others as the game, whether it be Morgan's endless campaigns against Ben, or Kurt and Josh's cat and mouse game over contested territories. It is encouraging that the field of game studies is beginning to look at these multiple dimensions of play, but it is our hope that as we continue to investigate the relations between them, as well as looking at them individually.

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[1] Having said that, kids developed "favorite" civilizations with little obvious connection to their lived histories, revolving more around an interest area (such as naval warfare), or a media property, such as the film 300.

[2] This strategy goes back several years, to when Josh was 10 or 11 years old and Levi Giovanetto was running the program. Levi is an exceptionally skilled player who could take on all of the kids at once and still prevail; meaning that allying with Levi was almost mandatory for survival. Josh developed this strategy of cozying up to other powers as a way of negotiating protection and biding his time for when the best strategic opportunity to attack arose.

"

I also love that in this game there are no true enemies.

"

KATHERINE ISBISTER

PARAPPA THE RAPPER
(OR, HOW I LEARNED TO LOVE RODNEY ALAN GREENBLAT AND MASAYA MATSUURA)

I was living in Kyoto, Japan, doing a one-year postdoc at NTT (at the time Japan's telecom monopoly, with seemingly bottomless pockets for research). My boyfriend and I had an apartment in company housing in the suburbs, and were the only gaijin within biking distance (maybe even within a short drive). Each day I rode the train into work with lots of company men and office ladies, towering above a field of bobbing heads with neat dark hair, as we swayed along. After work I'd stop by the local grocery/department store, where small children with their moms often gawked at me as I perused the strangely different vegetables and the aisles of rice, pining for whole wheat bread, decent jarred pasta sauce, and cheese that wasn't a tiny round camembert. I was struggling to learn Japanese but found by the time I got home what I wanted to do was read an English novel and retreat from the sea of difference around me and rest up to get ready for another day adrift in it.

Though I made some great friends by the end of my time there, some of the friendliest faces in the crowd in Japan in my memories now are still the adorable characters I'd see on advertisements in train stations and along the streets, for anything from cleaning products to soda to the latest video game. At the time I'm writing about, I'd been seeing a cute smiling dog with an orange stocking cap on, with a tantalizing wisp of English text — 'Parappa the Rapper'. Something about him made me really want to try out the videogame. So my boyfriend surprised me on my birthday with a Japanese PlayStation, which we hooked up to the complimentary television that came with our apartment.

It was somewhat challenging to work our way through the Japanese menus of the game, but to our delight the singing and the commentary was all in English. I was nervous about how well I'd do — my videogame prowess at the time was limited to very rusty skills at playing the arcade version of Centipede, and a guilty workplace addiction to Tetris I'd had a few years earlier. But the control scheme was so simple! In fact I heard later that some skeptics when the game was released thought it was just a training game for learning the new controller pad for the PS 1, and thought it hardly seemed a game at all.

But for me, Parappa was not only a fun game, but also a powerful emotional experience. It was the first game I thought of when Drew told me about this book project. So I decided to try to unpack what it was about Parappa that resonated so strongly, by doing my best to relive the experience of playing for the first time.

I Gotta Believe! (Getting into Parappa's worldview)

Settling in front of our TV on the tatami livingroom floor, I watch the opening scene in the game. It's a black and white very cartoony movie of a hero saving a little beaver or something from a giant space alien. The movie ends and I realize I'm watching a cast of curiously flat but wildly colorful cartoon characters who were watching the movie themselves. They shuffle out of the movie house off to their local burger joint and order lunch together. Parappa is daydreaming about the daisy-faced girl he has a crush on, while he stands in line. Shortly after they get to their table, some bully starts to harass them, asking her to go outside with him. Suddenly, a square-jawed Dudley-do-Rite type barges in and starts to confront the bullies, but instead buries them in an avalanche of hero-ly prose. Meanwhile Sunny (the daisy girl) and her friends simply walk out while this is going on, leaving Parappa mulling over how he too, should become a hero. But how can he do this, he wonders. He says, "I know… I gotta believe!" This launches the player into the tutorial level with Grand Master Onion. And the game begins.

The game mechanic is comfortingly simple for me — I have to do a rap call and response with my kung fu onion teacher, by pressing on the proper buttons on the game controller pad. He spells out the moves I need to learn — 'kick punch block' — and they correspond to the four shape buttons and the top left and right buttons. Parappa says the words as I press the buttons, thus rapping out what I'm doing. I have a clear status indicator 'U rappin' Great, Good, Bad Awful. When I start doing badly, the music sounds worse and worse, and the characters watching behind us get unhappy — so does the master. If I finish with not too many errors, he praises me and tells me I can go on to the next level. It's funny, but his subdued praise makes me feel genuinely pleased. Maybe because I truly feel like he watched my performance in great detail, and has a good feel for whether I did well or not.

The music we're rapping to is punchy and simple and has a sort of vaguely 'eastern' flavor. Master Onion is a colorful cardboard cut-out homage to the classic kung fu mentor. I have to take a moment here to point out the sheer genius of the art style, and how profoundly it has contributed to my deep affection for this game[3]. The characters are floppy flat cut-outs, but they move in a 3D world. So, when they turn sideways they just about disappear. They have a wonderful loopy loose appeal in the way they move to the music. Their faces are overlarge in the classic old style babyface look of early video games, with big eyes and round heads. Parappa looks like a lost little boy in his big orange cap, sneakers, and t-shirt and jeans. He's actually pretty androgynous in that Japanese anime young hero kind of way. I can't help thinking about Scott McCloud's rant in Understanding Comics, about how more abstracted characters don't get in the way of you projecting yourself deep into identifying with them… I really felt this way when I played the game. I was Parappa — the wide-eyed young optimist in a world full of sassy but ultimately supportive mentors. What a great place to hide out after a day of trying to figure out the complex nonverbal communication and subtle power struggles going on around the conference table at my research lab! If I could just rap perfectly on this one song, life would be good and I'd even be praised by my cute little mentor!

Normally I struggle with twitch games because I get so overhyped with adrenaline that I start messing up and getting really frustrated, but somehow the musical element of things kept me grounded. The beat kept me calm enough to stay in the game, to hang in there and master the nuances of the rhythms.

Each of the songs was simply a pleasure in and of itself. And the dynamics between the bossy mentors and Parappa were really fun as well. I think my favorite song was the one right after the tutorial level. Parappa's goal was to pass a driving test, and the instructor was a moose in a policewoman uniform whose rapping really reminds me to this day of Queen Latifa. She orders me to 'step on the brakes, step on the gas, now turn left' and so forth. There's a sort of tinny piano riff going on behind the rap, and the whole thing looks a little like those 50s movies where there's the obviously fake streetscape running behind the actors as they drive and have serious conversations when they really should wreck the car given how much attention they are paying the road. Both her head and my head are bobbing in time as we do our call and response rap. I'm deeply engrossed sitting there cross-legged at the TV, it's time to go to bed but I just want to try one more time! Such a safe and engaging world. Later on I discover once I've played through the game that when I get to 'Cool' I can rap freestyle and she ejects herself out of the car and flies around off in the sky while I drive solo. It's fun, but for me, not as fun as bobbing along together. Driving around with Moosolini I felt like the sidekick to a bossy but definitely mischievous compatriot who would lead me into adventure.

The next level is a lilting Jamaican style rap by a frog who runs a fleamarket booth. He teaches Parappa how to sell stuff. The fourth is a chicken who runs a cooking show teaching Parappa how to bake a cake for Sunny. In the fifth stage, everyone is queued up at a gas station restroom and Parappa has to rap his way to the front of the line before he has an accident, facing off each of the previous characters. He got a tummy ache from eating the seafood cake he made in the prior level. One of my favorite touches during the related cut scene is his imagining a flock of birds flying through the sky as swooping brigades of toilets, during his romantic moment at sunset with Sunny. Sunny thinks his face looks manly as he grimaces with the pain of holding it in. I have to admit at this point that I found Sunny really annoying. She had a high, squeaky voice, and was a sort of caricature of the sugar sweet popular girl that everyone loves… it was the one false note for me in the game experience. Even her face, a big daisy, was a strike against her, as I don't like daisies that much (so many other more interesting flowers!). In retrospect I wonder if my response wasn't partly because having to watch her broke my ability to suspend disbelief and become Parappa. I didn't like her and wasn't motivated to please her, and couldn't really empathize with Parappa on that level… you like THAT girl? Please!

The last level of this actually very short game is a rap party at which a dreadlock-and-sunglasses-wearing MC leads the crowd in a call and response with all the rappers on stage, including Parappa, who is now a real pro. I felt so proud of little Parappa, up there on the big stage. I know that sounds so corny but, well, there it is. Also everyone being up there together was such a nice contrast to the assumption I'd had that Parappa would be up there alone, the big solo star. Instead, he was taking his place in the pantheon of great rappers, side-by-side with his mentors. I definitely had the feeling when playing that I was at a big party with all my friends, showing off my new skills and getting their appreciation and admiration, too.

I was genuinely sad when I had played through the game completely. I would've forced all my American friends to play it too, if they had been nearby. When Um Jamma Lammy, the sequel, came out, I eagerly bought it, but it just didn't match the appeal of the original. Mulling over why this was the case (as I prepared this chapter) helped clarify some of the subtleties of the genius of the original game.

Thinking it Through — What Makes this Game so Great?

Pulling apart my retrospective of what it felt like to play Parappa, I would say some of the reasons the game touched me are:

1. It's such a happy world. The atmosphere is happy, uplifting, positive, and nonviolent. It's a sunny, pleasant, small-town world Parappa lives in. Sure there's

a bully involved, but no one that he'll try to murder with a large weapon. Parappa's life challenges are ones that are easy to relate to, that I felt could be easily mastered (more so than the ones going on in my daily life at that time). He has a sort of Tony Robbins-esque self-help mantra 'I Gotta Believe!' which is corny but also appealing.

2. I get what I need to do (and it's fun, too). The game mechanic is a mapping of a familiar real-world activity that's fun in and of itself, with plenty of room for mastery and personal expression. I've always liked to sing, and I understood right away what I had to do and how to know if I did it well. The 'Cool' mode allowed me to do some freestyling, and the call and response part was a very astute and intuitive way of building in a sense of affection and trust and interdependence between me and the NPCs. It feels like a truly social world for me, because of this. I genuinely bonded with my mentors in the course of rapping with them. And even though the button mashing is a small-scale, pretty mechanical action, I'm projecting myself into the fluid, fabulous dance moves of these spaghetti-like characters, grooving to the music. The designers artfully avoided the 'uncanny valley' that Masahiro Mori describes — the creepiness of things that almost look and move as if they are human.

3. I can relate to the situations. They are universal and understandable. Needing to get a driver's license, cooking for someone, having an embarrassing biological moment on a date, getting to show off your hard work in a performance — these are all situations that I could easily grasp and empathize with.

4. The player character is deeply appealing, with a classic babyface[4] and simple, androgynous[5] clothes. He's an everyman who wants to become a hero, and succeeds at it. He's silly but not a total laughingstock. As a player, I was really rooting for Parappa to do well, and somehow he absorbed the embarrassment of me not doing well at first, which gave me the confidence to keep at it. Really great player-characters[6] tie gameplay mechanics and mastery closely and seamlessly to the backstory and fantasy qualities of a character. Parappa's mastery of the skills he learns in the game, in order to win Sunny, have a nice arc that meshes well with my own mastery of the rap mechanic as I play the game.

5. The non-player characters are brilliantly designed. For me, Parappa's deep genius as an experience lay in the choices made in crafting the NPCs, and their relationship to the player. The game starts out with a classic kung fu master ordering the player around, and progresses to a driver's ed teacher, then a flea market salesperson, a cooking show host, and finally an MC who is just directing things along. If you think carefully about these roles, you can see that the player's relationship to the mentors moves from one in which the player is very low in power, to one in which the player is really a peer being hosted[7]. The feeling that I had as a player in dealing with these

mentors moved from feeling childlike and out of my depth, to feeling like a decent apprentice (the frog and chicken raps), to feeling like I was a true journeyman rapper

(beating everyone in the toilet line), to feeling like I'd truly arrived (on stage with the MC and the others). This power progression ties really nicely to the actual mastery that a player has as the game progresses.

Each character plays upon the stereotyped[8] qualities of a person in the social role set up in that level. Grand Master Onion has the brusque voice and manner of a kung fu movie mentor. Officer Moosolini, the driving instructor, has the brash absolutist style of instruction one might expect from such a bureaucrat. The flea market salesman's rolling, mellow style corresponds to the qualities that one

(sometimes) sees in real-life flea market sales people. The cooking show hostess has a bit of Julia Child in her manner and voice. And the final MC has a style that echoes what one hears on the airwaves and on TV. In each case, the manner of the mentor has an emotional impact on me as the player — I can't help reacting to the bossy driving coach as I try to mash the right buttons. I get immersed in the cooking instructions as I struggle to craft the same cake as the cooking teacher. And so forth. The designers tied personality and procedure very tightly, making the most of the personas that they crafted for these NPCs. Of course the actual raps recorded make a huge positive impression. I didn't mind hearing them over and over again as I tried to master each song.

I want to reiterate here how the core mechanic of rap call and response built a very nice sense of sharing a task and being 'in it together' for me, with the mentors in each level. Somehow the praise of each felt real at the end of the level, because they were really teaching me a task that mattered to them, and I could imagine that they'd be pleased when I succeeded. I think also, I felt closer to them because we'd shared the experience of rapping, getting deeply in synch with one another. So their opinions mattered more because I felt closer to them.

Another interesting set of choices was the small scale skills that I was being taught by these folks. I learned how to defend myself, how to drive, how to sell things at a flea market, how to bake a cake. These mentors are not superheroes; they are small scale people living small scale lives, like Parappa himself. And I get to see them all caught with their pants down, so to speak, in the bathroom line. Like seeing your grade school teacher show up with wet hair fresh from the shower or something. The way they are all on stage at the end speaks to the capacity of any person to succeed.

I also love that in this game there are no true enemies. It's very zen — just challenges to be mastered, people to be turned to for support, based on your own hard work in following along with them to learn how to do what they do.

6.The feedback system is clear and engaging. It was easy to tell how I was doing, not just by the text indicator, but also by shifts in the music and in the appearance of the spectators and the main mentor. Making the feedback be not just numbers or indicator bars, but also sound shifts and visual changes in characters that I could pick up out of the corner of my eye as I played, was very helpful for someone like me without years of training in reading all the elaborate elements of the usual heads up display. I think, also, that these kinds of cues feel more social and natural in a game world that isn't about fighting off the destruction of the universe by aliens or some other kind of militaristic-style adventure in which you might actually be wearing a HUD. So it felt more immersive and plausible for me.

What's Not to Like?

I went back and looked at reviews of Parappa from the time. Several complained that it was too short or too easy, something that might not be as much of an issue in today's game market, if the game was not sold at standard console full price, but was considered part of the burgeoning casual games genre. Otherwise most found it innovative and engaging.

It's hard to remember exactly how long I played Parappa, but I would guess I spent somewhere around 20 hours over a couple weeks post-birthday, unwinding after work. I didn't get obsessive about mastering the cool rapping feature — if I had that probably would've consumed a few more hours, but not many. So it certainly wasn't a long-play game for me personally. I didn't find it too easy or too hard (which probably means it was too easy for most hardcore gamers).

Personally, I found one flaw in Parappa, despite my adoration. I had that classic gamer feeling of impatience with the cut scenes — this may have been exacerbated by the fact that, as I mentioned above, I found Sunny (Parappa's lady love) cloying and annoying, so I wasn't really motivated to help him succeed with her. I definitely wanted to pilot him while he learned how to drive or sell flea market wares or bake a cake, I just didn't care much about why he was doing it. The relationships I was really sold on were between him and these rapping mentors, not between him and Sunny. I suppose this brings up issues I mention in the chapter on gender in my book on game character design — creating appeal among both men and women may mean that love interest plot lines aren't the best choice for building goal empathy. It could also be that if I had rapped with Sunny — gotten a better feel for her, and seen her take some initiative and action in a fun way — I would've bonded with her more.

About the Design Team

The artist responsible for Parappa's visual design, Rodney Alan Greenblat, is prolific and multi-talented. Before the Parappa project, he completely designed and produced his own cd-rom title called the Dazzeloids, one of the Voyager discs that were a grand artistic experiment in the early 1990s. Greenblat draws inspiration from cartoon artists and loves characters such as Bullwinkle and Bugs Bunny. You can get a feel for his artwork by visiting his website: http://www.whimsyload.com. Greenblat is a real phenomenon in Japan, and when I was living there you could find all kinds of the usual auxiliary products that go along with games or movies there, e.g. alarm clocks, little dolls, and the like. Rodney did a series of children's books such as Thunder Bunny, a story of 'three interesting children who find a giant egg which hatches to reveal a large fluffy bunny. The bunny grows huge, and realizes it is a cloud bunny. The children join Thunder Bunny on a wild hopping adventure to cloudland where Thunder is reunited with his cloud family.' He has a truly whimsical imagination that is somehow both light and also very direct about grappling with deeper issues. I think his skill as both an artist and a storyteller came in very handy in shaping the characters for Parappa. As he describes it in interviews on his website, he would take direction from Matsuura and would come up with character sketches that matched the designer's vision, sometimes hitting the nail on the head and sometimes having to iterate many times. Matsuura had a copy of Dazzeloids and really loved Greenblat's artwork, and that's how the partnership came to be. (An aside — if you happen to live in the NYC area, you can sometimes see Greenblat's artwork for sale in a Hudson Gallery called BCB. We actually purchased a painting of his titled Buddha Talking Okay — see http://www.whimsyload.com/cgi-bin/shop/detail.cgi?id=071031-BudTalkn&keyword=freewheel&category=).

The game designer, Masaya Matsuura, founder of the game studio NanaOn-Sha, is one of the inventors of the rhythm game genre. In fact Parappa gets credit (at least on Wikipedia) as the first 'modern' popular rhythm game. NanaOn-Sha went on to create both Vib-Ribbon and Mojib-Ribbon, two music games that were whimsical and innovative in terms of core game play. Vib-Ribbon could generate unique game levels based upon music that the player chose from her own computer. The art style harkened back to vector graphics, with a stick figure rabbit running along a ribbon filled with obstacles that depended upon the sound track itself. In Mojib-Ribbon, the player uses the Playstation controller's analog stick to 'draw' rap lyrics on clouds using Japanese characters that a creature named Mojibri will then sing through voice synthesis. This game includes tactics such as filling the ink of the pen well, but not too well, just as you would if drawing traditional Japanese characters. Both of these games were well reviewed by critics in the US when they came out.

After Parappa…

I mentioned earlier in the chapter that the second collaboration between Matsuura and Greenblat, Um Jammer Lammy, did not have much appeal for me, and said that the reasons why helped me to clarify what really worked about Parappa. In essence, Lammy is just as wacky and fun in terms of the artwork, but the core human issues going on are very different. Lammy seems to be living through a series of surreal bad dream moments, almost as though she stumbled upon a cache of psychadelic drugs in her quest to guitar proficiency. Instead of being mentored while learning a task, she is dealing with crazy pilots, doing performances in hell (at least in the Japanese version), and has that perennial dream fear of arriving late at the big gig, which turns out in the end not to be a problem. So even though at one level she's playing out the underdog turned hero narrative that Parappa does, she's not doing it with mentors, but rather despite bizarre life circumstances. Her triumph comes despite the world.

From a game mechanic point of view, Lammy plays a guitar, and this doesn't privilege the beat in the same way as the rap-based gameplay of Parappa, making the experience of call and response not nearly as interesting and engaging (at least for me).

Despite my not liking living through the unsettling psychedelic-induced dreamscape of Lammy, it is the game in the series that has been updated and included on a variety of platforms subsequent. And of course we all know of a couple of other guitar-based rhythm games that have had phenomenal success. Perhaps this simply underscores my status as an atypical gamer (or maybe just as someone who is too far from teenage days to remember why tripping and playing the guitar might be fun?)

In the last year I've been eagerly following bits of news trickling into the games press about a new collaboration between Matsuura and Greenblat, titled Major Minor's Majestic March. Apparently the goal in the game is to collect members of a marching band, using the wiimote. It sounds like just the kind of wacky game mechanic that these two might turn into a compelling and heart-warming experience.

Last Words

Tracking back through my experiences with Parappa was a visceral reminder of how each player brings idiosyncratic motivations to picking up and sticking with any given game. Parappa worked for me personally when I first played it, because it gave me an experience I wasn't getting in my chaotic cultural immersion in Japan.

But there was one 'big' idea I took away from all this, as a character designer. Finding ways to imbue game characters with a real sense of camaraderie and human connection to players has the potential to create an emotional experience that resonates all the way out into daily life. Which is why, I suppose, that I am still oddly fond of Rodney Alan Greenblat and Masaya Matsuura.

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[1] I've not tried to gain permissions to display the art and video from the game, as I've learned from experience it is extremely difficult to get timely compliance from Sony. However you can utilize Youtube to see the lion's share of this game online at any time, and I encourage you to take a moment to do so before reading further.

[2] The babyface effect is the tendency that we all have to treat someone who has features like a baby's — round face, big eyes, small brow, etc. — with greater trust and liking, and a desire to nurture. If you are interested in this research there is more detail in Chapter 1 of my book, Better Game Characters by Design: A Psychological Approach.

[3] More cartoony, androgenous player characters can have a better chance of appealing to female players by allowing them to project themselves more easily into the persona (see Chapter 4 of Better Game Characters).

[4] See Chapter 8 of Better Game Characters for more about player character psychology.

[5] In Chapter 2 of Better Game Characters, I talk about how power relationships are something that people try to 'read' immediately in social interaction. Making use of these in the progression of the game dynamics was a subtle and engaging tactic.

[6] In Chapter 1 of Better Game Characters there is more about the artful use of stereotypes in crafting characters.

*" **Games that offer conceptions allow the player to explore different possibilities and inquire about their assumptions.** "*

NICK MONTFORT

PORTAL OF IVORY, PASSAGE OF HORN

Two gates for ghostly dreams there are: one gateway
of honest horn, and one of ivory.
Issuing by the ivory gate are dreams
of glimmering illusion, fantasies,
but those that come through solid polished horn
may be borne out, if mortals only know them.

— The Odyssey, Book 19

Jason Rohrer's *Passage* and Valve Corporation's *Portal* are two of the most remarkable games of 2007. They have been widely discussed, and often praised, in sessions at the Game Developers Conference, by publications on video games, and in numerous nooks and crannies of the Web.[2]

From a certain standpoint, they seem to have nothing in common. *Passage* is a public domain, open-source, 2D video game with an effective resolution of 100×12, developed by a single person and employing almost nothing in the way of art assets. *Portal*, while something of an outlier in the space of first-person shooters, nevertheless stands as an innovative professional production within a familiar format, using a modified but also familiar game engine. It was put together by a team using voice acting, 3D models and textures, multiple levels, and sound design. *Portal* introduces a novel game mechanic; *Passage* does not. *Portal* is funny, challenging, and good to play at parties; *Passage* is not.

What's not to love about *Portal*? Game of the year at the Game Developers Choice Awards and also according to *1UP.com, Joystiq,* and *Good Game*; the top-ranked game according to *The Onion A.V. Club* and *Eurogamer;* lauded in numerous other superlative ways by other publications and sites. There's that key, innovative mechanic that offers a truly new twist. The spaces are chilling at times and unfold in a particularly compelling way. The writing is hilarious, giving shape to a colorfully cracked boss computer and suggesting a strange corporate landscape with technology gone awry — perfect for the conceit of the game. The game is short enough that even those who aren't hardcore can play, enjoy, and complete it, but meaty enough that no one would accuse it of being "casual."

There's really nothing not to love about *Portal,* an excellent production. But there are other things that games can do that go beyond these achievements. *Passage*, minimal and even offhand as it is, provides a model of an adult life that is compelling and that relates to people's experiences. As with the nice-looking gate of ivory, the glimmering illusions and fantasies of *Portal* may be fun and entertaining, but it's actually the more blocky, 2D vision offered by horn-rimmed *Passage*, the image of a life, that may be borne out, if players only know it.

Spoilers for Passage

Passage is about life, about how your movement through a virtual space using videogame conventions maps to our experience of moving on, living together or alone, growing old, and dying. Developer Jason Rohrer says as much in describing the game in his statement about it — addressed to those who have already played the game:

> *Passage is meant to be a memento mori game. It presents an entire life, from young adulthood through old age and death, in the span of five minutes. Of course, it's a game, not a painting or a film, so the choices that you make as the player are crucial. There's no "right" way to play Passage, just as there's no right way to interpret it. … The early stages of life seem to be all about the future: what you're going to do when you grow up, who you're going to marry, and all the things you're going to do someday. At the beginning of the game, you can see your entire life out in front of you, albeit in rather hazy form, but you can't see anything that's behind you, because you have no past to speak of. As you approach middle age, you can still see quite a bit out in front of you, but you can also see*

what you've left behind — a kind of store of memories that builds up. At its midpoint, life is really about both the future (what you're going to do when you retire) and the past (telling stories about your youth). Toward the end of life, there really is no future left, so life is more about the past, and you can see a lifetime of memories behind you.

But don't take his word for it. Play *Passage* yourself — the game is free for Windows, Mac, and Linux and it only takes five minutes to play. As a player, you can choose to have your pixelated avatar join a woman who appears in front of you early in the game. This allows your gangly character to progress through the rest of the landscape with company. Alternatively, you can steer away, in which case your "man" will be alone, but will be able to get into spaces where two people wouldn't fit. It could be strictly worse to pair up for this reason, or a player could consider the choice to be between two different games. However a player chooses to think about it, *Passage* seems to offer something beyond what you get in *Galaga,* for instance, when you rescue a captured ship and face the enemy with double the firepower.

While playing *Passage,* you can try to collect treasures, explore the environment, or race to see how far ahead you can get. Some of the things that look like treasures turn out to be empty, while others are true treasures that give you more points. The game mechanics and the simulated environment do not make a definite statement about life ("money is meaningless," "life is better alone," or "life is only fulfilling with a partner") or about morality or ethics. Instead, they provide another way of thinking about life. Players can ask themselves whether their behavior in this video game reflects their approach to life. Perhaps this is a meaningless question for certain players, because some people perceive games as something entirely separate from life. For those who are willing to connect life and gaming, though, *Passage* can be a space in which players can live different sorts of pretend lives, imagining what the pleasures of being a lone treasure-seeker or an accompanied explorer might be.

Passage reminds players of the span of life in a few ways: The five-minute time limit, the dwindling visibility of the past and the future as the view runs off to the left and right, and the increasingly stooped and elderly nature of the characters as time runs on and then runs out. A tombstone replaces the player-controlled figure when his time, and the player's time, is up.

From the public domain game Passage, Jason Rohrer, 2007

Scenes from the beginning, middle, and end of Passage.

Spoilers for Portal

Portal is a disorienting, challenging, and enchanting game that incorporates a new way of linking space together, allowing for new sorts of puzzles. A ponytailed character,[3] seeing the world from the first-person view that was made famous in 1993 by a marine in hell, wakes in a cell. This character, the one who the player controls, is initially unarmed and must learn to traverse the space using unusual openings — portals. There is a blue one and an orange one, and only if both are in place somewhere are the two of them open. The portals can appear almost arbitrarily, without the typical regard for established architecture and reality. The blue portal leads to the orange one, wherever that is, whether on a remote wall or even a ceiling or floor, and vice versa. Stepping through one portal causes the character to emerge from the other; if something else falls or flies into a portal, it, too, emerges from the other one. It's like teleportation, except without discontinuity; the character can be halfway through the two portals, part of her projecting into a new space while part remains in the other.

Some surfaces are portal-proof, but this isn't discovered until the character arms herself with a gun that shoots blue portals. Later, she augments her weapon so that she can shoot both blue and orange portals. (The portal gun can never directly *hurt* things, though, making it very different from what is usually found in a first-person armory.) There is a repertoire of objects to manipulate, including sinister robotic turrets, large buttons that are embedded in the floor and that open doors, cubes that be used to hold

these buttons down, balls of electrical energy, and security cameras. Simply falling great distances won't harm the character, although there are plenty of other dangers, including lakes of lethal liquid. Solving puzzles involves understanding the reimagined physics of this world and, for instance, the implications of being able to gain momentum by falling through the air, firing a portal in mid-air, and continuing to fall and accelerate.

From the very start, the female character is compelled by a robotic voice to move through levels and solve these puzzles, which have purportedly been created for testing purposes. After traversing several of these, it becomes impossible to ignore the hints that something is wrong in the Enrichment Center. The voice, which is that of GLaDOS, seems to rave, babble, and outright lie to the character. In return for overcoming a host of lethal obstacles, for instance, GLaDOS promises the character that she will be given cake. There initially seems to be no sign of other human life — some office spaces are visible behind glass, but all are empty. In the turret-filled android hell of test chamber 16, a sinister enough place to begin with, the first sure signs of other people appear: plaintive scrawls are seen and an area is found behind the clean white walls where people seem to have been hiding.

After traversing the rest of the nineteen levels and finding that death is intended as the character's true reward, the character can break out from the test course and move behind the scenes, through rusty and decrepit areas that look like the one in test chamber 16. Going through many of these allows the character to confront the sessile, many-headed GLaDOS herself, the final boss of *Portal.* After GLaDOS is defeated, the real reward (even more than the image of cake) is presented: getting to hear what has become a huge hit among videogame songs, "Still Alive."

PvP: Passage versus Portal

It would be possible to criticize *Passage* for its primitive graphics, but it would also be possible to criticize *Portal* for demanding a few hours, rather than managing to accomplish its effect in five minutes. *Passage* doesn't need better graphics; it has a big idea that fits the low-res constraint on its composition, just as it fits the constraint of a five-minute play experience.[4] It is reasonable that puzzling *Portal,* with its environment turning ever more sinister, takes more time to play than does *Passage*. And it's reasonable that *Portal* still takes much less time than most commercial games, particularly first-person shooters, demand. If there's a mismatch anywhere, one could argue that it's in *Portal* overdoing it when it comes to graphics. *Portal: The Flash Version*

shows that the basic game mechanic can be implemented in an enjoyable 2D game, so 3D is not strictly necessary. *Super 3D Portals 6* for the Atari 2600 seems to make the same point, adapting the basic game mechanic for a super-retro platform. Or perhaps not. These games, which are clever but not nearly as excellent as Valve's game, hardly make a serious argument against the more compelling experience of exploration and unfolding, or against the discovery of new tactical possibilities and physical implications that *Portal* offers.

Portal is a display of wit and mechanism. It's fun to play and fun to watch others struggle with the game's challenges. But even though the final sequence has the female character escape from underground into the parking lot — while the end of *Passage* leaves the main character dead on its playing field — there's actually no escape in *Portal* from the doors that loop back on themselves, offering a new physics but no new conception of what it means to live, work, or be tested.

"No video game has ever said so much about life and death, and in so little time, as Jason Rohrer's *Passage,*" wrote blogger Duncan Fyfe. It's an extreme statement, but *Passage* seems to compel such statements — for every gamer dismissing it as not a game or calling it stupid, there seems to be another confessing that it called forth profound emotion or provoked a new consideration of what games can do. Like *Portal, Passage* is easier to share with friends than are long-form games that require extensive development of skills and dozens of hours of play. And while *Passage* is not as fun at parties, it does provide a lot to think and talk about in all sorts of contexts.

Are Games Allowed to Mean?

Portal writer Erik Wolpaw, tongue firmly in his cheek, relates an origin myth for the game:

> *Well, there are lots of message games coming out now. Like they've got something really important to get off their chest about the war in Iraq or the player is forced to make some dicey underwater moral choices. Really, just a whole heck of a lot of stuff to think about. With that in mind, at the beginning of the Portal development process, we sat down as a group to decide what philosopher or school of philosophy our game would be based on. That was followed by about fifteen minutes of silence and then someone mentioned that a lot of people like cake.*

This amusing anecdote — in part, probably a good-natured swipe aimed at another hit game of 2007, *BioShock* — certainly lacks essential truthiness. But why is Wolpaw's mockery of a philosophy-based game so amusing? Obviously, it's because it is hilarious to imagine a group of game developers starting a new game project based on an esoteric idea. Concepts, meaning, and philosophy are at best the icing spread atop the game mechanics, and perhaps, in other cases, on the licensed properties. They are not the cake itself.

Why should some players demand, as they sometimes do, that games actually be meaningless? And why is the idea of a "message game," or, more broadly, a game that expresses a particular conception of the world and invites thought and discussion, so incongruous, risible, and even offensive to some gamers?

Messages and Conceptions

To start exploring this question and puzzling through it, it's useful to distinguish different ways that games can mean. They can indeed have messages, and the gameplay can function rhetorically to help drive that message home. But they can also simulate social relationships, the growth of a city, the perceptions of a particular person, or a notion of society in a way that opens a conversation rather than mainly trying to persuade about a single point. As a shorthand, it's possible to say that while some games have a message, others are better understood as offering someone's particular conception.

I use "conception" as a more provisional term for "concept," and one that is supposed to be less pretentious.[5] A concept seems to be more all-encompassing, while a conception suggests at least the beginning of an idea. My conception of how Kinko's works may not be a full concept that models every important aspect of this businesses, but it might offer enough of a perspective on it — as in Ian Bogost's *Disaffected* — to provide an experience that is tedious and suggests how a copy-store employee sometimes feels.

At the Game Developer Conference in 2000, innovative game maker Tetsuya Mizuguchi said "I have poured the message of love and peace and happiness in *Space Channel 5.* These were the emotions and desires of this game."[6] This Dreamcast title might not be the first game players would typically finger as a "message game," but the visual and sound design, writing and delivery of lines, and the surprising way that enemies turn into allies all work together

to provide a harmonious, happy experience. Games don't have to have a political slogan or a critique of Ayn Rand behind them to have messages.

Of course, games can feature political slogans and can have messages related to those slogans. Gonzalo Frasca's *Cambiemos* ("Let's Change") was created to promote the Frente Amplio, a political party in Uruguay. Its message is made clear by graphics and gameplay. In the simple puzzle game, groups of people, working together, hoist and deliver puzzle pieces. When the player succeeds, bleak, black-and-white scenes are converted to happy, colorful ones. The message is fairly simple, but perhaps political campaigns are not well-suited to messages much more complex than this one. The game conveys its message well. It doesn't let us explore virtues and possible pitfalls of cooperation or change, but it expresses this positive message without making it seem that the sentiment is tacked on or that it's being rubbed in the player's face.

A game with a conception does something else, though. Even if the framework is well-defined (opposing superpowers in *Balance of Power* or suburban, consumer society in *The Sims*), games that offer conceptions allow the player to explore different possibilities and inquire about their assumptions.

Passage hardly seems to be a straightforwardly autobiographical game — where are Rohrer's kids? Where's his meadow?[7] Has he already grown old and died so as to be able to relate this experience in a game? We could take a broad view of autobiography, as apparently Rohrer himself does, and consider that the game fits this category. In any case, it doesn't seem to fit perfectly. *Passage* does, however, frame some ways of thinking about life, and it models some of the things about life and aging that Rohrer must hold to be important. *Portal* could be read (or, really, overread) as being about some sort of workplace experience, or even some experience of life, but only in the same way that *Tetris* can be understood as being about coping with overcrowded schedules and an excess of work.[8] The creativity is in the interpretation in these cases, which testify to people's ability to make meaning out of almost anything. *Passage,* simple as it is, offers a system that more directly supports a variety of interpretations. *Passage* offers a conception of life, however provisional and simple, and opens a conversation about life in a way that *Tetris* and *Portal* do not.

There's nothing wrong with message games, games offering conceptions, or even games that have neither message nor conception and simply aim to entertain. But there is something wrong with being told that games cannot be of one particular sort, whether we're told this by a judge, a legislature, an industry, or a mob.

Summer Games

It is really cool to see a car transform into a giant robot. A movie[9] that depicts this transformation is an accomplishment that may entertain us, surprise us, and amuse us. But most movie-lovers wouldn't call such a film the "best picture" of the year, just as the movie industry's Academy did not. Even though a movie is just a rapid sequence of still photographs, projected with sound onto a screen, we recognize that it can do more than dazzle us and fill our senses. Movies can deal with important issues in our culture and our society. They can inquire into the decisions people make in difficult times and into human nature. While a best picture should be artful in many ways, it is broadly recognized that such a film, in addition to being popular and spectacular, should also be more than fun. It should offer us something to think about.

Some have the idea that gaming deactivates our critical faculties — that to play, we must decide to shut off serious thought and avoid connecting our play experiences to life. But the magic circle that creates "temporary worlds within the ordinary world, dedicated to the performance of an act apart"[10] is hardly some "lasso and delete brain" Photoshop tool. It is a way of explaining why we act differently when playing games, how the space of play has its own rules and customs. The magic circle does not preclude us from applying lessons learned in a game to our lives or from thinking about the meaning of games. Nothing prohibits us from learning, while we play *Monopoly,* that owning real estate can be lucrative. Nothing keeps poker players from learning general signs of bluffing or excitement as they read other players during a game. And certainly, nothing prevents basketball players from learning about the value of teamwork and about relying on other members of a team — learning when to take the opportunity to shoot and when to pass the ball off to another player who is open.

Imagine a writer sitting down for fifteen minutes and thinking about a concept for a story — how a story will be connected to the world we live in, the decisions we make during our lives, and our relationships with other people. Imagine a playwright, or even an entire troupe of actors who work together to develop their performances. Imagine a filmmaker. Imagine a poet.

It's not funny, is it?

But a group of game developers sitting down to think about something like this is funny. It sounds like part of a joke, and it makes up part of Wolpaw's amusing statement about the creation of *Portal.* Those beady-eyed game

developers, sitting around in silence and thinking about the philosophy they're going to pick.

Maybe the ability to think about issues at the outset, to develop conceptions as a game is developed, has something to do with being an auteur rather than a development team. Despite some efforts, it's not clear how the film-based term "auteur" exactly applies to videogaming, but it seems to have something to do with working individually and having total control over one's work. That could certainly help to explain why some of the most compelling games that go beyond entertainment have been developed by individuals, from Will Wright's *SimCity* and Steve Meretzky's *A Mind Forever Voyaging* (both fascinating meditations on the American city) to Rod Humble's *The Marriage* and Jason Rohrer's *Passage.* But it wouldn't explain how a troupe of actors could think about a concept together, or even how a pair of collaborators, such as Michael Mateas and Andrew Stern of *Façade,* could work together to develop a shared conception.

Perhaps, instead, it has something to do with the pressures and demands of today's industrial game development processes and today's marketplace. It couldn't be anything inherent in commercial game development, though. *SimCity* and *A Mind Forever Voyaging* were both commercial games. If there is something that makes this type of thought and planning difficult in commercial game development, it must have to do with particular industry practices and pressures.

It doesn't seem to have much to do with video games being part of "low" or popular culture. No one who has seen a few episodes would find it strange to think about Joss Whedon pondering the ethical questions and social problems that will underlie an episode of *Buffy the Vampire Slayer,* however mass-cultural that series is. So why is it so silly to imagine game developers doing the same before they begin work on a game?

Whatever the reason, it shouldn't seem so odd, unless we believe, for some reason, that video games lack the expressive and conceptual power of other media. It shouldn't seem incredulous to imagine game developers pondering and discussing the ideas that will motivate a game, or the ones they want to explore in combination with particular game mechanics and fictional elements. Every game's development process will not, of course, start off this way. Some will begin with the idea of leveraging engines or realizing a new product based on a license. It certainly seems like it would be a richer world, though, if some of them did grow out of a desire to explore different sorts of issues and perspectives.

A New Opening

What is most remarkable about *Passage* is certainly not its polish, and not even, really, all that it accomplished as a finished and playable game. The important thing is what Rohrer had the ambition[11] to accomplish and how this ambition is evident in the completed game, however abstract and simple it is. Through the medium of and using the mechanics of a simple computer game, *Passage* manages to provide some aspect of what the best movies have offered through the medium of the motion picture for decades. Although it is not flawless, *Passage* is a serious and solid attempt to present a simple model of adult life in a short and simple computer game. It has emotional resonance for some and provokes thinking about the future and about life decisions for others. This sort of connection to human relationships and aging, to thinking about how we make important choices, to regret and anticipation about the course of our lives, is exceedingly important. It seems quite a bit more important to the course of videogaming than is the introduction of a new gaming mechanic in a funny, enjoyable, and short first-person shooter puzzle game.

Opening additional portals can only lead gaming back into itself, into its own universe, through orange and blue and back again. Opening new passages can do more: It can bring new dimensions and new depth to gaming, showing games a way out of themselves. We can admire the glimmering illusion that games, like dreams, offer us, but we can also consider how much these visions, this play, pertains to our real lives and concerns.

There will always be those who are happy to run around in their enhanced magic circles, their gaming isolated from meaning, just as some people will be happy to watch summer blockbusters and nothing more. But some, too, will be willing to take the passage that connects gaming experience to our other experiences. These explorers — whether at companies or working individually, as artists or hobbyists or whatever else — will go on to create games that, far from just emitting messages, begin conversations that let us better understand ourselves and our environment and allow us to better negotiate our culture.

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[1] Translated by Robert Fitzgerald. Lines 652–657, p. 345.

[2] Including by me and others in a nook of the Web where I write. The "Spoilers for Passage" section is adapted from my Grand Text Auto blog post of February 24, 2008, "PvP: Portal versus Passage." This post and my February 26, 2008 post "Message Me, Videogames" helped me to work out several ideas that made their way into this essay, including those about the "message" in Space Channel 5 and the distinction between games with a message and those with a conception. Thanks to the many people who offered their comments on both posts:
http://grandtextauto.org/2008/02/24/pvp-portal-versus-passage/
http://grandtextauto.org/2008/02/26/message-me-videogames/

[3] According to the end credits, this character's name is Chell. Until the game is won and the credits are carefully inspected, a player would not have any idea about what to call her, so in describing the experience of play, I've avoided being on a first-name basis with Chell.

[4] Rohrer didn't devise either of these constraints by himself. He chose to enter the Gamma 256 contest at the 2007 Montreal International Game Summit. The rules specified a maximum effective resolution of 256x256 and a maximum time of five minutes for a play session.

[5] It might sound more pretentious. Sorry about that.

[6] Quoted in IGN's review of the game.

[7] Rohrer has a whole section of his site about his legal battle to allow a natural meadow to grow around his house, http://northcountrynotes.org/jason-rohrer/natureOnTrial/, and he has another section, http://www.northcountrynotes.org/jason-rohrer/parentWire/, and a game, Gravitation, dealing with issues related to his being a parent.

[8] As Janet Murray has suggested in Hamlet on the Holodeck, pp. 143-144.

[9] I mention movies at this point because they are a broadly popular medium (not something that many people would consider esoteric, like installation art) and because movies, like games, have great expressive capability and representational power. I'm not suggesting that games need to use techniques or modes of production that are more cinematic, or that they should convey meaning in the same particular way that movies do.

[10] Huizinga, p. 10.

[11] Fyfe points out that we seldom refer to people like Rohrer as "ambitious," reserving that term for industry figures who are leading large-scale projects. I agree with him that Rohrer is indeed ambitious — I think in a way that is critical to the future of gaming.

"One can play and enjoy this game, but never uncover its deeper meaning. For me, playing it well means going beneath the surface."

DORIS C. RUSCH

A CLOSE READING OF SILENT HILL 2

My avatar, James Sunderland, parks his car in the deserted parking lot of Silent Hill, uses the badly maintained bathroom and muses about what brought him to this remote place.

It's ridiculous, couldn't possibly be true….That's what I keep telling myself. A dead person can't write a letter. Mary died of this damn disease three years ago. So then, why am I looking for her? Our "special place"…What could she mean? This whole town was our special place. Does she mean the park on the lake? We spent a whole day there, just the two of us, staring at the water. Could Mary really be there? Is she really alive…waiting for me?

From this moment on, I'm hooked. Spellbound, I play this single player horror survival game through to the end. Then I scratch my head. I had heard that the game was confusing and raised more questions than it answered. It was true. I knew now what the deal was with Mary, but there were so many things that still didn't make a lot of sense. Still, I had a feeling that nothing in this game was completely random either. There simply had to be a key to understanding, something that made the pieces fall into place and shed some light on the strange events and creatures of Silent Hill. In the name of scientific rigour, I played the game again. And again. All in all, I played the game four times from beginning to end and parts of it several times more. Slowly, the metaphorical depth and richness that makes this game so unique and fascinating dawned on me. For me, the key to understanding is reading *SH2* as a metaphor for a psychotherapeutic process. In the following I will explain why. The text will contain major spoilers, so I recommend playing the game first.

On the Surface Level

Haven't played the game? Here are the basics: *SH2* is a single-player horror survival game that had come out for the PS2 in 2001 but was given to me by a friend a couple of years later. It is one of four games that constitute the Silent Hill series, which have been published and developed by the game studio Konami. They are all deliciously scary and wonderful, but *SH2* is my favorite. I will read *SH2* in relation to itself, although in each game (except the first, of course) there are many cross-references to the other parts of the series. The gameplay is rather straightforward and consists of navigating through the foggy town of Silent Hill, exploring all kinds of ramshackle and eerie locations, picking up, examining and combining objects, solving (mostly) lock and key puzzles and last but not least fighting monsters. It is possible to adjust the difficulty level for fighting and puzzle solving separately, tuning the gameplay experience to one's personal preferences. I set fighting difficulty on "easy" and puzzle mode on "normal" (yeah, I'm lazy and my idea of entertainment is a game I can finish in a reasonable amount of time), but tried other configurations to check whether my interpretation still makes sense with fighting on "hard" and puzzles on "easy", etc. It does.

What happens on the surface level of the game? When I played the game for the first time, this is what I saw, did and learned: in a cut scene I was told that my avatar, James Sunderland, has come to the town of Silent Hill to look for his dead wife, Mary, who appears to have sent him a letter, saying that she's waiting for James at their "special place" in Silent Hill. It was clear from the start that there was a backstory here that I as a player didn't know (yet), but James' amnesia regarding Mary's death (he seems to be unsure if his wife truly died) created the assumption that somehow my avatar and I were on the same page and we could figure it all out together. The gap between me and James seemed small in the beginning, but over time (and especially in retrospect), I realized that James wasn't one of these *tabula rasa* characters that simply served as a projection screen for the player's intentions. There is a big and significant distinction between James and the player that I will analyze in more detail in a later section of this paper. For now, let me clarify that James is the character in the game's story, I'm the player of the game and thus our goals and intention don't always match. It therefore makes sense to view James and me as two separate entities and I will acknowledge this distinction by talking about "us" when James and my actions, goals and intentions overlap. I will refer to James as his own character, when I'm dealing with the prescribed, story related parts of the game. Whenever James' perspective is irrelevant and my experience or actions as a player are in the foreground, I will say "I".

So, after the cut scene, I tried to make my way from the parking lot into town. Assumedly, it had considerably changed since the couple's last visit. It was now full

of monsters and strange creatures, the buildings were all deserted and a permanent fog suggested that this was not the tourist attraction it might have once been. The only other people James and I encountered on our quest were Angela, a woman who was looking for her mother; Laura, a young girl who didn't seem to be aware of any monsters; and Eddie, a fat guy whose background story remained largely unknown, but who, just like James and Angela, turned out to have committed a crime. James, Angela and Eddie seemed to have been called to Silent Hill by some higher force and to all three of them the town was dangerous, although in different ways. Our first goal was to get to the park, because James had a hunch that this was what Mary had meant by their "special place". Where would be the fun if we could have just taken the bus to get there? Reaching this first goal was postponed for a while, giving me some opportunity to explore this eerie town and its deserted, creepy apartment buildings. I had to solve lots of lock and key puzzles[9] and to gather clues regarding the mystery about Mary.

When we finally reached the park, Mary was nowhere to be found. Instead, we made the acquaintance of Maria, a woman who could have been Mary's twin sister, but sexier and more coquettish. I learned over time that Maria mysteriously knew things about James only Mary could know: she knew about James always being forgetful, she knew about a video he had made of Mary at the Lakeview Hotel and she knew that he had forgotten to take the video with him when they left. Like the girl Laura before her, Maria suspected that James had not loved Mary. "Maybe you hated her," she said and although it sounded as if she was just teasing him, the suspicion gained shape that James was not the loving husband one might have believed him to be. Still, Maria wanted our protection from the monsters and became our companion. At the same time, a new goal was established: the Lakeview Hotel where James and Mary had stayed during their visits in Silent Hill. Again, getting there was far from straightforward. The journey led us – now accompanied by Maria – to the Brookhaven Hospital. There, Maria was killed for the first time by a creature called Pyramid Head, the game's recurring boss monster and the tone of the game turned from scary to sad, with melancholic music and a crushed looking James. We had to continue alone.

The only way to the Lakeview Hotel led through Silent Hill's Historical Society. From the outside the building did not look particularly big, but what I did not know was that from now on, the path led down, down and further down and there was a lot of underground space to explore. Labyrinths, vertical corridors, underground prisons and coutryards, even James own grave would be found there. When I found the grave, I stood before it for a moment, not knowing what to do. Was I really expected to jump into a grave? Wasn't that bad luck or something? Finally, I jumped in and, unsurprisingly, the journey continued further down into the abyss. Pyramid Head was patrolling the underground labyrinths, dragging his oversized butcher's knife

behind him, but a confrontation could be avoided. At one point Maria showed up again, locked away in a prison cell in an underground labyrinth. A little later, she was killed once more by Pyramid Head.

After a long descent, I exited the Historical Society and found myself in the open, facing the lake surrounding the Lakeview Hotel. The only way to get to the hotel was by taking a rowboat.

There, James finally had to face the truth (I thought: finally, my persistency as player is rewarded and I'll find out what's going on here!) namely that what he had feared the most was true: he had killed Mary. The key to this insight was a video, perhaps the one he forgot to take with him at the end of the couple's last visit. It started harmless enough, but then, suddenly, the disturbing pictures of him suffocating Mary with a pillow appeared on the TV screen. This left no doubt about what had happened. Obviously, the video wasn't all James had forgotten. When the show was over, we heard Mary's voice. She was calling James, telling him she was nearby, waiting for him. And so we went on. But before finding Mary, we were again confronted with Maria. This time, she was killed by two Pyramid Heads. James realized: "I was weak. That's why I needed you [Maria].… Needed someone to punish me for my sins.… But that's all over now. I know the truth. Now it's time to end this." After that, we attacked the Pyramid Heads until they gave up and killed themselves (!).

In the last scene of the game before the final video sequence, James found himself sitting at Mary's sickbed and he told her everything, how desperate he was, how he could not see her suffer, but also that part of him hated her for taking away his life and that he wanted her to die. Mary understood. She had asked him to kill her, had wanted to die, had hated herself for being sick and ugly and she forgave him: "You killed me and you're suffering for it. It's enough, James." There are several endings to the game, but in the one I got when I played the game the first time, James leaves town after that, the fog has lifted, the sun is shining and the town seems to be rid of monsters. The following analysis is based on my first play-through that resulted in this particular ending. However, the interpretation is still valid in regard to the other endings, which, as I will explain later, I believe is actually the strongest argument for reading *SH2* in the suggested way.

Going Beneath the Surface

SH2 is gratifying in many regards. The graphics are evocative, exploring the world provides many voyeuristic pleasures, the sound design adds greatly to the unique atmosphere of the game, the monsters add tension to the playing experience, the puzzles are entertaining in their strangeness and the whole thing is pleasurably

scary and kept me on edge for many hours. One can play the game and enjoy it for all these reasons without ever gaining a deeper understanding of its underlying meaning. In regard to solving the mystery of the letter, it might be good enough to know that James had killed Mary and that he had come to Silent Hill to somehow be forgiven for it, to come to terms with it, to move on. But for me, this raised more questions than it answered – I wanted to really understand this game and that meant to going beneath the surface. This first ending only provided the key to one possible interpretation that made everything that seemed strange and implausible at first believable in retrospect. To me, *SH2* is a metaphorical representation of a psychotherapeutic process, specifically one that deals with coming to terms with overwhelming guilt. I follow an understanding of psychotherapy as a means to uncover problems that are outside the patient's awareness and to provide insights into these problems on an emotional, not just intellectual level. By making the unconscious conscious, the "stuck" or "lost" patient should become able to cope with his / her issues and to move on to lead a happy and productive life. The key to psychotherapy thus is awareness. "To get over his symptoms, a person must face exactly that which his defenses were created to protect him from; he must face his worst nightmare."[10] In the following I will point out how seeing *SH2* through this lens makes its unreal elements emotionally intelligible and allows a coherent reading of the game.

The main point of *SH2* is that the truth about a repressed event has to be uncovered. The patient (James) needs to remember, to work through emotional issues, unlock hidden thoughts, confront his fears and repressed feelings and take responsibility for his deed in order to be healed. In that sense, *SH2* does not portray an objective reality, but a projection of James' mental state onto the game-world. While the game-world features many codes of verisimilitude – behaving according to physics, the impression of depth that is brought about by the illusion of perspective and further enhanced by the movement within the game world, a photorealistic representation as well as a convincing sound-design – it also strongly conveys the feeling of *unreality*. The town is deserted, except for the strange creatures that attack James when he comes too close. An unnatural fog makes it hard to see. The only other people James meets are strange and secretive and like himself, they seem to have been somehow summoned by this town. James finds hints about Silent Hill's past, saying it has been erected on sacred ground, but the town itself does not seem to be bad or dangerous, at least not for everybody. Laura, a young girl James meets and who claims to have been friends with Mary, does not see any demons. When he asks her what a young girl like herself is doing in a place like this she asks: "huh? Are you blind?" For Laura, Silent Hill is perfectly safe.

SH2's dominant hermeneutic mechanism is the uncanny. "The uncanny is characterized by seemingly unreal events that are symptomatic of a hidden, unsafe,

fearful, dreadful or dangerous reality" (Spoors 2005, p.98). The reality that lies behind the unreal world of Silent Hill is that James has killed his terminally ill wife and now needs to come to terms with that fact. His search for Mary is an exploration of his own psyche. The town of Silent Hill becomes the projection screen for that inner journey. It is a spatial metaphor for the mind. Mary is waiting there, because she is "on his mind". What is interesting about Silent Hill is that it does not only seem to work that way for James, but for its other visitors as well: Eddie, Angela and Laura all see and experience different things there, as they have different things on their minds. I'd like to suggest that Silent Hill stands for the mind as an objectively existing concept that is individually modelled by each person's emotional preconditions, struggles and issues – a sort of collective unconscious, maybe, that creates an archetypical infrastructure which is then further shaped by a person's personal fears, thoughts and emotions (see Jung 1938). In Silent Hill, inner conflicts materialize themselves in a most disconcerting and often dangerous way.

Codes of the uncanny can also be found in the game's camera perspectives and movements, which often do not aim at giving the impression of objective observation but deliberately draw attention to themselves, adding a sense of uneasiness and paranoia to the represented world. A good example is the game's intro animation: James is standing in front of a mirror in a dirty public restroom, staring at his reflection. Following this point of view shot, the camera takes position in a far corner of the restroom, watching James from beneath a lavatory. The camera angle is tilted to the right, straightening itself a little during the scene. There is no objective reason for this perspective or shifting of camera angle. It creates the feeling of dissociation from James; something does not seem to be in synch. One could also go a step further and interpret the first shot – James looking at his reflection in the mirror – as a prelude to his journey into his subconscious, the beginning of psychotherapy. He is looking at himself, questioning himself, wondering what happened to Mary. (Or, to take this thought further, he is talking to a therapist, who, like a mirror, reflects his thoughts back to him.) Then the camera moves away from James and looks up at him from the bottom, suggesting that there is something lurking down there, waiting for a chance to come to the surface – and to the surface come his fears and his repressed feelings. They emerge from the bottom of his mind, creating the chimerae and monsters that make Silent Hill a dangerous place.

— Metaphorical Space and Therapeutical Progress —

Psychotherapy is a long, intricate process. There is no straight *path* to the source of a problem. Remembering can be painful and slow, and *sidetracking* is a common phenomenon. Sometimes it might feel like *going in circles*, or *navigating* through dense fog. Describing therapy in this way makes its connection to spatial metaphors

apparent (see words in italics). Reading *SH2* as a metaphor for therapy first and foremost suggests a metaphorical reading of its gamespace. At first glance, *SH2* employs a range of game conventions to guide the player's progress through the gamespace. As I said before, it took me a while to get to my first goal, Rosewater Park. But postponing my progress did not simply serve the function of prolonging play. The roadblocks that forced me to find another route to the park did not only represent (sometimes rather unconvincing) physical obstacles, but James' mental blockades. It was necessary that we first explored specific areas of the mind, represented by the many rooms and corridors of the Wood Side Apartment buildings, to achieve the (emotional) breakthroughs in James that made new parts of Silent Hill accessible. This would explain why certain roadblocks suddenly disappeared or shifted to somewhere else after we were done poking around a specific area of town. Since I was oblivious of the game's metaphorical meaning at first, I didn't realize the symbolic relevance of these game conventions.

The same is true for the many lock and key puzzles I had to solve in the apartment buildings. Normally such puzzles are just opportunities to test one's wit. In *SH2* they can be regarded as a pretty abstract representation of decoding hidden thoughts, unlocking memories and gathering clues that might lead to the source of the problem. Of course, some clues might be misleading, or they might become dead ends. After all, not every theme one touches upon in therapy is relevant to the problem at hand. Still, a thorough investigation of the darkest corners and scariest hallways is necessary to progress in the therapeutical process and to solve the mystery surrounding Mary's letter.

Throughout the game, this progress can be saved. Save points are indicated by what look like glowing red pieces of paper. We found the first one at the bottom of a well in the woods shortly before we entered town. When we looked down the well, writing appeared on the screen, displaying James' thoughts: "There's something in the well. What's that…? Looking at this makes me feel like someone's groping around inside my skull…It gives me a weird feeling." The red piece of paper alone would not be so special, but the accompanying words make it symbolically meaningful. They fit the metaphor of psychological archeology and can be interpreted as milestones in the process of discovering the truth. They are points in James' memory to which he can return when he gets overwhelmed by his personal demons, and try anew.

Until we got to Rosewater Park, however, things were still relatively harmless. Sure, there was scary stuff going on – monsters attacked us when we get too close and Pyramid Head had already introduced himself – but only when James meets Maria, when he is getting closer to the core of the matter and the relevant themes become more apparent, do the inner conflicts manifest themselves in a more direct way.

The next location after the park was the hospital. Again, many lock and key puzzles had to be solved. Also, Maria was not feeling so well, so I had to leave her behind in one of the hospital rooms and to go on alone. I didn't realize it then, but this created another disquieting parallel between Maria and Mary. I should have started worrying about her then.

So far, the space was not exactly welcoming and friendly, but it was about to get a lot worse. After another encounter with Laura, and after James had been pushed from the roof by Pyramid Head, the hospital turned into a nightmarish place. It looked like it was painted with blood and when I checked in on Maria in her room, she was gone. She would show up again later, blaming James for not having tried to save her. What had happened? What caused the space to change? Maybe our exploration of the hospital and unlocking some dark memories there, explicitly drawing the parallel between Mary and Maria and the feelings of guilt that were attached to that, might have caused James to view the environment with different eyes. Of course, there was no way I could have even speculated about that while I was playing the game for the first time, since there is a strong disconnect between player and avatar in *SH2* – I will come back to this later.

The exploration started in a harmless way; one could almost imagine the therapist asking "so, tell me about the time when Mary was in the hospital" and James trying to recount the events more or less objectively. After a while (and probably after some uncomfortable questions), themes of guilt and responsibility began to arise and the account of the hospital episode became more of a personal recollection of feelings rather than events. In the game, Laura is the one to make the most straightforward reproaches, telling James he didn't love Mary. It was only after James met Laura and was lured into a trap by her where I had to fight against doormen (evil doors that hang from the ceiling and attack him) that the hospital environment changed. Apparently, although only in retrospect, I had to destroy the doors in order to reach the deeper levels of James' subconscious where the real issues were buried.

Next, James had to finally acknowledge the death of a loved one, even if it was the death of the substitute love Maria, instead of his wife Mary. After Maria had followed James around for a little while, afraid and hoping for protection, Pyramid Head showed up again. He attacked from behind. The only chance I had here was to run away and take the elevator going up. In the cut scene that ended the encounter with Pyramid Head, the elevator doors closed before Maria could reach them and James (and I) witnessed how she was speared to death from behind by Pyramid Head. It was a most gruesome scene and one brimming with symbolical potential. Not only did James (not me!) experience the pain of losing a loved one once again, but the question of responsibility was addressed, too. Maria had complained before that

James had not protected her and it did not matter that he hadn't known where she was and hadn't been aware that she had needed protection. It's important that the issue was raised at all. As a player, I felt guilty for saving my own ass and leaving Maria to die. I tried to fight Pyramid Head, but he was far too strong for me and I got killed every time I tried to stand up to him. Running, behaving like a coward, was my only hope and so I literally enacted James' metaphorical fear of confrontation with Pyramid Head. Pyramid Head, whatever he symbolizes (and I will come to that soon), is so overwhelming that confrontation is not possible at this point. There was no other recourse but to let him kill Maria and experience the feelings of guilt and helplessness the scene evoked. It certainly is no coincidence that helplessness, guilt and mourning are all themes attached to the hospital. When they become overwhelming and cannot be dealt with at that point, the only way is up to the surface and higher levels of consciousness, where it is easier (and necessary) to deal with other things first. So James and I left the hospital basement, where his repressed memories and feelings were stored and had just manifested themselves in the brutal murder scene by taking the elevator going upwards. The level – or therapy session – was almost over.

The only thing left to do at the hospital was to identify the next goal. In the director's office I found a memo saying "He who is not bold enough to be stared at from across the abyss is not bold enough to stare into it himself. The truth can only be learned by marching forward. Follow the map. There's a letter and a wrench."

It's like a reminder that therapy demands courage. It also strongly supports the theory that Pyramid Head is some deeply buried fear that "stared" at James from across the abyss – the hospital basement – and that James was not bold enough to face yet. If he wants to heal he needs to continue his exploration, to go as deep as possible and to actively seek out the monsters, instead of being sought by them. Otherwise he will be stuck in his unfortunate situation, repeating and reliving dreadful events over and over again. The hint to follow the map can be understood as following the guidance of a therapist, who might be able to point James in the right direction. On the gameplay level, this further fosters expectations about a new level coming up soon, one that will be even scarier than the ones before. More reason to stay put!

However, reaching the place where the letter and wrench could be found was not as straightforward as suggested in the memo. It was not possible to simply look at the map and know where I had to go next, since the letter and wrench were in the other part of town and to bring up the map of that part, I needed to go there first. I expected my next goal to be clearly displayed on the map, but there was no big red ink cross marking my destination. My heart sank. I have a very poor sense of orientation and it's really easy to get lost in Silent Hill. I sighed and started to

run, got lost, stopped, checked streetnames, checked my map, discovered I had been running in circles, ran some more and finally got frustrated and anxious that I'd never find my way back to the other part of town. I leaned back on my couch and mouthed an awestruck "wow". The game had managed to synch my emotions with those of James. I knew what I had to do (i.e. find the letter and wrench), but I couldn't quite get to where I was supposed to do it. I felt lost, disoriented, anxious and increasingly frustrated. These feelings fitted the situation perfectly. James had just lost Maria and was presumedly reliving feelings of guilt and sadness because he had been unable to save her. Being in such a state of mind would certainly also hinder goal-oriented, purposeful action. Stumbling around in the dark – an emotional rather than a physical darkness – trying to get one's bearings was an obvious metaphor. So, the retardation I experienced while searching for a way to the other part of town added a feeling of confusion and aimlessness to the scene that made it appear more authentic, more desperate. False-attribution is a powerful thing when it comes to creating identification with the player avatar.

Finally in the other part of town, where I could consult the corresponding map, I saw the words "letter and wrench" at Lindsey Street where I was rewarded by finding both items on the porch of a house. But of course, this was only the first step towards a more important, more promising goal – the aforementioned abyss. Where could it be? What could be meant? The letter provided a further hint:

Or perhaps you are a fool. The truth usually betrays people. A part of that abyss is found in the old society. The key to the society is in the park. At the foot of the praying woman, inside the ground, inside of a box. To open it, I need a wrench. My patient buried it there. I knew, but did nothing. It made me uneasy to have such a thing near. I wasn't looking for the truth, I was looking for tranquility. I also saw that thing. I fled, but the museum was sealed as well. Now no one dares to approach that place. If you still do not wish to stop, James, I pray to the Lord to have mercy upon your eternal soul.

Two more goals were introduced here: the park, where I found the key to the old Historical Society museum, and the museum itself, where the abyss was located. The letter evoked further expectations about the unspeakable dangers and psychological challenges that awaited James if he insisted on proceeding. And it raised an interesting question: how come the hospital director, who has written the letter, directly addresses James? And why are the letter and wrench on a porch? It seems like the director is leading James to the museum. Is he a psychiatrist, whose voice reaches James in his nightmarish hypnosis, leading him to the source of his trauma? The next destination was the praying woman in the park where I found the key that unlocked the door to the Historical Society.

The Historical Society, like the Apartment Buildings and the Brookhaven Hospital, presented a new chapter or level in the game, and opening its door was an act seething with expectations about the new adventures I was about to experience very soon. It also has been announced as an important step towards the solution of the mystery, thus bringing the background interest of the embedded narrative into the foreground again, giving me an additional reason to keep playing. The Historical Society featured many more psychological metaphors along the lines of those already discussed, most prominently the long vertical hallways I had to jump down to advance in my journey, more labyrinths inhabited by Pyramid Head, a morgue, a graveyard, and a complete underground prison full of mysterious hints and clues. The space was teeming with themes of guilt, death, punishment and redemption as well as the pervasive spatial metaphor of diving into subconsciousness. The name "Historical Society" deserves a moment of reflection, too. It suggests that the things encountered there are somehow connected to past events – specifically, the visitor's private history – which supports the argument that the game is about remembering the source of a trauma. James is literally taking a stroll (or fall) down memory lane that will lead him to the truth. More and more clues suggested that the truth required acknowledging death. At one point, I had to jump into my avatar's grave. When I finally exited the Historical Society, I found myself on the shores of Toluca Lake. I was puzzled. After going down for so long, I had expected a long climb up again, to reach the surface, but the world hadn't lost its symbolic meaning yet. I crossed the lake in a rowing boat to get to the Lakeview Hotel, the special place where Mary would be waiting. Analogies to the mythical river Acheron that separates the land of the Living from the land of the Dead (Hades) come to mind. And truly, this was where James finally met his dead wife.

— Mean and Meaningful Inhabitants —

It should be well established now that space in *SH2* has a double function. On the one hand it provides the physical surface on which the moment-to-moment gameplay happens: spatial progression is game progression. On the other hand, space has a deeper, metaphorical meaning. What about the inhabitants of Silent Hill? How much do they contribute to the game's reading as a psychotherapeutical process? Basically, there are two sorts of characters: people who objectively exist and have been called to Silent Hill for similar reasons as James, such as Angela and Eddie, and characters who are projections of James' mind, such as Maria and the monsters. Angela and Eddie deserve a closer look since they support the claims made about the game's main themes – guilt, punishment and redemption. After that I will investigate the characters that are projections of James' twisted soul, to further argue the game's metaphorical meaning.

In a sense *SH2* is a case study of three people who are guilty of murder and who have been drawn to Silent Hill to confront that guilt: Angela, Eddie and – most importantly – James. Angela and Eddie add color to the game, fostering hypothesis building about what the game is about and showing what happens when one fails to come to terms with the past. Angela is a young woman who has come to Silent Hill in order to find her mother – or so she claims – but it is more likely that she is actually looking for her father and brother. My first encounter with Angela happened at the town's cemetery before I entered Silent Hill. A cut scene showed how Angela tried to read the inscriptions of the gravestones and explained to James how she thought that her father and brother were buried here, but she can't find their graves. Interesting. A husband is unsure if his wife, who died three years ago from an illness, is actually dead, and a woman who thought her relatives were buried at this specific cemetery and who cannot find their graves. It looks like both, James and Angela, have some skeletons in their closets. In Angela's case, her guilt makes her suicidal. When we met her again in the Blue Creek Apartments, she was lying on the floor of a deserted room, holding a knife and apparently playing with the thought of using it to end her life. The dialogue that occurred between Angela and James was illuminating:

> **Angela:** *You're the same as me. It's easier just to run. Besides, it's what we deserve.*
>
> **James:** *No…I'm not like you.*
>
> **Angela:** *Are you afraid? I, I'm sorry.*
>
> **James:** *It's O.K. Did you find your mother?*
>
> **Angela:** *No, she's not anywhere.*
>
> **James:** *Did she live in this building?*
>
> **Angela:** *I don't know…*
>
> **James:** *So, all you know is she lived in this town?*
>
> **Angela:** *What did you say? How do you know that?*
>
> **James:** *Well, I just figured, cause this is where you're looking for her. How else would I know?*
>
> **Angela:** *Yeah…*
>
> **James:** *Am I right?*
>
> **Angela:** *I'm so tired…*
>
> **James:** *So, why did you come to this town anyway?*

> **Angela:** *I, I'm sorry. Did you find the person you were looking for?*
>
> **James:** *Not yet. Her name's Mary. She's my wife…*
>
> **Angela:** *I'm sorry.*
>
> **James:** *It's okay. Anyway, she's dead. I don't know why I think she's here.*

Angela tells him that she needs to find her mother. James asks her about the knife and she is about to give it to him, but before he can take it, she screams and threatens him with it. Then she realizes what she is doing and apologizes. Angela: "I'm sorry…I've been bad…Please don't". Apparently, Angela feels like she's been bad a lot of the time. She also seems to be afraid of James. Please don't do *what*? What is she expecting James will do to her? Her constant apologies reinforce the guilt-theme but her defensive stance suggests that she is used to being mistreated and, when desperate enough, willing to use the knife against the offender rather than against herself. It is never stated explicitly, but there is evidence in the game that she was sexually abused by her brother and father, which drove her to kill them. E.g. there is a puzzle in the game that requires the player to find three tablets. Each tablet stands for one of the three perpetrators called to Silent Hill – James, Angela and Eddie. The locations of the tablets as well as their peculiar denominators are significant. Angela's tablet carries the inscription "Tablet of the Seductress" and can be found in the shower room of the underground prison in the Historical Society. Clearly, Angela does not behave like a seductress, but rape victims often shift the guilt from their abusers onto themselves, feeling dirty and responsible for the deed. The fact that Angela's tablet sits in the shower room further supports that theory, implying dirtiness and the wish to cleanse oneself, both physically as well as emotionally.

The last time I came across Angela was at the Lakeview Hotel. For a short while, I saw the world the way Angela sees it: a burning nightmare, a living hell. No wonder she didn't want to live anymore. Perhaps there was no salvation for her because she was looking for the wrong person. It would have made more sense to look for her brother and her father and to finally put the blame where it belonged instead of eternally torturing herself, hoping for comfort from someone who clearly didn't do a good job in protecting her. Who cares where mom is now; where was she, when her daughter needed her most?

While Angela is barking up the wrong tree, Eddie isn't really looking for anything at all. In another cut scene James meets Eddie for the first time in the Wood Side Apartments. He is vomiting heavily into a toilet. It is unclear what's wrong with him, but something seems to make him terribly sick (a dead body in the room?). Is it fear of the monsters? Disgust? Sure, the building is in dire need of maintenance

and cleaning but it doesn't look that bad – at least from James' perspective. But then again, we don't know what Eddie's private purgatory looks like. Unlike James, who decided to come to Silent Hill and is determined to find his wife or at least find out what had happened to her, Eddie laments his presence there. He complains that he's not even from this town. "You, too, huh?" says James. "Something just brought you here?" And Eddie confirms: "Ummm….yeah. You could say that." Of course, there is no way of knowing for sure, since Eddie's background story is not fully revealed, but this short exchange creates the impression that Eddie is neither ready nor willing to face whatever it is that is haunting him. I learned later that he, too, has killed someone, but he didn't seem to regret it much. To the contrary, he turns into an enemy later in the game, attacking me so I didn't have a choice but to kill him. By the way: his tablet is labeled "Tablet of the Gluttonous Pig" and I found it in a caféteria.

Finally, there's James, the most interesting case of them all and the hardest to grasp. He is the key to all that still seems strange, namely who Maria is and what Pyramid Head represents. We already know that Mr. Nice Guy has killed his wife. His guilt is so strong that he has repressed the act. He cannot bear to accept the fact that he was capable of murdering Mary. Admitting what had happened would mean admitting that he was a bad, unloving husband – no, more than that, a killer, a terrible, disgusting monster, capable of unspeakable brutality – or at least that's how he sees it. Just like Angela and Eddie, James also has a tablet that reveals the shameful self-perception that haunts him. His tablet is found in an underground prison cell of the Historical Society. Its label, "Tablet of the Oppressor" addresses the brutal, male dominance James finds within him and dreads so much to admit to himself. But closing your eyes never makes the monsters go away, does it? No, they just grow stronger and meaner.

James' personal nemesis is Pyramid Head. He is introduced raping two Mannequin monsters in the Wood Side Apartments. There is a significant connection between the Mannequin monsters and Mary that also strengthens the connection between James and Pyramid Head, which shouldn't go unnoticed: in one of the rooms of the Wood Side Apartments, James finds a flashlight attached to a dressmaker's dummy who is wearing the exact same dress Mary is wearing on James' photograph and in a later video sequence. The room was strewn with female mannequin parts that sprang to life and started to attack the moment I took the flashlight. One could say that this introduction of the Mannequin monsters highlights James' perception of Mary as an empty, lifeless shell – or at least, what he fears to be his perception of her. It's also noteworthy that the Mannequin monsters consist of two lower body parts. Where the upper part should be, there is another lower part with dangling feet instead of a head. They are clearly not designed for conversation. In the subsequent video sequence, James hides in a closet, observing the rape scene. When Pyramid

Head comes close, James fires at him with his handgun until the monster leaves the room. Pyramid Head is indicated as not only having volatile attitudes towards females, but also as being extremely strong, because the bullets seemed to merely annoy him. Obviously, James is not ready to confront his biggest fear yet.

Much attention to detail went into the design of Pyramid Head. He looks like a big, strong man, wearing a Ku Klux Klan cowl. The oversized knife he's carrying is more than just an instrument of death, but a very archaic and extraordinarily brutal one. In combination, the cowl and the knife conjure up images of executioners from past times and indeed, that's what he's supposed to represent. Much later in the game, I found a picture of a Pyramid Head in the Historical Society. It had the caption "Executioner from Past Times" – he's the epitome of a murderer. Therefore, there is no fighting with him: a direct confrontation results in certain death. The only thing I could do was avoid the lethal blows from the monster's butcher's knife until it walked away and hid again in James' subconscious. There was one significant exception, where an encounter with the odious alter ego ended with James being pushed from the roof of the Brookhaven Hospital. What happened here? Maybe a glimmer of awareness – after all, the scene happens on an elevated space, not in a basement – made James realize the connection between him and the monster, making him want to kill himself. He survives the fall, but barely. It's possible to argue that the scene represents a moment of acute depression, caused by self-awareness. Pyramid Head's main function, however, is to kill Maria.

For those who haven't already guessed, Maria is a fantasy. She's a result of James' longing for a healthy, sexy wife – an idealized version of the late Mary. Apparently, James does not want to admit this to himself. His fantasy is locked away in his subconscious, just like Maria is locked away in a prison cell in the Historical Society. Following one of the patterns of psychological trauma, the traumatic event has to be relived until one has found a strategy to cope with it. Thus, Maria is killed over and over and over again by Pyramid Head because this is how James relives his guilt for killing Mary. Near the end of the game, before James finally confronts Mary, he realizes: "I was weak. That's why I needed you [Maria].... Needed someone to punish me for my sins.... But that's all over now. I know the truth. Now it's time to end this." After that, James attacks the Pyramid Heads (in this scene there are two of them). Knowing the truth and accepting it makes him strong enough to finally face his fears and the Pyramid Heads give up and kill themselves (!). A big breakthrough in the therapeutic process but not the last.

I have already roughly described the end: James gets rid of Maria and apologizes to Mary for having killed her. She forgives him, but then, something surprising happens. Mary turns into the last boss of the game. Strapped to the hospital bed

that now hangs from the ceiling, she attacks James and I had to kill her. This was utterly disturbing to me. The poor woman, I thought, can't she rest in peace? Why would Mary become a boss after the mystery had been solved? Was James such a bastard that he wanted to kill her again? In the light of the game's metaphorical reading, however, even this part makes sense: repeating the murder stands for its absolute acknowledgment, for the acceptance of the fact that it truly happened. Enacting it yet again means taking full responsibility for it. With this insight, James leaves Silent Hill a new man. At least this was how the game ended for me when I first played it. It is not the only way it can end. The intriguing but problematic thing about *SH2* is that the player actively constructs the final meaning of the game and thus has some influence over the success of James' therapy.

— James and the Player – forced identification —

James is the hardest case to interpret because he's both the main character of the game's story and also the player's avatar. As such, James' mind is coinhabited by the player's. This form of pragmatic schizophrenia is not unusual in games. However, it normally makes a coherent interpretation of the avatar and his / her behavior in regard to the game's story quite difficult, if not impossible. Players usually don't enact an ideal story – at least not in the first playthrough. Take *James Bond* games, for example. While you learn how to be as cool, cunning and competent as James Bond, you normally act like an idiot. Not taking cover when being shot at, forgetting to reload, getting lost, driving against water hydrants and being killed – all of this is far from an ideal realization of the James Bond character. The ideal story is constituted by all the things the player finally got right minus his / her mishaps, just like the bad takes that happen during a movie production don't end up in the final cut.

Not so in *SH2*. In *SH2* it is not only possible but necessary to take all the player's actions into account when interpreting and making sense of the character James Sunderland. In this game, the player *always* realizes an ideal story and nothing, not even the stupidest behavior has to be disregarded for this story to make perfect sense. Why is that? Since the whole game can be read as a metaphor for James' psychotherapeutical process, everything James does has symbolic meaning. If progress through the game-space is analoguous to progress in uncovering the truth, it is significant how long it takes to solve a particular lock-and-key puzzle ("ah, there is a stubborn thought that hides in the dark!") or if one attacks every monster in the way ("OK, inner demons, here I come – and this time it's personal!") or tries to avoid them ("I'll just ignore you as long as you ignore me, deal?") or just runs in circles in the fog ("lalala, I'm going craaazyyy, lalala!"). Since it's the player who does all these things, all the player's actions are meaningful in regard to the

game's story. The game provides the player with some basic info about James (e.g. misses dead wife; might have some sort of amnesia) but what she does with this info is up to her. The player's behavior and playing style completes James' personality, and determines who he is. How heartbroken is he? Does he really want to find Mary or would he rather be with Maria, insisting on denial? Does he waste a lot of time struggling with all kinds of inner demons or is his search for the truth straightforward? Does he get distracted and disoriented easily? Is he sadistically stomping on the dead monsters before he moves on, reinforcing his image as a killer? In this regard, choosing one's difficulty level already has an effect on James' perception. A hard difficulty level for fighting and easy puzzles make James' inner conflict seem to be of a more violent nature than a difficulty setting that emphasizes cerebral struggle over a physical one.

Although the game is rather linear, the player actively constructs its final meaning and influences its outcome. Playing the game for the first time can result in three different endings, one of which I've already discussed. Since they are the most significant ones, I will stick to them. There are some joke endings one can get after having beaten the game at least once, but being joke endings, I will ignore them.

The "In Water Ending": To get this ending, one has to keep a low health status when wounded, examine the knife one gets from Angela and read the suicide journal on the rooftop of Brookhaven Hospital. In this ending, James recovers the dead Mary, carries her to his car and drives them both into Toluca Lake. Now that the truth cannot further be denied, it is too hard to bear and James ends his life. Obviously, therapy was not an overall success.

The "Maria Ending": to get this ending, one has to take good care of Maria, make sure she's not wounded by enemies (no chance against Pyramid Head, though), check in on her when one has to leave her behind at Brookhaven Hospital, try to rescue her from the underground prison cell in the Historical Society etc. This will lead to James leaving town with Maria. However, what might look like a chance for a "happily ever after" and would undermine the logic of psychotherapy, is overshadowed by Maria's coughing – which suggests that fantasy is about to dissolve and history is about to repeat itself. Coming to terms with one's guilt requires acknowledgment of all the facts and facing the consequences. Clinging to a dream and fleeing into wishful thinking is not an option. All three endings are coherent with the metaphorical interpretation of the game and absolutely everything the player does contributes to the game's story.

On the one hand I am very impressed by this narrative coherence and how the designers managed to achieve it. Normally, games try to bridge the gap between player and avatar by getting the player to role-play the avatar or by forcing the player

to behave in a particular way so the player would enact an ideal story. *SH2* simply refuses to acknowledge that gap and thus maintains absolute narrative control. The game system boldly assumes that all the player's actions are expressions of James' mental state. Thus, the player's actions do not have to be restricted or guided to realize an ideal story. She will do so in any case. The only problem is that the game's story is not the player's story, because it all happens without the player's knowledge! Only in retrospect does it make sense and one becomes able to interpret one's own actions in the light of the game's final reading. Only after the game is over can the player look back on her experience and realize, "oh, I guess when I was stuck and tried to ask Maria what to do, it actually meant I / James wanted to flirt with her!"

Despite the cleverness of the trick, it was still a trick and I felt tricked by it. The forced identification between me and James by the game's system made me feel like a pawn, like my intentions as a player didn't count – which is probably the exact opposite of the effect the designers wanted to achieve. The knife I got from Angela was just another object for me, no different than any other thing I put in my inventory and examined. The same goes for the suicide journal. How was I to know that the game's system would interpret my interest for these notes as James' more or less subconscious wish to die? To figure out what to do next, you have to read the memos and journals. That my actions represented something else than mere player curiosity or effort to win the game made me feel like the game controlled me, not the other way round.

Ideally, a game would manage to align the player's and avatar's goals in such a way that the gap between them is naturally minimized. If that's not the case, I prefer being steered and being made aware of it over having an illusion of freedom and learning in the end that my actions have been stripped of my intentionality and somebody else's has been assigned instead. That's cheating!

Conclusion

SH2 is a rare example of an emotionally rich, multi-layered and highly symbolical video game. One can play and enjoy this game, but never uncover its deeper meaning. For me, playing it well means going beneath the surface. In this paper I illustrated with many examples how reading *SH2* as a metaphor for a psychotherapeutic process can explain much of its strangeness and make it intelligible in retrospect. Essentially, I argued that therapy can be understood in terms of a journey with the obstacles on the way – be they mere roadblocks, lock and key puzzles, or monsters – representing mental or emotional blockades that have to be overcome in order to find the source of the trauma. I suggested that the town Silent Hill is an objectively

existing place that in some sense represents the mind, which is subjectively shaped by the things people have "on their minds" and project onto that space. As many questions as this hypothesis answers it does not explain why the mind should be a small American town that at the time has magically attracted three people who all have killed somebody. But it's exactly this interpretative richness that is one of *SH2*'s main attractions. One can play it over and over again and always discover new details (e.g. did that corpse I saw in the street look like James? Why did Mary's letter suddenly go blank?) that give rise to new speculations and readings. I've never played a game before whose replayability value hinged so much on its narrative component.

The strength of its story, however, is also its most problematic aspect. *SH2* is so focused on the creation of a seamless and coherent narrative and an absolute matching of game and story that it uses the player as a pawn to enact that story and determine its outcome. By simply insinuating total identification of player and avatar, everything the player does is read as an expression of James' mental state. Of course, this is not the case since the player is still primarily playing a game and her goals and motivations are thus largely different from James's goals and motivations. To realize that one's actions have been read in a specific way without communicating this interpretation to the player during gameplay and making the player aware of it, makes one feel cheated.

All in all, and to stay in the jargon of psychotherapy, I consider *SH2* a major breakthrough in the history of videogames.

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[1] **The lock and key puzzles in SH2 actually deserve to be explored in another article, because they are often connected to the game's narrative. For example in a later part of the game, I had to perform a symbolical execution of James, Angela and Eddie to be rewarded with a horseshoe which I could then – with the help of a waxdoll and a lighter – transform into a handle for a trapdoor. Sometimes, the puzzles are just bizzar – who would suspect to find a lightbulb in a can of food? Is this dreamlogic or do these puzzles also have a deeper meaning?**

[2] **For more information on what psychotherapy is, you can visit this website http://www. aboutpsychotherapy.com/index.html. The quote is taken from the part "What's the Cure? What does Psychotherapy do?"**

> *I am talking about the nature of the game at the most fundamental levels that I can perceive.*

CLINT HOCKING

LUDONARRATIVE DISSONANCE IN BIOSHOCK THE PROBLEM OF WHAT THE GAME IS ABOUT

In 2006, I praised[2] Ian Bogost's critique[3] of Bully[4] and lamented the unfortunate lack of game criticism, as distinct from game reviews. Roughly speaking, we could say game criticism is for game developers and professionals who want to think about the nature of games and what they mean. Game reviews are for the public – for people who play games – and they are intended to help those people make decisions about which games they should buy. Both are valuable and important contributions, but sadly, we seem to only have one.

So this is not going to be a review of Bioshock. If you want a review of Bioshock, you can visit some of the websites listed in the reference section for this article[5]. This is going to be a critique of Bioshock. I have completed the game Bioshock once, from beginning to end. Because it unfolds as a narrative and because this critique focuses heavily on where the narrative and the play intersect, I believe having thoroughly played the game once is the correct amount of investment that ought be given in order to form this critique.

Before I tear into it though, I want to apologize to the folks who worked on the game. If this was a review, it would be glowing, but as a critique it's going to be pretty rough. I mostly really enjoyed this game, and aside from a few minor quibbles that are inevitable coming from someone who lists System Shock 2[6] as his favorite game of all time, I basically think the game is great. In a very important sense Bioshock lives up the expectations created by its ancestor by inviting us to ask important and compelling questions, which is wonderful. But unfortunately, in most cases, I think the answers Bioshock provides to those questions are confused, frustrating, deceptive and unsatisfactory.

To cut straight to the heart of it, Bioshock seems to suffer from a powerful dissonance between what it is about as a game, and what it is about as a story. By throwing the narrative and ludic elements of the work into opposition, the game seems to openly mock the player for having believed in the fiction of the game at all. The leveraging of the game's narrative structure against its ludic structure all but destroys the player's ability to feel connected to either, forcing the player to either abandon the game in protest (which I almost did) or simply accept that the game cannot be enjoyed as both a game and a story, and to then finish it for the mere sake of finishing it.

So what is the form of this dissonance and why does it shatter the internal consistency of the work so totally?

Bioshock is a game about the relationship between freedom and power. It is at once (and among other things) an examination and a criticism of Randian Objectivism[7]. It says, rather explicitly, that the notion that rational self-interest is moral or good is a trap, and that the 'power' we derive from complete and unchecked freedom necessarily corrupts, and ultimately destroys us.

The game begins by offering the player two contracts.

One is a ludic contract – literally 'seek power and you will progress'. This ludic contract is in line with the values underlying Randian rational self-interest. The rules of the game say 'it is best if I do what is best for me without consideration for others'. This is a pretty standard value in single player games where all the other characters in the game world (or at very least all of the characters in play in the game world) tend to be in direct conflict with the player. However, it must be pointed out that Bioshock goes the extra mile and ties this game mechanical contract back to the narrative in spectacular fashion through the use of the Little Sisters. By 'dressing up' the mechanics of this contract in well realized content, I literally experience what it means to gain by doing what is best for me (I get more Adam) without consideration for others (by harvesting Little Sisters).

Thus, the ludic contract works in the sense that I actually feel the themes of the game being expressed through mechanics. The game literally made me feel a cold detachment from the fate of the Little Sisters, who I assumed could not be saved (or even if they could, would suffer some worse fate at the hands of Tenenbaum). Harvesting them in pursuit of my own self-interest seems not only the best choice mechanically, but also the right choice. This is exactly what this game needed to do – make me experience – feel – what it means to embrace a social philosophy that I would not under normal circumstances consider.

To be successful, the game would need to not only make me somehow adopt this difficult philosophy, but then put me in a pressure-cooker where the systems and content slowly transform the game landscape until I find myself caught in the aforementioned 'trap'. Unfortunately, when we take the first, ludic contract and map it to the game's second contract, the game falls apart.

The game's second contract is a narrative contract – 'help Atlas and you will progress'. There are three fundamental problems with this being the narrative contract of the game.

First, this contract is not in line with the values underlying Randian rational self-interest; 'helping someone else' is presented as the right thing to do by the story, yet the opposite proposition appears to be true under the mechanics.

Second, Atlas is openly opposed to Ryan, yet again, as mentioned above, I am philosophically aligned with Ryan by my acceptance of the mechanics. Why do I want to stop Ryan, or kill him, or listen to Atlas at all? Ryan's philosophy is in fact the guiding principle of the mechanics that I am experiencing through play.

Thirdly, I don't have a choice with regards to the proposition of the contract. I am constrained by the design of the game to help Atlas, even if I am opposed to the principle of helping someone else. In order to go forward in the game, I must do as Atlas says because the game does not offer me the freedom to choose sides in the conflict between Ryan and Atlas.

This is a serious problem. In the game's mechanics, I am offered the freedom to choose to adopt an Objectivist approach, but I also have the freedom to reject that approach and to rescue the Little Sisters, even though it is not in my own (net) best interest to do so (even over time according to data on the Escapist forums[8]).

In the game's fiction on the other hand, I do not have the freedom to choose between helping Atlas or not. Under the ludic contract, if I accept to adopt an Objectivist approach, I can harvest Little Sisters. If I reject that approach, I can rescue them. Under the story, if I reject an Objectivist approach, I can help Atlas and oppose Ryan, and if I choose to adopt an Objectivist approach – well too bad… I can stop playing the game, but that's about it.

That's the dissonance I am talking about, and it is disturbing. Now, disturbing is one thing, but let's just accept for a moment that we forgive that. Let's imagine that we say 'well, it's a game, and the mechanics are great, so I will overlook the fact that the story is kind of forcing me to do something out of character…'. That's far from the end of the world. Many games impose a narrative on the player. But when it is

revealed that the rationale for why the player helps Atlas is not a ludic constraint that we graciously accept in order to enjoy the game, but rather is a narrative one that is dictated to us, what was once disturbing becomes insulting. The game openly mocks us for having willingly suspended our disbelief in order to enjoy it.

The feeling is reminiscent of the Spike Jonze Ikea commercial[9] where we are mocked for feeling sorry for the lamp. But instead of being tricked by a quirky 60 second ad, we are mocked after a 20 hour commitment for having sympathy for the limitations of a medium. The 'twist' in the plot is a deus ex machina built upon the very weaknesses of game stories that we – as players – agree to accept in order to have some sort of narrative framework to flavor our fiddling about with the mechanics. To mock us for accepting the weaknesses of the medium not only insults the player, but it's really kind of 'out of bounds' (except as comedy or as a meta element – of which it appears to be neither).

Now, I understand the above criticism is harsh, and also that it is built upon complex arguments, so let me clarify a few things.

First, this is not a review. If it was, I would be raving (mostly) about the interesting abilities, fun weapons, beautiful environments, engaging enemy 'eco-system', freedom of choice, openness to explore, and a mountain of other fantastic things. But I'm not talking about all of the reasons players should play this game and all of the reasons they will certainly enjoy it. I am talking about the fabric of the game. I am talking about the nature of the game at the most fundamental levels that I can perceive. I am talking about weaknesses that I see (or more importantly that I feel) when I become deeply drawn into the game and really experience what is being expressed in its systems and content.

Second, the points I am making may seem trivial or bizarre to a lot of people, and certainly the arguments the points are built on are complicated. I am sure they are hard for many game developers to understand and impossible for laymen. Honestly – I only partially understand what I am experiencing when I play a game as thoroughly as I played BioShock, and frankly I only half understand what I am saying as I write this. With the 'language of games' being as limited as it is, understanding what I am 'reading' is hard, and trying to articulate it back to people in a useful way is a full order of magnitude harder.

So take this criticism for what it is worth. It is the complaint of a semi-literate, half-blind Neanderthal, trying to comprehend the sandblasted hieroglyphic poetry of a one-armed Egyptian mason.

In my rebuttal to Roger Ebert's contention that games will never be Art[10] – I asserted that GTA: San Andreas[11] was a more important work of art than Crash[12]. Now, I'm not going to bother to announce that BioShock is a work of art. I will, however, point to another often used film-game comparison… the one that states that games do not yet have their Citizen Kane[13]. Similarities between Orson Welles and Andrew Ryan aside, BioShock is not our Citizen Kane. But it does – more than any game I have ever played – show us how close we are to achieving that milestone. BioShock reaches for it, and slips. But we leave our deepest footprints when we pick ourselves up from a fall. It seems to me that it will take us several years to learn from BioShock's mistakes and create a new generation of games that do manage to successful marry their ludic and narrative themes into a consistent and fully realized whole. From that new generation of games, perhaps the one that is to BioShock as BioShock is to System Shock 2 will be our Citizen Kane.

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> *Snake and I became good gamers together.*

JAMES PAUL GEE

PLAYING METAL GEAR SOLID 4 WELL: BEING A GOOD SNAKE*

Metal Gear Solid 4: Guns of the Patriots, and the whole series of Metal Gear Solid games, involve an amazingly complex story which is resolved in this the last game in the series. I will not detail the story in this paper — because it is too long; I have never fully understood it; I don't pay attention to its details when I play (though its basic themes are important to me); and detailing it would give away many things people may want to discover for themselves. Readers can look up the story and all the characters involved on many websites and on Wikipedia, just as I do when I have forgotten something that I need to know in playing and thinking about Metal Gear Solid games. There is LOTS to say about *Metal Gear Solid 4* only a very little of which I say here.

Seth Schiesel — a savvy technology journalist who often writes about video games for the *New York Times* — had this to say about *Metal Gear Solid 4: Guns of the Patriots*:

> *I play games because of the freedom they afford. In contrast to a book or a film or a theater performance, a game lets me decide what happens next, or at least lets me operate under the illusion that my actions matter …. Metal Gear Solid 4 is not like that. Instead it is a linear narrative by the Japanese designer Hideo Kojima. You, the player, are along for the ride. M.G.S. 4 is Mr. Kojima's world, and you are just passing through for the moment while he tells you where to go next, what to do and more or less how to do it (Schiesel 2008)*

Well, Seth is a lot younger than I am. And he does, indeed, know his game stuff. But in my view, he's wrong about *Metal Gear Solid 4: Guns of the Patriots* (hereafter "MGS4" for short). He doesn't get it.

But then I have to add: Seth would probably think I'm wrong and I don't get it. Despite all the Games Studies efforts to search for a grand theory of games, there is, in my view, none to be had.

Different types of video games are different. Different types of players are different. And games and players interact in different ways. My MGS4 isn't yours and isn't Seth's. Yours isn't mine. And THAT is the freedom I love in video games.

When I say my MGS4 isn't yours and yours isn't mine, I don't mean the obvious truth, a truth about any media: different people have different interpretations. That ho-hum truth is true of books, films, games, and any and every use of language.

What I mean is that in MGS4 I (Jim Gee) am Solid Snake, not you, not Seth, not even Mr. Kojima, the game's designer. In fact, as far as I am concerned, Mr. Kojima is just along for the ride — in his own game to boot!

Well, o.k., of course, Mr. Kojima IS in this with me. I am willing to say (I guess) that it is not just me, but him and me together that are Solid Snake, really. We're a team, but I hold the upper hand (I say).

At the end of his review, Seth says:

> *Of course, by the time those credits did roll, I was ready for the M.G.S. 4 experience to be over. Not that I hadn't enjoyed it. It was probably the best near-future action movie I had ever seen. But I was ready to make some of my own choices. In short, I was ready to play a game.*

MGS4 does have long, gorgeous, exciting, amazing, over-the-top-by-any-standards cut scenes. The final one lasts well over an hour. MGS4 is, indeed, a great action movie.

However, when I played the game the second time around, on a harder mode, I cut off all the cut scenes: too bad, then, for the millions of dollars Mr. Kojima's spent on them. Hey, there are players who cut off all the cut scenes the first time around.

But, that — cutting off the cut scenes at least the second time around — is what the game is designed to have you do. MGS4 is one of those games that you are supposed to play more than once.

Why? Well that is what this paper is about, so I shouldn't tell you now. But I will. It's because to play MGS4 "well", YOU HAVE TO BE A GOOD SNAKE. And you are a better Snake the second or third time around. There is not just one way to be a good Snake, though.

So Seth, at the end of his first play through, having seen all those great cut scenes, should have been "ready to play" MGS4 all over again. And he could have dispensed with the cut scenes. So much for the movie.

But that's just my view as a player, not necessarily his. We're different and his Solid Snake is not mine and mine is not his (remember). Maybe he doesn't really care about Solid Snake. But I do.

So what does it mean to play MGS4? What does it mean to play it "well"? These are vexed questions (forget — so that we can gradually build to a climax — that I already told you the answer). MGS4, more than any game I have played, makes them vexed.

Let me start with something really simple: in MSG4 — unlike in any other game I can remember — playing well can mean playing badly. Most anyone would think, especially if they are thinking of sports, say, that to play well is to get things right and do well. But this is not always so in MGS4.

One example: There is a moment in MGS4 where Snake — who in MGS4 is sick, old, and tired — has to remember a code. Surely forgetting the code is not getting things right and doing well. But when Snake (my Snake, me) forgets the code — hey, I'm 60 years old — it becomes part of the story.

Otacon is already worried about Snake's physical and mental deterioration, as is Snake himself. This code forgetting just confirms (as the game goes on to indicate), both for Otacon and Snake, that things are getting worse, as indeed they are. Aren't you supposed to forget the code, if you want to go along with the game's narrative?

When I was playing the game second time round, Snake (I) got the code right and Otacon was relieved. [See, Seth, my choice made a little bit of difference].

Which way is right? Which way is "well played". Who is the better Snake? Hey, my Snake the first time around is not even my Snake the second time around and he is never your Snake (remember).
In MGS4 Snake is sick, old, and tired, as I said (due to intentional gene manipulation of Big Boss's clones, of which Snake is one, if you must know). He regularly grunts

and holds his back in pain. He has to inject himself with a special medicine even to keep going at all.

So when I play badly — when I mess up on sneaking or miss a head shot, when I have to make do best I can after my mess up — am I playing well? Aren't I playing Snake as the sick and tired old man he is in MGS4?

Or am I playing well when I and Snake rise above all the pain and succeed in fine fashion, as a hero like Snake might very well do? But, then, even in some of the cut scenes in MGS4 Snake doesn't do so well this time around. By the end of the game, he is literally crawling on the ground to meet the final boss, Liquid Ocelot.

Which way is being a good Snake for this game?

You see THAT is what it's all about for me: being a good Snake in this specific game (having been a good Snake, too, in all the earlier games). And THIS in a game that ends [spoiler coming] when Snake's father (Big Boss) tells him that the world no longer needs any Snakes, therefore: "Go be a man".

What for heaven's sake, does it mean to be a good Snake? What does it mean to "be a man" for that matter?

So what DOES it mean to be a good Snake? Well this is embarrassing, I must admit. The first thing (though not the last) I have to say about what it means to be a good Snake is a bunch of "theory" that got me into trouble in my first book on video games (Gee 2003/2007).

In my first book on video games I said that video games were a "semiotic domain". Lots of reviewers decried my "jargon" (but they were mostly, ironically, academics, not gamers).

I came to regret using the term. Now, low and behold, what does Mr. Kojima do in MGS4 but shove it in your face that video games are semiotic domains. He thereby forces me back to my disgusting jargon (and I hear the readers creeping away).

Saying a video game is a "semiotic domain" means video games are not pretty pictures, not "eye candy". They are, rather, "signs" to be "read". To play well you have to read the signs well.

In MGS4, being a good Snake means reading the signs well. So, what's that mean, "reading the signs well"? Well, let's take a quick tour through MGS4, because MGS4 makes a big deal indeed out of reading signs well.

MGS4 regularly plays with the medium to get players to reflect on the fact that they are playing a video game [Some people call this sort of thing "post-modern", but it is actually "modernist", but who cares about these sorts of things in a paper like this anyway?]. Let me just say that MGS4 constantly "goes meta" in the sense that it makes you think about the fact that you are playing a video game and does not let you just play it and forget about it.

Remember those great film-like cut scenes? In some of them we see rain or ice on the camera lens. This makes us well aware that the action is being filmed. But wait, it can't be being filmed, there is no camera, this is a video game!

It's a regular film technique to do stuff like that, showing muck on the camera lens, to make the viewer aware the action is being filmed and filmed from a certain point of view. It calls direct attention to the medium (film) as a medium, rather than seeing the medium as a transparent window onto the world.

But Mr. Kojima is calling attention to the wrong medium: this is a video game and not a film and there is no camera. Maybe he is calling wry attention to all the controversy about how games should not be movies (ala Seth) while they get more movie-like all the time.   Maybe he isn't. I don't know.

And, of course, he is signaling what genre of Hollywood film he wants you to compare his cut scenes to, namely an *avant garde* action film. But, wait a minute, there is an irony here. When Snake is at his very best — when you are playing him particularly well — he sneaks quietly past everyone unseen and there is no action. During game play, often it's only when you mess up (as sneaky Snake) and have to fight it out (as violent Snake) that Snake is in an action movie.

Hey, the cut scenes and the game aren't the same thing (surprise, surprise). The game is not acting out the cut scenes. The cut scenes aren't showing you how to play the game. So we will have to worry later about what those cut scenes are doing in this game. [Short answer right now: they are telling you what YOU owe Snake].

But no matter why Mr. Kojima is showing muck on the non-existent camera, he is surely telling us to pay attention to the signs: to the rain and ice on the camera. He wants us to see that these signs signal the fact that this is all artificial, not real, not a transparent window onto the world, even a fantasy world. It's a video game pretending to be a movie, knowing all the while it's a video game.

MGS4 also constantly makes references to earlier MGS games as games. It makes constant reference, as well, to the fact that you are playing a video game, even a violent one, and even suggests that maybe such games are training for real

violence and, hey, maybe you shouldn't be doing this. MGS4 even makes several references to the fact that you are playing on a Play Station 3.

The signs that you are playing a game are rubbed in your face. You are told not to forget that you are playing a video game, not to mistake it for reality any more than you should mistake those movie like cut scenes for reality (remember the muck on the camera).

Some specific examples that I love — and there are many in the game: Snake ends up in exactly the place where in an earlier game he fought and defeated a tank by throwing grenades into it. I remember. I did it. Did it damn well, if I say so myself . But Otacon tells Snake that he has checked with an expert and the expert told him that no individual could defeat a tank that way. It's impossible. He asks Snake how it did it; he marvels that he did it — how did he do it? Maybe it was just a game, not real. Snake just grunts.

Another example: Deep into the game, Otacon tells Snake that the disk needs to be switched. He asks him if he sees a second disk. Snake says no. Otacon says something like, oh, I remember, this is a Play Station 3 with Blue Ray disk technology. We don't need to switch disks any more like in the old days. He then marvels at the wonders of new technologies and Snake tells him "to get a grip".

Here is another example: One level starts off with the exact 2D game level from an earlier game. This is a level I remember very well indeed. I have even used screen shots from it in my talks. You (re-)play the old game a bit and then all of a sudden it stops and you see that Snake was having a dream. Hey, he dreams video game dreams.

Yet another example: During those gorgeous cut scenes a little "x" comes on in the corner of the screen every once in a while. If you keep pushing "x" on the controller you see flashes of scenes from earlier games — scenes thematically connected to what you are seeing in the cut scene. The cut scene is totally realistic looking, but the flashback is out of an earlier game and, thus, looks much more "primitive". The realism is ruined (and after all that money spent for the good graphics!).

This juxtaposition of realism and less realistic graphics from earlier games surely tells the player that no matter how realistic MGS4 looks — thanks to that wonderful Play Station 3 technology — it is still a video game and, in core respects, not different than the earlier games, games which were worse as "eye candy", but just as good as games. But then it can't be the graphics that make a game and the superb graphics of MGS4 aren't what makes it a great game.

Indeed, MGS4 is one of the most realistic looking video games in history. But it regularly undercuts that realism to underscore that you are playing a video game — and not just any video game, but an MGS game. Not only do we get all the references to the earlier games. We also get decidedly unrealistic conventions (carried over from the earlier games) like a question mark or an exclamation point showing up over an enemy's head when he thinks he has discovered Snake (the question mark) or when he definitely has discovered Snake (the exclamation point). If question marks and exclamation marks are not signs to read, I don't know what are.

So, throughout, Mr. Kojima makes it clear that gamers have to read signs: signs like the water on the camera, the question and exclamation marks, the flash backs to earlier games, the wry comments on the fact that you are playing a game and that what Snake has done earlier (and, therefore, probably now, too) can't be real.

Why this obsession with signs and reading signs? Why the need to keep telling you to pay attention to the fact that you are playing a video game and an MGS game to boot?

Two reasons: First, reading signs of a certain sort in a certain way is what you have to do when you are playing any video game. That's why I called them "semiotic domains", for all the grief it caused me. Mr. Kojima is just making the same point in a much better and more entertaining way.

Second: This — reading signs in a certain way — is ESPECIALLY what you have to do in MGS games in a SPECIAL way, not just because they are stealth games, but because that is one of the things Snake is good at (reading signs) and you are supposed to be a good Snake.

Well we are very close to the point now. We have come to the heart of the matter. But, sadly, I have to pause, because I sort of lied to you.

Remember when I told you that MGS4 "constantly makes reference … to the fact that you are playing a video game"? Remember when I asked "Why the need to keep telling you to pay attention to the fact that you are playing a video game and an MGS game to boot?" (it wasn't all that long ago)?

Well, the weird fact is that MGS4 does not actually constantly remind YOU you are playing a video game, it actually constantly reminds Snake. Of course, you are Snake and so it is telling you, too. But it most certainly is telling Snake. So it is telling a video game character that he is playing a video game! Isn't that just plain weird?

But Snake can't be playing a video game, he isn't real. But it WAS him — Snake — who defeated the tank (the one that a real person could not defeat, remember), wasn't it? Well — ok, maybe no — it wasn't him, it was ME (as Snake) that beat that tank. But then real people — and I am real — can't defeat tanks in that way. But — ok, I almost forgot — I was only playing a video game. But Otacon told Snake that it was HIM that was just playing and not beating the tank for real. I'm confused!

Here's my idea: Snake's a gamer. So am I. We're both gamers. Sounds weird, uh? Well, ok, stay with me. It will get better (no, actually, it's gonna get worse, then it will get better, maybe).

Think about it this way. Mario is really good at jumping. But gamers don't jump. Mario jumps and the gamer does something else. Sonic is really good at speeding, but gamers don't speed. Sonic speeds along and the gamer does something else. Riddick is really good at beating people up, but gamers don't beat people up (so much for that "games lead to violence" nonsense). Riddick beats people up and the gamer does something else. Mario, Sonic, and Riddick, whatever they are doing, THEY AREN'T GAMING.

But Snake IS. What Snake is REALLY good at is just what gamers are REALLY good at WHEN THEY ARE PLAYING WELL.

And what is that?

Well — sad news, indeed, here — (I told you it would get worse) just at the dramatic moment when I am about to unveil "the point', when I am about to tell you "the answer", I am going to use another piece of jargon. Surely, you would think I had learned my lesson by now. Alas, I am (and I hate it, believe me) an academic.

It means that Snake PAYS ATTENTION TO AFFORDANCES, just like savvy gamers do. Good gamers are really good at paying attention to affordances. And Snake is really good at paying attention to affordances. In fact, it's his super power. So, unlike Mario, there is one thing that Snake does that gamers do too. Snake is good at what gamers are good at.

So, what in the hell does it mean to "pay attention to affordances"?

An affordance (Gibson 1977, 1979 — see, this is old stuff) is something in the environment that you can use to accomplish a goal. A hammer is an affordance for banging in nails, if that's your goal. But an affordance is really an affordance only if you have the skill to use it. No opposable thumb and that harmer is no longer an affordance (for you) for nailing. Another example: if you have not taken Skinning

as a skill in *World of War Craft*, then stags are not an affordance for skinning for you, though they are for someone who did take the skill.

So to pay attention to affordances means to pay attention to how your skills match up with aspects of the environment to take advantage of them as affordances for accomplishing your goals. It's all about matching your skills with what's on offer in the world, what's out that that can be manipulated for your purposes.

When you are playing a video game, the skills you have pay attention to — that you have to match up to the world — are: (a) your skills as a gamer; and (b) the skills you inherit from the character you are playing (Snake in this case, who, for example, can't speed like Sonic, but is good at moving quietly); and (c) the skills you inherit from the character you are playing that you choose to use (say, sneaking, rather than killing).

So playing video games as a savvy gamer is matching skills to aspects of the environment that can become affordances to carry out goals. In MGS4 this means carefully observing the environment to find good hiding places; to find vantage points for stealth attacks or sniper shots; to find paths around enemies; to find just the right place to stand or the right way to move in the environment to defeat a boss. And much more, all with due regard for your own skills as a player, for Snake's skills (remember, he can't speed), and for what sort of Snake you want to be and can be (say, a sneaky Snake, rather than a lethal Snake).

Once again, Mr. Kojima is well aware of all this, even without using my jargon. For instance, in MGS4 he gives Snake a device that just shouts out my affordance theory: it's all about matching your skills with your environment.

Snake has a special suit that allows him to meld into his environment (like a chameleon) so well he becomes virtually invisible. With the suit, nearly every part of the environment is an affordance for Snake to disappear. Without the suit (and you don't have to wear it) he cannot meld and no part of the environment offers him an affordance for disappearing.

O.K., I know some of you think I am making all this stuff up about gamers, gaming, and affordances. But obviously Mr. Kojima doesn't, since he devotes one level of MGS4 to a tutorial on the matter, as if the Octocamo suit wasn't enough already.

In this level, Snake has to use his "Solid Eye", a device that gives him hyper-vision where he can clearly see foot prints, hidden enemies, and other "signs" (like where loot, such as ammo and rations, are) even in bad light conditions. Raiden (yes, he's back) tells Snake that he must track the people who took Naomi (yes, she's back), all the while watching out carefully for enemy soldiers.

But Snake says he really has no tracking skills (oops, that's a problem). Therefore, nothing in the environment is going to be an affordance for Snake to track.

Raiden comes to the rescue. He gives Snake a tutorial on how expert trackers like Native Americans use all their senses to pay close attention to every little sign (e.g., broken twigs, heavier or lighter foot prints, the distribution of the weight shown by a foot print, sounds, disturbances however small in the environment). He tells Snake he must read these signs carefully (see, I told you, it's all about reading signs). After the tutorial, Otacon coaches Snake through the whole thing.

So Snake (and you) learn to pay very close attention to the environment (thank god for the Solid Eye). Snake (and you) learn to read all the signs, no matter how subtle. Then Snake (and you) can use them as affordances to know where to go — which path out of many choices to follow — so Snake (and you) can pursue Naomi's kidnappers without being seen. Snake is getting a lesson, and so are you, a lesson on tracking and, I argue, a lesson on playing video games, at least games like MGS4.

Because, after all, Snake is usually good (though not this time) at reading the signs to use his environment to his advantage. It's his "super power". He is always acutely aware of his environment and has many different skills for getting through it (and, thus, there are many different ways to play the game, to be Snake). And you need to be good at this, too, if you are going to be a good gamer and a good Snake.

Snake can sneak past enemies, he can sneak up on them and stun them, he can snipe them, he can meld into the environment to avoid them, he can check out his environment with a robotic drone. He can do much more. And he and you need carefully to match these skills to the environment to find affordances to accomplish your goals.

I must say that my Snake was not all that good at the tracking. But remember Snake said he wasn't good at tracking. He is just learning, like me. And he is old (so am I) and sick and tired. So this is another case where not doing well is doing well (being Snake as he is). But he gets through (not all that badly — for Snake, for me, or for my Snake — I must say, especially the second time round and remember I said above that the second time round is important).

So that's what good gamers do: match skills to the environment to create affordances for accomplishing goals. That's what they do when they play Sonic or Snake. So Snake and I both got a lesson from Raiden, Otacon, and Mr. Kojima on the whole theory. Get some skills and match them to the environment to accomplish goals. That's gaming (later I'll tell you that that's life, too).

But, unlike Sonic, Snake himself is good at THAT — it's his super power, as I said — and so he, too, is a good gamer. Snake is a model gamer. He and I are both gaming, just as GMS4 keeps telling us. [If the point is still too arcane, then consider this: Mario jumps, gamers don't. Snake pays close attention to affordances, gamers do too. Snake and gamers do the same thing. Mario and gamers don't. Mario's great, but this paper's about Snake].

To be a good gamer is to be a good Snake; to be a good Snake is to be a good gamer. But remember, Snake's father told us that after our heroic accomplishments in MGS4, the world needs no more Snakes — "go be a man". Perhaps, Mr. Kojima wants us to stop gaming and go out and change the world.

No, that's not what he means, I think. Or, at least, not all that he means. In "Self, video games, and pedagogy" Jenny Wright (to appear) compares heroes in Native American myths and heroes in role-playing video games. She says: "[t]he sense of achievement you gain from becoming an expert manipulator of any environment is addictive and affirming".

Being a good gamer and being a good Snake in fact requires the core skill, not just of heroes, but of "a man" or "a woman" — of an effective, efficacious human being — and that skill is: becoming adept at gaining and matching skills with different aspects of the environment to use them as affordances to accomplish important goals.

Sounds too academic, doesn't it? But try changing the world without that skill.

To play GMS4 well means to be a good Snake. And that means to be a good gamer. And that means to be a hero. And that means to be a thoughtful human. Pay attention to those affordances.

Every hero, every human has different skills, different desires. Every hero, every human matches skills and desires to environments to accomplish goals differently. Every player plays Snake differently. My Snake is not yours, yours is not mine. My life is not yours, yours is not mine. My excellence is not yours, yours is not mine. As long as we are trying to play well, to honor Snake, to be good Snakes, the best we can, we are all the hero crawling to the last boss to become "a man", "a woman", "a human".

But why does Seth have to play MSG4 a second time and maybe a third too? Because each time around, you're a better Snake.

And why are all those gorgeous cut scenes there? Just to tell you that Snake is a hero and what sort of hero he is. Snake IS a hero and YOU can't let him down.

But, remember, too, the best Snake (in fact the one you have to be on the hardest level of the game) is a sneaky non-lethal Snake, the Snake that always misses the action movie in favor of disappearing unseen, unheard into his environment, all the while accomplishing his goals [On "The Boss Extreme Difficulty" level, you must complete the game in under 5 hours with no alerts, no humans killed, and no continues, while using no health replenishing items and foregoing the Octocamo stealth suit. I've beat the level. In my dreams].

Being a sneaky Snake is hard this time around, in MGS4, the final game. Snake is old. So am I. So it's ok to make mistakes. But we play again. Make less mistakes. Snake and I get better — perhaps, too, just a bit younger.

And why is it ok to cut off those cut scenes? Because I know Snake already and have long wanted to be him and have been him now four times. He is my hero.

And what a ride it has been. Snake and I became good gamers together. Time now to be "a man". Or find another game.

I have tracked her unique prints in the snow (and they said I was no good at tracking!). But I am far away. She does not see me or hear me. She does not know I am here. But I know she is there. I wait. The world is covered in wind and snow and ice and mist. It is a pure white out. There is no visibility. Then all of a sudden the mists part. I have waited patiently. I am ready. My silenced sniper bullet hurls through the air for a perfect head shot. Unseen. Unheard. Crying Wolf is defeated. I have been a good Snake. Even though I am old. Oh, but I will be a better Snake next time around. I'll use non-lethal ammo. I'll stun her. And move on.

> **"**
> *Somehow, the technological light within matched the ancient glow of time in a way I could find no words to describe.*
> **"**

MARY D. FLANAGAN

A PRIVATE CORRESPONDENCE TO DAVID THEURER, WRITTEN BY H. P. LOVECRAFT, 12TH JANUARY 1919

from the Tempest

H.P. Lovecraft (1890-1937) was an amateur American journalist and fiction writer who crafted short stories and novellas. Letters are also an important part of Lovecraft's literary legacy. The following document was recovered in the papers now archived within the H.P. Lovecraft Collection housed at Brown University. This particular specimen was discovered among the remains of an overlooked trunk, turned on its side, that served as resting place to the laundry basket of Mrs. Letitia Edgcombe Thistlewaite, great-grandmother of the discoverer of the extraordinary letter, Mary Dorchester Flanagan, who has since herewith shared this remarkable evidence with the public on the 90th anniversary of the fantastical voyage documented in the epistle. — the Editor

12th January 1919, Providence

My Dear David Theurer:

You once asked me to explain why I came at all, and why, like you, I continue to dread the lurking menace of that *other* world, its thin red and green geometries, that spider web of vast and clever choreography, the electrified enigma of brightness and shadow I discovered upon my foray into Your Time. I am certain that the authorities never noticed my sojourn. I am also assured, from your newspaper accounts, that the details behind your work and your present state of mind — the fact that the dark spaces of your dreams were held aloft in shafts of light and rendered so very *real* – are nearly forgotten in the frenzy of the new and the visible. The dimensions made entirely of light where the creatures live puzzles me so, transporting any body who engages with your mechanical appliance alongside the speed of 10,000 dæmons searching for their next fallen, faithless man. I, Mr. Theurer, retain my own ghastly nightmares conjured continuously since my visit. Like the others, I have joined you in a humming state of waking and sleeping madness. What can be said of the abstract shapes still endeavoring to seek me, and destroy me, flipping and flinging to my side whether I am merely gazing into a window, or strolling down the walkways of my humble township, when the chill of evening begins to stealthily creep through the warmth of a mid-autumn day? Out of the corner of my eye, I still see these light-ridden aggressions now, this very evening. They do indeed persist here, back in my time, as well.

I am forced into speech after my visit to you, having kept abreast of the varied occurrences in your time. It is with significant apprehension that I discuss the impending political crises and the threat of the miniature-working bombs that later generations have produced As you may know, since the episode of my visit, men of science have insisted on creating many more worlds within portals of glass such as those you expressively crafted in the year of 1980. Unfortunately, the others have refused to follow my heartfelt advice cautioning of the hollow madness, which may soon follow one's encounter with the box. As the remorseful creator of such haunting spectres, you reiterated my warnings to those living in your own time from the depths of your very heart, but you were taken as mad yourself. I saw this most apparent when you so frantically noted to those in power your dire predictions, and ultimately, confessed your demise. "I've got this nightmare I have where monsters are coming out of a hole in the ground," you famously told the authorities, "and I must kill them before they kill me." You reported your fears to your employers, and your beseeching ran in the free press from periodical to published volume. But – this colloquial confession fell to those already blinded by decades of parading lights, and simple men could not imagine that their beloved machines might conceal something so sinister. Needless to say, your words of the

creatures, the dream, and the horror of the lights did not fall empty upon these, my own ears.

It was from your decade that, as a culminating act of desperation, you entreated *me* to come have a look at the spectacle. "I've got to kill them before they get to the surface, and kill me," you repeatedly cried, and thus built a mechanical appliance to encase the dæmons, and (with hope) put an end to their days. An incredible plan! But your horror proved difficult to abate. Thus, it is due to this direst of unfortunate circumstances that, through my looking-glass, I was feverishly summoned to give whatever assistance I could in the matter, and arrived with my folding and unfolding technique to your time and your despairing and the ill-named city of Sunnyvale. While I was to discover that this was not among the wisest of decisions of my career, it was one I made nonetheless, the summons too vehement to ignore. It was a simultaneous lesson in the folly of righteousness, curiosity, and selfless sacrifice I was later to deeply regret.

> *There's nothing ill can dwell in such a temple:*
> *If the ill spirit have so fair a house,*
> *Good things will strive to dwell with't.*
>
> — *The Tempest, Act I, Sc. II*

The long row of shops were laid out together in a concretely bound, orderly assembly and appeared almost as though Jules Verne's cities of the future had taken root. But instead of pyres in the sky, *this* city had grown elongated and flattened-out, as though the buildings were themselves a discriminate attempt to disguise the location of the sublime mechanical appliance among uniform pattern and palette. I was one of those fortunate enough to knew of the location from the jumbled notes you had sent on. But Mr. Theurer, I must admit my awe! What fascinating a place to house a portal so fantastic! I had once glimpsed it on a trip to the market as I settled into my lodging. The roads all around were cured and hardened, and much wider than those I am accustomed; the length alone of the seemingly nameless buildings was something to behold. I found price of goods to be far greater than I had foresaw, and thus found myself holding currency of little interest even to numistmatists. In my dress — well, all I can admit is that I managed, but the somberness of my heavy-coated retinue in comparison to the lines and bright fabrics of the day, as well as the sheer absence of so many layers among passersby, may have let on my secret to those with a keen sense of observance to seasonal whims. Nonetheless, I pressed on in the newly neighborhood with only an air about me of mild eccentricity or somnambulistic tendency, and, without much interruption, found, and then again returned to, the source of my mission's most heartfelt obligation.

My looking-position was just at the edge of the flattened allotment outside the shops. From there, I could just barely glimpse the remarkable portal of glass in its holding-box; said box resting inside a shop with curious, unsightly chairs affixed by some means to the legs of the table they serviced, as though to keep them from escaping the curious dim light of the place. At first I surmised that the holding-box could be a remnant of a battered Mutoscope, but the ambience of the place, and the material of the object, were quite exceptional. The box itself might also be in use as a scientific display depicting the modern wonders of electricity — but, why was it positioned thus? In other words, to my eyes, the majesty and magic emanating from the holding-box did not fit the decor. The holding-box, positioned near the back wall (some eight yards from the window), faced the North, with a bias to North West, as though the box had been jostled by its hosts in a heaving struggle to attain some ritualistic and proper alignment. It was covered with a strange marking, an ostensibly graphical depiction of a spider's web, with what looked to be a set of explosions emanating from the centre. There were other marks as well; perhaps these were of mystical origins.

I wished to enter the shop and blend in with the personages of that locale by sitting down, perhaps to examine the newspaper or eat the type of baked good that seemed to be the establishment's specialty – perhaps funnel cake, perhaps pizza. The seating apparatuses, however, appeared so rigid and foreboding – I feared that I, in my greatcoat, could not casually sidle in unnoticed. Thus, that first day, I was only able to spy the holding-box from afar. A sheen from the sadly ordered, overhead, chemically-infused glowing illumination source — an unnatural *phosphorescence*, or perhaps the units were termed *fluorescence* — glossed the view of the portal within its holding-box as observed from the wide casement of glass in front of me. Nonetheless, from its current resting spot, the mechanical appliance projected… well, a certain… *possibility*. When I left my perch for the day, the night sky was ablaze with more artificial light.

Even though there seemed to be a significant challenge in Sunnyvale, I resolved that the dæmons were naught less than the others I had encountered during the ongoing course of my chronicles. I anticipated that mine was a relatively easy task: I would merely silence the monsters you described so eloquently in your missive, lock them back into the abyss of the mind, and be done with this place, this time. Was it old Ephraim's soul that was locked in there too? The thing that calls itself Azathoth? On the second day of my visit, I again decided to watch from across the glass of the establishment window wherein the box lie, resting. Due to an afternoon cloud, I could see a bit more clearly into the depths of the shop. I longed to approach the box and stare deeply into the portal of glass merely to glimpse flickering signifiers as they shifted to and fro, if only to confirm that inside, there might be housed some tremendous types of sentient life. To my astonishment, finally, I saw! Bright blue

and green lines on the deepest raven black formed on the portal of glass, and these shifted to form and form again shrieking geometric bodies, but bodies which seemed at the same time to consist *entirely of light*. Forms did bustle about within the box, in a hideous unknown blend of color and tipped with tongues of foul flame. In one feverish kaleidoscopic instant there burst up from that doomed box a gleaming eruptive cataclysm of unnatural sparks and substance, of luminous amorphousness — yet all this without even a concerned look from passersby! The cabinet did not seem to be the 'monster-trap" I had imagined at all, but something far more difficult to comprehend, and menacing. The whole scene, however, was treated by those of the public as little more than a neglected shrine at which a visitor may make an offering, or perhaps, a birdcage, where a collection of fantastic finches might flit about entirely without notice.

I shall admit, I have personally witnessed the nickelodeon, and of course I am highly aware of the phenomenon of moving pictures, as well as the history of automata and mechanical devices. But this phenomenon was truly peculiar. This device lacked a whirring of gears — strange; it must somehow rely upon the wonders of electricity –and something else entirely. A Dial emerged from a shelf just under the glass, where a human hand might rest as if upon a holy book while contemplating this world — also, there lie small raised circles which seemed to promise places for the fingers, just as the carved tabs in great books helped to mark one's alphabetical or biblical progress. As the scene dimmed, I realized I had maintained my cautious vigilance a goodly number of hours. I believe I saw English words flicker by in blue lines within the box. The short phrase, in all capital letters, appeared to spell out "AVOID SPIKES." Was this a sign of the divination powers of the box? As it infused the air around me, the smell of the baked dough ravaged the air with potency, but instead of entering the shop and nearing the holding-box, I returned to my rooms, watching each step carefully, looking for sharp objects. I consumed a sup of tomato soup with a strange dollop of yoghurt inclusive (a "fusion" dish the innkeeper proudly stated), and I took to writing my recollections well into the night.
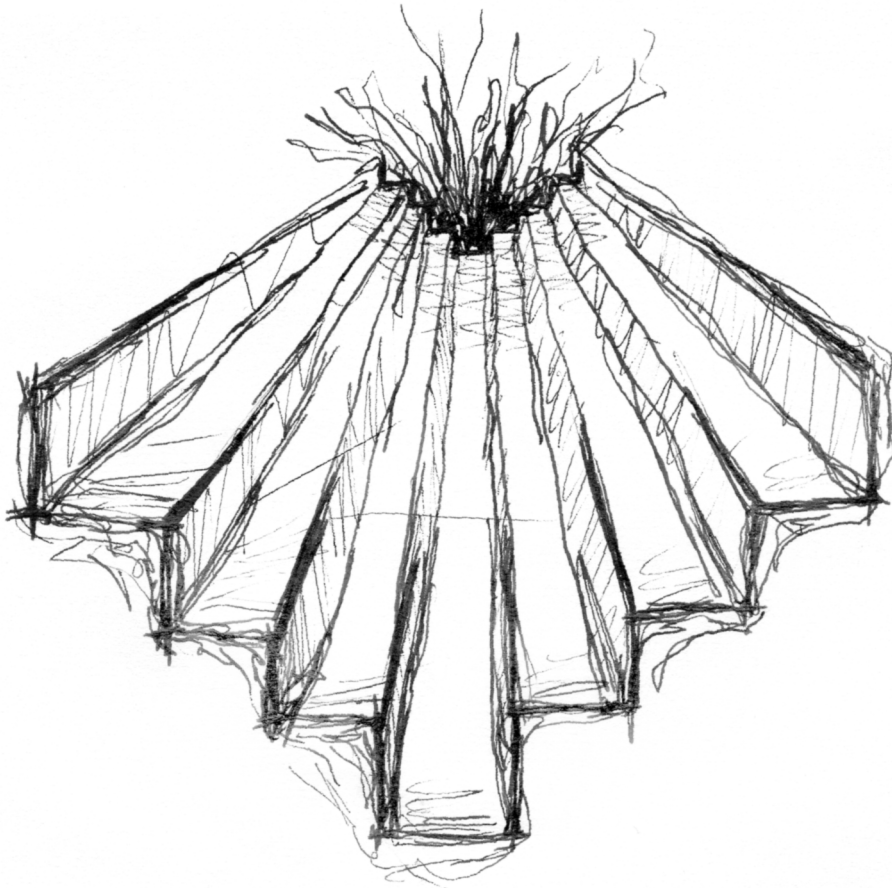
I had to return a third day (late, due to an extended rest) to finally see the orchestration in propinquity. Certainly, not a fresh market lyme could shine as bright, no plum could ink the brightness from the day with as much exacting sameness as the colors emitting from that very box. That third day, I encountered the glowing world within the portal in close proximity. The scene I peered down into seemed like the coming doom so desperately feared: the world seemed to consist entirely of lines, dominated by the ceaseless movement of contradictory two-dimensional geometric outlines that strained on the variable, storm-ravaged surface. These outlines, however, strangely possessed a strong sense of depth, as though the shadow of nameless fear went deep into the earth. The world's initial flatness echoed to add a dimension – what was a flat web of lines dancing across in patterns became something more. I cannot describe the emotions when I actually realized that this initial appearance

was merely a geometrical and dimensional illusion. Once my vision shifted to catch on to this trick, I immediately began to render the unfamiliar and comprehend that there was *depth* in this world. And finally, there it was — a figure-eight-shaped hole in the ground; and upon peering down into the chasm, indeed, there were creatures that emerged from this depth — sometimes only intermittently, sometimes with a fever-pitch (the vantage point entirely arranged in single-point perspective). The creatures as described in the account of the dream climbed up from the abyss and emerged to dance about the edges of the mysterious hole — while in my very company! Then, the holding-box would shudder as the creatures emitted sounds, and the portal, after a time, flickered, producing an entirely different scenario of world geometry. After each flicker, the hole appeared as various shapes; new holes and chasms appeared, which each included ideal vantage points into the abyss from which the creatures emerged. At other times, the abyss was a mere line, a canyon straight down into the earth. The variously shaped creatures — some quick and bow-tie-shaped, some more like glowing balls, and some that careened out from the cavity as straight lines — these all moved quickly, emerging to the present up from the long tubes which extended down into the centre of the line-defined earth. A claw — both a substitute for hand, I discovered, and some sort of arcane looking, dimensional *vehicle* — seemed to embody the very agency of the world-watcher and could be spun around the world's edge, around the creatures' hollow place. Clearly, the creatures were interested in their own behalf, and saw any interruption as a threat to their livelihood. How can we know how this husk of a world works? Must we read the scripts of Τάρταρος, the deep place where from the creatures come? I asked myself. Does it recognize me as part of it? Which world do I in fact find myself?

Scrutinizing, and entranced, I was suddenly brought to my senses by a bespeckled, gangly youth who tapped me on the shoulder. "Lights out, dude. Time to go." Perhaps I had stood there for nearly two hours — perhaps more — fixated by the infinite struggle, which lay before my eyes. I still possessed a final, desperate hope that they were a mere illusion born of delirium. As I trundled limbs limp from tiredness, shuffled in my greatcoat, and departed, the fluorescence flickered into to the turbidity of night, bringing phantasmal flashed of hideously familiar patterns out into the streetscene. I looked back. The box and its portal of glass did not fail when other light was quenched. Life continued in there, Mr. Theurer. As you knew it would.

To my initial dismay, I could not reach you to converse about the dæmons, or offer you any comfort whatsoever. It was all the ultimate apex of nightmare, made worse by the blasphemous tug of half-knowledge. Nay, it was inconsequential how secret your captors kept, I knew by my glass where you were held in reserve. Yet merely appearing to you would seem to manifest one of several dæmons — this might have

further contributed to raging madness. This is not to say that I avoided my research and the task at hand. It cost me terrible effort, but through the course of my fervent mission, I found less and less want for instruction regarding my interactions.

With these questions freshly engulfing the mind, the next morning I again revisited the scene. The holding-box provided all the visitors just beyond the shop's ordering counter with permanent movement, with distraction. Without realizing the severity of the supreme horror of where the dæmons lay, the holding box appeared as an innocent, whimsical, and portable sanctuary from the future. Those onlookers would approach the counter in search of those (I assume now, a regional peculiarity) baked pizzas of tomato and cheese, and some wandered off to watch the portal. In this way it provided a waiting haven, and indeed, seemed to shew itself to be an innocent window to a new possible world. The holding box, perhaps, pleased the delusional visitors as well as those dark grotesque spirits which lay so close. The innocents even went out of their way to relinquish themselves and shew respect in distorted worship, as though one's higher place in the cosmic order were secured the longer one spent with the creatures.

A young girl approached the holding-box with eagerness. With the devoutness of a pilgrim, she attempted to please the spirits with a well-practiced and an oft-intoned ritual, inserting a silver talisman (which I have now identified as not just currency, but a marker for a sacred fund – a coin more or less figured, a talisman with a memorable carved portraiture) into a slot in the cabinet as a church-goer secures funds into the hallowed collection box as a payment towards immortality. After inserting the talisman, the girl proceeded to grasp the Dial, and tense her muscles for an encounter with the thing extraordinary. This girl understood the creatures and their lair without the haze of delirium or fear which had become habit in my adventures. Her eyes widened and she gripped the Dial with ferocity beyond that of any natural nine-year-zeal I have witnessed. The girl spun the Dial, and I could see from behind her particular challenges: bow tie monsters "flipping" about the edges of the lines, diamonds which come toward the Claw, then split into mirror enemies. Spiral-moving trails left explosive mines in their wake. At one point the girl shouted "FUSE-BALL!" with rage in her bright eyes. I do not know if that is the name of a magical portent, or the name of the multiple-coloured sparks moving in the girls' Claw direction. It became clear that she had complete control of the Claw and its speed, though her engagement was clearly venturing into more of a *frenzy* than a simple interaction. "Perhaps," I thought, affixed to the scene, "the machine is like a microscope for a scale at once great and small… there is the possibility that it could allow the viewer to observe and interact with another dimension that is both inside and around the present reality." There were pulsing style zig-zag chargers that appeared to make electric or otherwise dangerous the bits of the lines in which the Claw was trapped. The girl stopped short with her actions, a noise was heard of unpleasant tones, and her hand fell from the Dial. The creatures had won their insidious duel yet again.

When the girl had gone, and the place was more or less silent but for the tones emanating from the machine, I approached the counter and requested access to the Box. I exchanged some paper funds for the talismans, and advanced. I could comprehend the presence of life inside the mechanical appliance despite the absence of typical transforming markers of space; indeed, the geometric life that appeared to me in the portal of glass subsisted as though spawning from a pond of life, the very primordial soup gone golden through a strange angle of time. Peculiar in its simultaneous depth and flatness, the lights in fact emerged brightly, lizard green and peacock blue from directly through anomalously changing angles and shapes. The creatures' gestures were formed by abstractions and shadowing. Green, yellow, and red shapes emerged from other shapes, as though lines collapsed themselves here and there to form bowties, parallelograms — creatures, quite frankly, of unfamiliar dimensions. With every moment, my feeling of elusive cosmic horror increased.

Of the progress of time I kept no record, for time had become to me the merest illusion. I know only that something very singular happened in this holding-box, in this world you called "*a Tempest*," and no god or dæmon could have aspired to create among persons. I shiver as I speak of them. I cannot say how many talismans I fed the Holding-box. I do know that if I had been living tiny lives, my progress was more akin to generations of the fruit fly, wherein the brief flurry of vibrant life shakes up the otherwise cold universe in between. My abilities and agency swelled and stayed as ocean waves, until another talisman could come to again renew the cycle of life.

Fool that I was to become inured to your mechanical appliance in the first place, oh Mr. Theurer! Fool, too, was I to discover the emanating voice from your appliance so very musical; the voice tuned to deep toils, the voice of crystalline spheres. To look at the appliance was one such hypnotic interlude; but in the night, I often felt the musical call too great to resist. Fool that I was to plunge into the fray with such unsanctioned frenzy. Now, it is clear that it was a mistake to succumb to the temptation of my own hero's-narrative.

The fifth day, I perhaps lost two hours. The holding-box — that morning, what a longing for its embrace I can express to you now, even with the foreboding sense of despair t'would claim me later! To some unaware, the holding-box merely served to prop up the Dial for a visitor to your mechanical appliance. But for me, the shelter of its sides to guard the portal, to encase the player in a touch of saint's solitude — this is what I wished to return to and return

to again.

Dare I detail the enemies which swirled up and around the varied shapes of sixteen layers of the spangled night sky, or sixteen shaped dimensions depicted in the holding-box? I believe myself to have been most able against the Flippers, those bow-tie shapes which came up, flipping toward me as though they were gymnasts in search of a lost olympiædic city and burned with wishes they dare not utter in words but rather shewed through the body. Next were Tankers, alleging themselves to the grandeur of diamonds and masquerading as mineral when, in fact, they split into several versions of themselves, untoward, and with utmost intention of driving us away.

The mischief of the Spikers cannot be overestimated; even then I plunged into this ocean of nervous ether and the sinister exhortation of the Spikers. Viscous barriers and barely-fallible obstacles were clawed and chewed and conquered in rapid succession by each of the subsequent Monsters of this cursed mission. Their tempest spins with a great speed and creates in its wake new notions of space and dimensions. Flippers leapt and attacked, Tankers burst into my vision, and there was nothing. I started again. Over and over again, when actions bound to perceptions emerged in my consciousness with a most maddening intensity, the alternating pulsations of joy and thronging urged nervousness and convulsing. I lost all lost parts of memory, and instead, was all being and presence. It was clear that my own perceptions of the infinity of time, and the infinity of the place from which my enemies emerged, converged down in single-point perspective.

I said to myself, with the ardor of a zealot, that apropos of this world, the sublime adventure of all our days, we may find that there are those who are willing to transpose themselves into the fantastic world you have dreamed for us. I certainly was one of those bold adventurers. The fleeting feeling of joy of the most maddeningly untransmissible sort thronged within me. Indeed, while inching my inch-worm self across your dream's invasion, I experienced perceptions of infinity which at the time convulsed me with joy. Such spinning, of freedom, saturated my consciousness. I victored against enemies whom I learned were named Tankers, Spikers, Flippers, and all of their evil bretheren — at least temporarily.

My research observations were cut short by the closing hour of the establishment, which housed the mechanical appliance, but I was to return again.

You, Mr. Theurer, arrived, in my imagination, and thanked me; this scene repeated. I took in your gratitude as I grew conqueror, night by night, talisman by talisman. I subdued the beasts as King George to the dragons of Europe. I was able to enter my initials on-high with those of others. HPL. HPL. These letters climbed above the others in the short list provided. I reached the top of the list, but I did not destroy the creatures. They kept returning, as did I. The quest was taking longer than

I had anticipated.

The night was such when winds from unknown spaces whirled us directly into the nightmare. It required the discovery of one of the hundreds of common silver talismans in circulation among the general populace. I should tell you I was shocked to find the silver talismans in such popular use, even though they allowed access to the hypnotic and dangerous portal of glass, irresistibly drawn into a limitless vacuum beyond all thought and entity. Nevertheless, in the dreaming portal, I spun and crossed lines and lines. The creatures seemed to emerge from infinity. I became gradually aware through the course of my visits that this holding box was as much a shrine to a type of *technological* dimension, a realm of extraterrestrials or supreme beings –not *supernatural*, but the *most natural*, the *ancient*, close to the life force of the universe. Somehow, the technological light within matched the ancient glow of time in a way I could find no words to describe. Inside this world, the "enemies" could not be evil, for they expressed no emotion, and were from that place in existence from before evil itself reared its ugly head. They appeared ultimately undefeatable. Even an ephemeral victory over the encroaching monsters would be ephemeral, because Old Chronos would inevitably resurrect the geometric-prism creatures and they would resume their perdurable march forward.
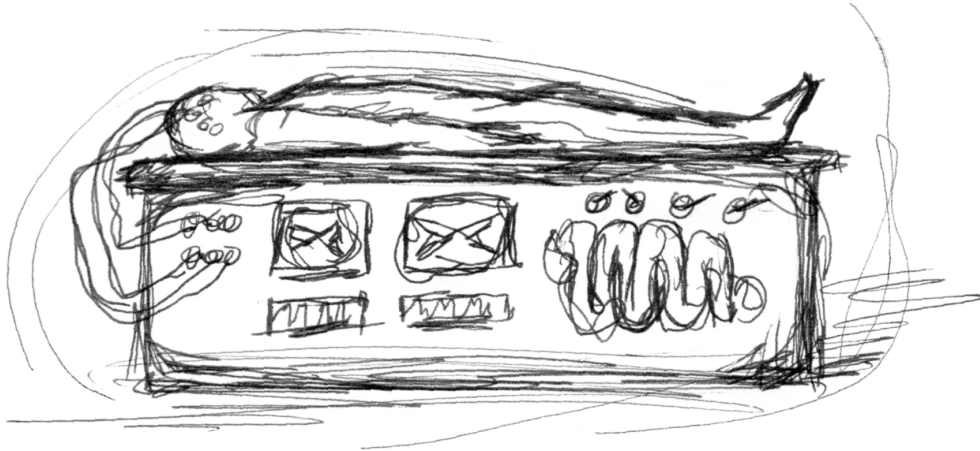
There are those who observe my feelings about your world as to be among the most fearful, of the most entreated fanaticism. This is unfortunately due to what happened upon abandoning the portal.

Somewhere around the third week of my visit, I learned more of the psychological controversy surrounding the mechanical appliance holding in the dæmons. This date is only approximate, as I cannot now recall exactly how the events match with my journal's notes, for I had stumbled upon things no mortal ought ever to know. Vague legends of bad luck began to cluster around similar holding boxes in other

locales as well as in this local spot. It appears that those who tried their fortunes with the talismans were haunted by spectres of the enemies in their dreams. This was a group of at least 10, if not 20 or 30 regular visitors to the holding-box. A Doctor was consulted, one Dr. Stickgold, who studied these participants' deepest sleep. Dr. Stickgold told us all he would observe us, but indeed, in light of historical examination of madness, these were medical experiments of the kind pursued by none other than Mse. Charcot, the founder of modern neuroscience. This, of course, never reached your news media. I am not sure if you are aware of this, and I must let you know such experiments have indeed been conducted.

Mr. Theurer, the fact of the matter is, now you have intentionally shared your collection of monsters with *me, and with the rest.* You have invaded those everyday moments already awash in the bloody sublime images of the body of Christ, the floating virgin mother Mary, the mythic battles between angels and devils, the appearance of the oversexed figure of Gabriel, whose presence seemed to mark the renewed vigor and birth of the Flippers and Spikers. These are virgin monster births awash within our dreams. These monsters from the potter's ground continue to originate in the deep recesses of Tartaros, and the raven's black imagination.

Stickgold at once renewed my faith in science, and emphasized the dangers of it. The doctor determined that, though the perception of the participants grew unstable through time, their abilities while using the talisman and such mechanical appliances did increase their expertise — but began to cost them their minds. Men and women engaged with your dream world, Mr. Theurer, and reported great slippery wings, shadows overhead of malignant joy. They slept among those unhallowed pits whither no dreams reach; that last amorphous blight of nether-most confusion where bubbles and blasphemes at infinity's centre the dæmon-sultan Azathoth, whose name to this day no lips dare speak aloud, in your time, or in mine.

The girl whose visit introduced me to the powers of the world in the portal proved to be a curious anomaly in the study. Stickgold received approval from her parents and studied her connexion to the monsters and the world beyond. She was the only one who shewed no signs of delirium, and functioned quite happily in either world. Her dreams were, on all accounts, much more pleasant than the dreams of the rest, if a touch mysterious.

> *What seest thou else*
> *In the dark backward and abysm of time?*
>
> *— The Tempest, Act I, Sc. II*

My consciousness had little hint but instinct to work from during the mission. The comprehension of the potent force of evil, however, became embedded in my dazed will and buried recollection. In this place, in the holding-box, Mr. Theurer, your dreams summoned those replaying endlessly in the locked aspects of my mind. Through time the freezing, petrifying sense of utter alienation and abnormality swamped a wave of sickness and repulsion. Attending Azathoth at his court, are the creatures the Other Gods, dancing mindlessly in regular rhythms to the some silent music playing in the chasms within the cabinet/altar of the holding box. This window into Azathoth's court, this gateway to perhaps all close encounters with the forces of the universe — climbing a mountain, sailing the seas, exploring deep caves — there is certain risk of death or madness. The gods, though, will never notice.

The end was abrupt, but in a way merciful, your own spirited dæmons finding solace within the hole, within other pretty mechanical appliances that simply, no longer, continued hold my attention. This temple or shrine holds a world as indifferent and destructive to the worshipper or visitor as a tempest on the sea is to the drifting sailor. After the weeks of capitulation, I yielded, and have finally returned home through my looking glass. I found out that I was not alone, for others followed this very same quest. Unfortunately, your cry for help won over not the doubters or cold-blooded citizens who might fall pretty to these monsters; indeed, rather, the men of highest moral fibre who would come to make the ultimate sacrifice to assist you – you, and your spirited dæmons who in the end were merely indifferent to our various campaigns and missions. The men of science of your own time appear to prefer the monsters you have offered to any possible risk of madness. Well, that choice is for your own generation to commend or condemn. The necessity of home out-ruled the necessity of Azaroth, the unleashing your beginning, but the possible end of us all. Yes, you gave a cry, and through my looking-glass, I came to help. Now, I am but the impoverished, soul-tortured victim you are — no more, no less. Out of the corner of my eye, they continue. I must exist on a daily basis with the comprehension that these monsters exist not only in your holding-box, but also in a dimension, which presses against the once-comforting mind we humans hold so much esteemed. Further (and this may resonate as accusatory) I believe the monsters have a much easier time crossing the tissues of dimension because of your mechanical appliance. Therefore, I render you responsible for creating the portal for what amounts to none other than an invasion of the senses, and of consciousness itself.

I bid you farewell. I leave you to the nightmares and to your mechanical appliance. Unlike some rare specimens, such as the girl for whom only joy seemed possible from the claw, Dial, and creatures, I do not sit well with the portal. I am afraid of it – I cannot adapt — for when out of its eminence shines certain scenes, even if familiar and loved, the mechanical appliance fashions them unfamiliar and hideous.

Yours Truly,
H. P. Lovecraft

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"

*I get better at this game
when I sleep. Just like
the real thing.*

"

JASON VANDENBERGHE

I'M HOLDING OUT FOR A (GUITAR) HERO

I want to talk about my love affair with Guitar Hero. For those living under a sand dune in Darkest Escarpion, Guitar Hero was something of an out-of-left-field smash hit rock-and-roll rhythm game, which has spawned multiple sequels and multiplayer band games.

It's a game where you play air guitar for points. Pretty much.

It sports the most amazing add-on controller ever: this marvelous creation called the mini-Gibson SG, a device that is so like a musical instrument as to be indistinguishable from one.

Note that I did not say it is indistinguishable from a guitar. Because, of course, it is in practice; comparing the mini-Gibson here to a real guitar is a little like comparing a kazoo to a trumpet. True, both require breath to make noise, and both require some skill (in varying amounts) to operate, but there is where the similarities end. One is a maker of sound, and the other is an instrument.

That said, there is an enormous amount of skill one can apply to this stupid game. Just imagine: Dance Dance Revolution, only with a guitar.

It's unbelievably fun. And, I'm really good at it.

Now, I wouldn't normally make such a bold claim. Modesty is, after all, a virtue, and it is important to keep your perspective in such things: there is always someone better than you out there, and it's best not to over-celebrate your own successes. I feel these things to be true, in my bones, and in no way wish to misrepresent my accomplishments.

So I brought proof.

Before we talk about that, though, I want to break this game down a bit, and discuss its genius. It's one hell of a game.

To begin our discussion, let's establish the Facts:

- In this game, colored dots scroll at you while a song is playing, and you have to "play" the right "note" at the right moment. If you succeed, yaay. If you miss, boo.

- "Playing" a note means pressing the right colored button, and "strumming" the little lever that represents the strings. It feels amazingly like playing a guitar, in practice.

- There are four difficulty levels in the game - Easy, Medium, Hard, and Expert.

In "Easy" mode, you only ever have to worry about three of the five buttons. This is nice for the uncoordinated, as you never have to move your hand, and the notes come at you in a nice, leisurely pace.

In "Medium", they add the fourth button, which you have to either press with your pinky (often awkward), or shift your hand position (tricky to do). And they expect you to be able to handle faster notes, and more of them.

You can imagine this, I bet: it's a timing game, like many others, with the added cool factor that it really feels like a guitar. Hit one of four inputs, at the right time… if you played PaRappa the Rapper, you're not too far off here.

…and then the wheels come off.

In "Hard" mode, a couple of important things happen. The first thing you notice right off: the notes come at you literally twice as fast as in the previous two levels. The second thing is that the fifth button starts to appear in songs, which makes the skill of relocating your hand on the neck a requirement, no longer optional.

And… well, you kind of have to start playing the solos. Which means chains of tightly packed notes, all in a row.

They mean it. It's hard.

The two most difficult songs (and, not surprisingly, the last two songs in the game) are "Cowboys From Hell" by Pantera (oh yes, yes, more metal, bring on the metal) and "Bark At The Moon" by Ozzy Ozbourne. It… took some time, and the development of whole new playing techniques, to overcome this obstacle.

See, this is where it starts to get crazy. "Expert" mode is something completely different.

In Hard mode, one has the impression that the designers are aware of your fear of the fifth button. They tease you with it, as if knowing that every time you see one of those babies appear on the screen, scrolling towards you, your stomach cramps, and you hope you'll get it. In contrast, the designers working on Expert mode have only disdain for this fear. "Get used to that button," they say, "because you're going to be hitting it whenever we damn well feel like you are."

Gone, too, in Expert mode, is any pretention that you will **not** be hitting every goddamn note the lead guitarist played in the song. In Hard, they let you off the hook here and there, and allowed some notes to "represent" note phrases. This was in order to preserve your sanity. Note to self: the Expert mode designers are trying to drive you insane. Was the sound in the song a chord? You'll be hitting two buttons at once. Was it played at speeds few humans can even comprehend? Join the band, brother, because that's your job now.

As an aside, I want to say that it is very strange how much playing this game is like learning an actual instrument. Anyone who has struggled with real-world instruments knows the cycle of learning one goes through, and that same cycle repeats itself here. I would go for days and days without progressing, banging my head against the same goddamn song, and then one day I would pick up my "guitar", and a song that was insurmountable the day before would be simple.

I get better at this game when I sleep. Just like the real thing.
I only have one more thing to say on this topic, and it is this:
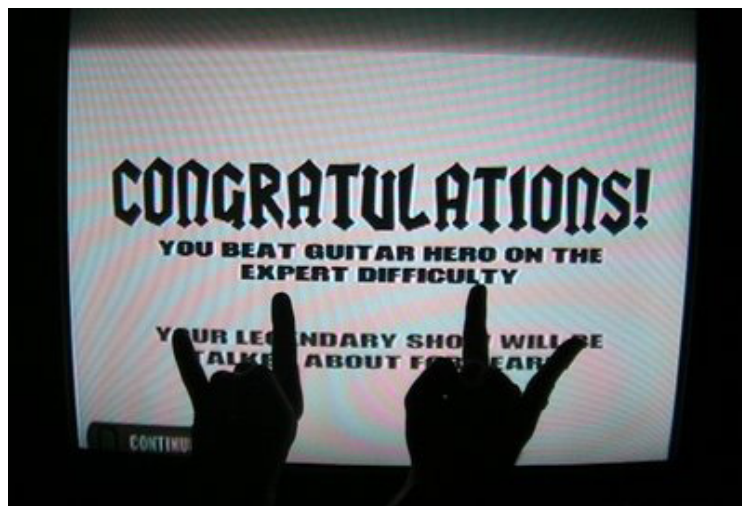
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The simple, repeatable game mechanics coupled with subtly ramping difficulty and complexity creates gameplay chains.

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SETH SIVAK

EACH LINK IN THE CHAIN IS A JOURNEY AN ANALYSIS OF THE LEGEND OF ZELDA: OCARINA OF TIME

The full moon slowly drops towards the horizon as dawn approaches and a young man in green rides fearlessly across the open plain. Soft music is heard; it feels old and important, ancient even. This world is large, the forest pulsates with life, and the tall mountains sit triumphantly high while a cool river flows between like a comforting blanket. But not all is right with this land. In a deep dungeon two witches hold a young desert woman under a spell. High in the lava filled crater, a Shiekah waits for the Hero of Time. As the dark clouds descend over Hyrule, it would appear a boy's destiny is on the horizon.

"Press Start"

Introduction

The Legend of Zelda franchise has been a phenomenon of gamer culture since 1986 when the original game (*The Legend of Zelda*) was released for the Famicom Disc System and shortly thereafter for the Nintendo Entertainment System (NES). During the twenty year history of the game franchise it has sold over 52 million copies, making it one of the most successful groups of games ever created. These games have been released on over a dozen different platforms, with several of the games being popular enough to warrant multiple re-releases. Many gamers believe The Legend of Zelda to be the quintessential action-adventure title; some believe it to be the game that really defined the genre.

The origins of *The Legend of Zelda games* are quite fascinating and worth mentioning. The inspiration for *The Legend of Zelda* is rooted deep in the childhood adventures of Shigeru Miyamoto in the wilderness surrounding his home in Kyoto, Japan. One experience that made a deep impact on the young Miyamoto was when he discovered a cave during a trek through the countryside. It took Miyamoto several return trips to the cave before he found the courage to actually enter it. When he finally entered the cave, he explored the catacombs with only a lantern. This experience has been connected to the many caves and dungeons that the main character; Link (most often an adolescent boy), finds throughout the *Zelda* series. Miyamoto has explained that *The Legend of Zelda* games were created as an attempt to bring a "miniature garden" to life for the players.

The Legend of Zelda: Ocarina of Time (OoT) is a very complex and deep game. The **depth** of the game cannot be stressed enough, and it is seen in everything from the gameplay mechanics to the story and world. In order to really analyze it thoroughly it is only appropriate to look at the game from two separate perspectives. The first is from a mechanics standpoint, examining the actual gameplay that occurs during the game. Due to the revolutionary nature of OoT and the infant state of 3D games at the time of release, there are many gameplay elements that have resonated in the industry to this day. To accomplish this, I will breakdown the interactions that the player encounters during the game with a focus on the skill and mastery that is created through simple, repeatable game mechanics. The discussion will also cover the evolution of this gameplay and the way the player is compelled and engaged for the entire game. The simple, repeatable game mechanics coupled with subtly ramping difficulty and complexity creates **gameplay chains**.

A gameplay chain is any set of interlocking mechanics that must be done together in order to achieve a goal. Each of these chains is created with basic gameplay mechanics as the links. The chains can also be strung together as fractals creating larger chains that can span entire dungeons or even the entire game. The idea of gameplay chains is somewhat similar to Ian Bogost's theory of Unit Operations, but on a much smaller level. Each basic mechanic is used as a building block and seamlessly connects to the next mechanic creating a complex gameplay structure that is far more interesting than the sum of the individual links. The feeling of depth and immersion while playing through these gameplay chains helps to initiate a state of flow for the player. Flow (as discussed by Mihaly Csikszentmihalyi) is the feeling of total immersion in an activity. The nature of gameplay chains is that the mechanics never break the immersion of the player and the deeper the player goes into the chain the more immersed they become in the activity. One of the major reasons that gameplay chains work so well in OoT is due to how well each mechanic is wrapped into the story. The world of Hyrule and the myth of Link are reinforced through the mechanics of the game, making the actual gameplay interactions more meaningful.

The story of OoT carries the player through a beautifully crafted myth that allows the player to become the Hero and fulfill Link's destiny.

It is almost impossible to consider a game like OoT as anything but a Hero's Journey. When considering the path that the player takes through the game, all of the challenges and characters Link faces - it fits very well into the mythic structure presented by Joseph Campbell (and later distilled even further by Christopher Vogler). This simple three act structure is well known in literature and film; many examples include *Star Wars*, *The Lion King* and even *The Matrix*. Therefore, when discussing the experience of playing OoT, I will be using a similar framework. The focus of the analysis will be on the adventure of a player that actually takes part in the Hero's Journey and the impact not only on story, but also the relationship between the Hero and the player. The relationship that the player has with the Hero in video games is very different from the relationship between Hero and audience in traditional forms of media like books or movies. In video games, the player must discover the Hero, learn to be the Hero, actually become the Hero, fulfill the Hero's destiny, and then leave the Hero. The story must support these transitions for the player and also tell a compelling narrative. OoT does this exceptionally well and is able to balance both the story of Link and the crafted narrative that player creates for themselves.

The Game

The Legend of Zelda: Ocarina of Time was the fifth game released in the franchise. The story of OoT takes place before all other games in the series, essentially covering the origins of Link and Princess Zelda. It was released in the United States in November of 1998 on the Nintendo 64 game console and despite the game's delayed release it was still the best selling game of the year. Since the initial release, the game has sold nearly eight million copies including multiple ports and rereleases. The game has won dozens of awards and has been honored as the greatest game of all time more than once. The metacritic score for the original release is 99%, which makes it the highest rated game ever made.

Full Disclosure

I have played through the full game twice; the first playthrough was roughly nine years before the second. During the first playthrough, I used the Official Strategy Guide from Brady Games to complete all of the content and the main story line. For the second playthrough I used a walkthrough from the Internet and information from gameFAQs and other websites to ensure I did not miss any part of the game.

Rather than completing every aspect of the game for the second playthrough, I focused solely on the main story line. For the sake of this review, I played some parts multiple times to try different strategies and explore the different available options. This took roughly 30 hours, but with side quests and collectible/unlockable content, there is considerably more gameplay available.

As a warning there will be many spoilers in the following chapter.

Analysis of Game Mechanics

The Legend of Zelda games have long been classified as action-adventure games. Quite often action-adventure is considered a metagenre that encompasses survival horror, stealth games and others. Genre usually relates directly to the type of gameplay or core gameplay of the video game. In OoT and most other *Zelda* titles, there is no single type of core gameplay. Instead there are several core gameplay mechanics that all come together in the world, making it almost impossible to truly classify under a particular standard subgenre. One of the reasons I feel OoT is so highly reviewed and considered one of the best games ever made is because it manages to wrap several gameplay mechanics all together inside a cohesive story that gives the player new challenges in a variety of different areas. When thinking about these mechanics, the one point that seems to make this compelling is the simplicity of each element of gameplay grappled with complex and varying usage.

Each mechanic plays an integral role in the story and in progression of the game, but the beauty is in how the mechanics are simple to learn but require a true mastery from the player in order to complete the game. In OoT every mechanic is used more than once, but each time the mechanic is used it is given greater depth and challenge. This is what I consider to be **Chain Gameplay** (or a gameplay chain), as explained earlier. This can been seen in everything from the dungeon design to the boss battles, and the multi-layered approach to designing these gameplay sequences is only successful because of the strong building blocks used to create them.

OoT was released during the first generation of 3D games. Many of the mechanics and user interface concepts were quickly copied and have become a standard for action-adventure games across the industry. When breaking down the core gameplay mechanics in OoT, they fall into four main categories and each of those has several sub-categories. **Navigation** in the land of Hyrule is a large part of the game and is one of the most important mechanics. The second main mechanic found in OoT is most apparent in the dungeons of the game, and this is **Puzzle Solving**. Puzzles come in a variety of different types but also in greatly differing levels of difficulty

and complexity. Hyrule is a dangerous place with dozens of different enemies that Link must face during his quest and each of these enemies represents a new type of challenge within the **Combat** mechanic. The final mechanic found throughout the entire game is **Collection**. From the very start of the game and mixed into every single side quest is the search for items to collect. All of these different game mechanics come together to challenge the player but also to reinforce the world and overall experience.

— Navigation —

The land of Hyrule is vast and unknown to the player. Exploring the depth of this world is one of the strongest themes found within the game, and one of the most fascinating aspects for the player. However, even exploration is a challenge in Hyrule. I believe that any challenge in the game that simply requires movement through space falls under this category. OoT uses a variety of different mechanics to navigate space, often adding complexity to the challenge in the form of platforming, stealth, and chase.

Controls and User Interface

While the controls for a game are not usually considered a mechanic, in OoT it plays a vital role in navigation of the world. The User Interface is also important to consider due to the complexity of the interactions available to the player. The user interface is very clear; in the top left corner sit three hearts with the furthest heart from the end beating softly. This is Link's health. In the bottom left corner sits a green gem and the number "00" which is the counter for the rupees Link can carry (used as currency). In the lower right hand corner is a map with an arrow showing Link's location. The top right of the screen shows two large buttons and three smaller buttons. The two large buttons represent the "A" and "B" buttons on the controller, while the smaller yellow buttons are for the "C" buttons (on a standard Nintendo 64 controller).

The choice of using the actual buttons for the user interface is quite interesting considering how hard many current games struggle to remove any and all heads-up-display style elements. The controls are very simple and elegant, making sense for the user interface to reflect exactly how the player must interact with the world. This elegance is never more apparent than with small things like the current available action being shown directly on top of the action button ("A" button).

The **Multipurpose Action Button** is mapped to the "A" button on the controller. The real genius behind this mechanic is the way it seamlessly allows the player to accomplish dozens of different tasks. Link is given the ability to freely explore the

world and to enable the different interactions the action button will change based on what the player needs to do. The interface changes with each new activity labeling what Link can do. Link responds quite often by changing his animation so the player knows that something new can be done. These actions change relative to how the player is moving in the world. When approaching a large block, Link has the ability to both push the block and to also climb on top of it. Instead of using separate buttons for the different interactions, it is simply based on the direction the player is pushing the movement joystick. By labeling the available action, it is always clear what this button will do, allowing seamless transitions from pushing a block to climbing on top of it.

Another key component to the user interface is **Navi the Fairy**. Navi accompanies Link throughout the entire game and as a character, she provides much needed information about everything from progression on the adventure to strategies for defeating enemies. The top "C" button is reserved for Navi, and when she has information for the player, it blinks telling the player to stop and listen to her. Her role does not stop there, however, because she will also fly to certain locations in space to show where Link needs to perform a task. During normal exploration of the world she will disappear into Link's clothes, but at any point when she is needed she will reappear and fly to a location or character that requires an interaction.

This becomes even more important during combat where she is used as a reticle for targeting and also for conversing with non-player characters (NPCs) at a distance. When this happens she will turn green, showing the player that there is something that can be done at this point in the game. The true brilliance of this particular mechanic is the feeling of having a guide that shows the player what can be done before it actually happens, making it very clear what the results will be from a certain action. The fact that she is also a meaningful character within the story just reinforces how finely crafted she is as a mechanic and also how important it is to trust, and listen to her.

The final component of the controls and user interface is the **Camera**. Movement in the world is done all relative to the camera, which creates an interesting and often frustrating relationship between the camera and the player. During most of the combat and navigation of the game the camera is fixed in a fluid third person view somewhat behind Link. However, when Link is inside some small areas and engaged in certain mechanics like stealth the camera is fixed to a different angle. The player also has the ability to move into a first person camera mode to get a better view of the entire world as Link actually sees it. This camera-navigation relationship has a relatively steep learning curve and is sometimes aggravating. However, once the player truly understands the relationship between the controls and the camera it creates fluid navigation with a cinematic quality.

Platforming

Traversing the land of Hyrule involves many challenges. There are walls that must be climbed, high ledges that must be hurdled and small bridges that require careful navigation. All of these examples relate to the idea of platforming, which is focused on moving Link through the world. Platforming is really a special form of spacial navigation that often requires timing and skill to pass through certain areas. In OoT, the most interesting part of this mechanic is that there is **no jump button**. From the early days of side scrolling platform games like *Super Mario Brothers,* the jump button has always been a staple in games. OoT instead uses a variety of different movement techniques to control jumping. When walking towards the edge of a platform Link will jump in the direction he was facing when he reaches the edge. If the player is moving slowly Link will not jump, but will instead fall from the cliff edge and hang, giving the player a chance to climb back up. The difference between these two actions makes it clear that if the player really wants to jump Link must be going quickly towards the edge, so if the player instead is simply trying to walk along the edge and makes a mistake there is no punishment for that.

Even from the start of the game, platforming is a key component. For example, the player is given a reward for leaping successfully between number of islands in a small pond. However, as the game progresses the mechanic starts to become much more complex. The use of timing and movement of the actual platforms adds a sense of urgency to the mechanic, and with the use of items like the Hookshot and equipment like the Levitation Boots, this mechanic continues to evolve until the end of the game.

In the advanced dungeons, platforming is often partnered with another mechanic or several other mechanics to create a larger puzzle. This builds off of the idea of chain gameplay mentioned earlier. In Ganondorf's castle (Ganondorf is the antagonist in OoT), the fortress of Link's ultimate nemesis, a certain wing of the dungeon requires Link to shoot a target that materializes a set of platforms. These platforms must be crossed in a certain amount of time, while fighting floating enemies between them. At a safe area about halfway through the room, Link must again hit the target to re-materialize the platforms and move to a final area that requires the Lens of Truth to see the path to the door. The mixing of platforming, combat and item puzzles all together forces the player to constantly switch gears but when finished really instills in the player a sense of achievement and mastery. All of these links come together to create a chain of gameplay throughout the entire room.

Stealth

There are several parts of the game where Link must sneak from room to room, avoiding guards to reach a goal. The first use of this mechanic is when Link attempts to enter the outer courtyard to meet with Princess Zelda. The guards tell Link he is not allowed in, so in order to navigate into the inner courtyard where Zelda is waiting, Link must avoid all of the guard and find an alternate route into the castle. Once inside the castle the camera changes allowing the player to not only see Link but to also see the guards. Each of the rooms are small and the player is given a chance to watch the guard and understand how best to navigate the room. Once the player understands this, the maneuver requires careful timing to pull off correctly. During this first instance of the mechanic, the difficulty quickly ramps up with Link needing to cross the paths of several guards in a single room. One of the key characteristics of this mechanic that makes it compelling is the proximity to danger and the constant feeling of vulnerability. Link is totally powerless against the guards and if caught the entire sequence must be played over again. This means that as soon as the sequence has started there is no going back and there are only slight breaks given with small safe zones. Due to the high intensity of these sections of the game they are mostly kept very short involving only a handful of rooms to cross.

The pinnacle of this mechanic comes when Adult Link is captured by the Gerudos in the Gerudo Fortress. Link must navigate the fortress without being seen by the numerous guards, but the mechanic is given more depth because it is nearly impossible to simply avoid the guards. The player now has the ability to shoot the guards with an arrow, but the arrow does not kill the guards and instead simply knocks them out momentarily. Several times in the fortress Link must actually cross the paths of the guards instead of simply navigating around them. This specific sequence involves using stealth along with an item and a certain level of combat skill to hit the target. The actual section is made even more urgent because Link only has a set amount of time to get across the area before the guard wakes up. This is yet another example of chain gameplay, and in this case much of the chain is made up of the same mechanic used in different environments. If there is a single mistake, the player will be caught by the guards and must restart from the beginning.

Chase

The final navigation mechanic in OoT is something I simply like to refer to as chase. This is seen several times throughout the game and is a simple mechanic. The goal is for the player to follow an NPC as the NPC races through a maze or area very quickly. The best example of this mechanic is under the graveyard where adult Link must chase the ghost of Dampe the Gravekeeper. This particular section of gameplay is compelling and interesting for many reasons. When Dampe begins

the chase he stays just at the edge of the player's view and moves at relatively the same speed as Link. The catacombs under the graveyard are built like a maze with plenty of obstacles, but Dampe also adds to the challenge by tossing little fireballs in front of Link and if they are not avoided they will knock Link to the ground and slow him down.

One of the interesting parts of this gameplay fragment (a gameplay fragment is a section of gameplay containing at least one gameplay chain) is that it is one of the few times where there is no music. In OoT the musical score is often always playing in a constant loop with new songs that relate to all the various areas of the world. However, the only sound other than ambiance heard during this chase is a constant beeping tone that signifies the passage of time. The other significant part of this chase is that at the very start a clock actually appears as part of the user interface. The use of this beeping tone and the addition of the clock to the user interface immediately communicates to the player the idea behind this mechanic. Chase is simply a race; the integration into the story is sometimes awkward, but that will be discussed later.

— Puzzles —

Puzzles are arguably the most important part of any action-adventure game. It would not be far fetched to consider most of the mechanics in OoT as being puzzle based. Throughout the game, and especially in dungeons, there are numerous different examples of puzzles that the player must solve. These puzzles are often based on a central idea and the four main ideas most apparent in OoT are memory, time, space and items. It is important to point out that these ideas are just building blocks and more complex puzzles often include more than one of these ideas. Some even include all four with multiple uses of the same idea within the same puzzle.

Memory-Based

The underlying idea of memory-based puzzles (or information-based puzzles) is that the player must take information given at a certain point, remember it and then recall it at the correct time. These puzzles are generally straightforward and are often used in OoT. One example of this particular type of puzzle is Inside The Great Deku Tree dungeon, just after young Link defeats a Deku Scrub. This Deku Scrub surrenders to Link and offers to tell him a secret if Link will let him go. He simply says that when Link encounters his brothers he should remember "2 3 1". This code is then used against the brothers when they are found later on in the dungeon. The three brothers are lined up in a row and Link must defeat them in the order that the code is given. These riddle-based puzzles are often given in dialogue by NPCs to help Link find secrets and also understand where he should go next.

Time-Based

Time is used in many different ways in OoT. One of the most interesting and powerful is when it is used as a base component in a puzzle. There are no puzzles in OoT that use time as the only underlying mechanic, but almost every other type of puzzle is made more intricate with addition of the timing mechanic. There are many examples of this even Inside the Great Deku Tree, where a button is pressed raising the platforms that Link must jump across in only a short amount of time. This combination of platforming and a time based puzzle instantly multiplies the engagement of the experience. The sense of danger while platforming is never more intense than when there is pressure to complete the task under a certain amount of time. The pairing of these two mechanics together also creates multiple levels of failure; the player can miss a jump or run out of time. The simple addition of time into the platforming section easily multiplies the level of engagement for the experience. Time is paired with many other mechanics throughout the game.

Another example is when a Deku Stick is used to carry fire from one torch to the next. Instead of making the fire persist on the stick indefinitely, the player must use it before it burns away the entire stick. This puzzle pieces together time-based and item-based mechanics to create a simple puzzle that has a benefit when mastered. If Link is unable to complete the puzzle in the set amount of time the Deku Stick will burn away and is lost forever. This situation means that there is a high risk to the puzzle and with failure comes the loss of an item. However, if mastered properly the player can complete the puzzle and put the Deku Stick away before it is burned, saving it in the inventory.

For all of these puzzles, there is rarely a clock that appears on the screen to show the player the time remaining to complete the puzzle. Typically all of this information is transferred to the player through the use of auditory feedback. The sound effect that is used for this mechanic is a ticking clock that changes pace as time starts to run out. This immediately changes the intensity of the experience while providing information and adds urgency, making the puzzle more engaging.

Space-Based

Similar to navigation-based gameplay, there are puzzles that involve the movement of an object in space. The difference between these two mechanics is that navigation is focused on moving Link through the world, where space-based puzzles focus on moving another object to a certain location in the world. This commonly involves large blocks that must be pushed or pulled to certain locations, like up against a ledge allowing Link to use the block as a step to reach the ledge. These puzzles rapidly scale in complexity and scope as the dungeons progressively become more

difficult. Some of the dungeons can actually be considered meta-spacial puzzles where the dungeon itself stands as a challenge for the player.

The first example of this comes in Jabu-Jabu's Belly where Link comes across the young Princess Ruto who has lost her way in the stomach of the giant fish. Princess Ruto refuses the help of Link, and in order to rescue her from the dungeon the player must carry her to different locations throughout the dungeon. While traversing the rooms in the dungeon the player must use her to hold down buttons and to pass through other puzzles. Later on in the dungeon, the player must actually toss her onto ledges and through holes in the floor to progress with her. This particular example is very interesting because while carrying the princess the player cannot fight any enemies. In order to make this mechanic really work well, Link does not find the princess until more than halfway through the dungeon, so that the player is familiar with many of the rooms inside the dungeon and also the variety of enemies that can be encountered. This is just one example of a puzzle that spans an entire dungeon. These large-scale puzzles are seen a few more times in OoT.

The most compelling space-based puzzle is found in the Water Temple. The temple itself starts out totally submerged in water, but as the player passes through the dungeon the level of the water must be controlled and manipulated to give access to all the rooms in the dungeon. Through the control of the water level the player is basically attempting to solve the entire dungeon, and because it is necessary to collect keys in order to enter the doors to the rooms, the challenge is modified with several layers of complexity. The dungeon is crafted in such a way that the water level must be changed often as the progression through the different rooms of the dungeon is not linear. The depth of this particular dungeon really shows when looking at the entire dungeon as a puzzle, then each room as a puzzle, and then the puzzles inside of the rooms. This is an example of fractal gameplay where the same gameplay chain (or mechanic) is used multiple times to create a larger chain. Fractal gameplay is also apparent in many other mechanics, the best example being boss battles.

<div align="center">Artifact-Based</div>

A key to progressing in OoT is using artifacts found in the world at the correct time to solve puzzles. There are three main types of artifacts that can be acquired in OoT and each has unique characteristics and specific uses within the game. Items are considered to be anything that can be set to one of the "C" buttons and used by the player during gameplay. Equipment is anything that Link wears and that has a more passive affect on the gameplay. Equipment has a separate screen in the menu than the items. The final artifacts that can be acquired are songs that must be played on the Ocarina.

Items

Items found throughout the game are commonly used as part of puzzles or in combat. The use of these items in both instances is essentially the same challenge. The engaging part of item-based puzzles is knowing the strategy of when to use the correct item to solve the task. There are almost two dozen different items available to the player; however, depending on if Link is a child or adult, some items are unavailable at times. These puzzles are often combined with a timing component as was mentioned earlier with the Deku Stick and fire puzzle. However, there are more complex examples.

In the Gerudo Training Complex, there is a room that spins around a set number of targets, which the player must hit. This is made even more challenging by the fact that all of the targets must be hit within a certain amount of time of each other and that there is a set time limit on the entire puzzle itself. This is another example of fractal gameplay where a number of mechanics all sit under a larger one. It is also necessary for the player to know what item to use to actually hit the targets, and there is also a combat-related related element to correctly hit the moving targets. The puzzles in OoT are often multi-layered, especially towards the end of the game, creating unique experiences with the same simple set of mechanics.

Equipment

Equipment is never directly used by the player in the same sense as items. Instead equipment represents a passive part of the game; the equipment is everything that Link actually wears. There are four different types of equipment available to the player and each one changes a different part of the gameplay. During the game the player can acquire three different swords: one as a child and two as an adult. The Kokiri Sword found when Link is a child works the same way as the Master's Sword that Link is given as an adult. The Biggoron Sword is slightly different because it does double the damage of the Master's Sword but while holding it, Link cannot use a shield. For the most part, the use of the sword in the game is nothing revolutionary; instead, the swords hold a special meaning within the world and this will be discussed in the experience section of this chapter.

The second set of equipment is an array of three different shields. Each shield plays a unique role in the game. The Deku Shield is the first one acquired by the player as a child and is the only one that Link can properly use. However, before Dodongo's Cavern under Death Mountain, the second dungeon, Link must get the Hyrulian Shield because the Deku Shield can be destroyed by fire.

The Hyrulian Shield, when equipped by young Link, is interesting because it only stays on his back and when using it for protection Link cannot move and instead stays planted. This creates a new challenge while in combat, and the player must compensate for the use of the shield because it comes at a much higher cost. When Link becomes an adult he can use the Hyrulian Shield much like the Deku Shield as a child. While blocking, he is free to move and circle the enemy. The final shield is the Mirror Shield, found very close to the end of the game. This piece of equipment is used for both solving puzzles, by reflecting light onto targets, and for defeating the boss of the Spirit Temple, Twinrova. Each of these shields play an important role in combat due to the constant use of blocking.

Throughout the game Link must find and use three different tunics. These are used primarily as a way to tell if the player has spoken to the correct NPC or completed the correct puzzles before entering either the Fire Temple or Water Temple. While these tunics simply allow Link to survive extreme heat and breathe underwater the player is still able to explore the areas near and inside the temples before finding them. This is elegantly done, considering the same progression check could be accomplished by simply unlocking the temple doors. Instead Link must change clothes (with matching colors to the theme of the dungeon as well) to take on the new challenges.

Boots are the final type of item that the player must uncover. These are used primarily for solving puzzles, or for added depth when navigating the world. The Iron Boots are utilized to weigh the player down and provide control on icy surfaces or in turbulent rivers. As with almost every piece of equipment there is also a downside; while wearing these boots Link moves very slowly and cannot jump. The Hoover Boots have almost the opposite effect of the Iron Boots. These boots allow Link to take several steps on thin air. The cost for using these boots is that Link will slide and have very reduced control when compared to the Kokiri boots. The boots are all related directly to the navigation mechanic.

Songs

Link is given an Ocarina just after leaving the Kokiri Forest. While traveling the land of Hyrule, the player is taught up to twelve songs. At anytime, the player can choose to play the Ocarina and must use the "A" and "C" buttons to actually create the tune. The puzzles created for the songs are just like other item-based puzzles, but the challenge is knowing which song to play at what time. The other key use of the songs is to do something similar to Equipment, where it is used to check the progression of the player. Many side quests, like getting the horse Epona, are dependent upon the player being taught a song and then playing it at the correct

time. Once Link reaches adulthood, there are also a number of songs that allow the player to teleport to all of the different temples in Hyrule.

— Combat —

Combat in OoT is a huge part of the gameplay, and I personally feel it is the best designed mechanic in the game. When analyzing combat, it is clear there are several different types of encounters, but these relate more to the enemy than to the mechanic itself. The enemies come in three different flavors; the first is the common enemies found throughout the world and in the dungeons. The second type of enemy is a Miniboss. These are considered to be any enemy that has multiple stages, or requires the use of an item as well as a sword to be defeated. The final enemy type is the dungeon Boss. These enemies have long battles that usually include multiple stages. Typically all of the boss fights require the use of an item found in the dungeon as part of the attack strategy. Also, due to the revolutionary nature of this mechanic, there is an analysis of Z-targeting, one of the most innovative changes to player control since the dawn of 3D games.

Z-Targeting

Z-Targeting is what makes the combat in OoT work. That is a big claim, but this is mostly because navigating the 3D world in OoT is very unique. All movement is relative to the camera, which creates an interesting cinematic feel. While the usual camera is set behind Link, many of the exploration and indoor parts of the game have the camera being fixed. This strange camera and third-person view can make it very hard to see what Link is actually facing, which is deadly in combat. Since Link's main weapon is a sword it is vital that he be close to the enemy, but the rear-chase camera makes it very hard to see if Link is in range. This is where the Z-targeting is needed most.

This mechanic can be used at anytime by holding down the Z-Button (or the L-Trigger on a Gamecube controller), and is an important part of navigation. The player knows right away that they have entered this mode because black bars show up on the top and bottom of the screen. This is essential, because the player's controls have changed. Link will now strafe from side to side and will not turn while in this mode. This becomes important for getting the view of things around corners and other difficult camera maneuvers. The Z-Targeting mode change fixes the camera in place directly behind Link when Link is not locked on to a target, allowing for a wide field of view and the ability to strafe. When the player uses Z-Targeting to lock on to an enemy or NPC the controls and camera change again.

Before the player actually initiates the lock-on, Navi the Fairy will fly over to a target to let the player know what the target will be. Once locked on, the black bars appear at the top and bottom of the screen to give feedback to the player explaining that the controls have changed again. Z-Targeting makes the target the focus of everything. This means that Link's movement is all relative to the target, so strafing allows Link to circle the target, moving forward will bring him closer to the target, even if the target is moving. In OoT, the challenge and fun of combat is derived from understanding the tricks to defeating all the different enemies. For most enemies, the trick is watching how the enemy moves and timing the attack correctly, and Z-Targeting makes this the only challenge instead of also making sure Link is facing the right direction and aiming correctly. The impact of this game mechanic can be seen in many other games such as *Kingdom Hearts*, *Psychonauts* and more.

<div align="center">Common Enemies</div>

At the very first encounter with an enemy, Navi's button blinks to let the player know that she has some important information. Whenever Link faces a new type of enemy she will provide a strategy or weakness for defeating it. Often times she does not provide the information in a straightforward way, but rather in the form of a riddle. If at any time the player forgets the advice that Navi had provided, they can simply press her button and she will repeat it.

The combat is crafted in such a way that it feels like the player is discovering more of the world with each new enemy Link faces. Link only has one attack button, but he has several different types of attacks using the sword. The combat itself is essentially a puzzle. Every enemy has a certain trick, tactic, weapon or other strategy that makes them incredibly easy to defeat. The fun and interesting part of this mechanic is knowing what the solution to that puzzle is and then pulling it off. The most common strategy used with the enemies in OoT is watching the enemy and waiting for it to let it's guard down. This sort of timing puzzle creates a sense of urgency and danger. With a shield up the player is safe, but the moment the player drops it to attack Link becomes vulnerable. This makes combat feel meaningful due to the high risk and reward along with the feeling of strategy when the player knows the correct way to defeat the enemy.

This semi-puzzle aspect of combat is fun for many reasons. When first facing a new enemy it is quite exciting to understand how to defeat it, much like beating a puzzle for the first time. However, in later instances with the same enemy, the combat is still compelling because while the strategy is known the player must execute it correctly each time. This is where a feeling of mastery comes into play as the player's skills continue to grow. Much like the evolution of other mechanics there

are several enemies in OoT that become more difficult as the game progresses. A good example of this evolution is the bat-like Keese. When Link first faces them they are trivial to defeat as they can only hurt Link if they come in contact with him. Later on in the game the Keese become more threatening by becoming lit by fire, where if they hit the player they will burn for extra damage. This also means that the player must first block the initial attack of the Fiery Keese so that it becomes extinguished so as not to risk catching fire while attacking it. This example of the gameplay evolution is one of the reasons OoT can have such depth but not overwhelm the player. By starting with very basic enemies the player can master them, but most enemies evolve throughout the game creating a new challenge for the player. This evolution is another example of a gameplay chain when the enemy is considered a mechanic, the specific steps to defeat the enemy will gradually become longer and more challenging but the core strategy will stay the same

MiniBoss Battles

In several of the dungeons there are encounters that are too complex to be considered common enemy combat. These enemies are not at the end of the dungeon, therefore they are not considered to be the true boss. There are several examples of this both when Link is a child, and when he reaches adulthood. One of the coolest encounters is with the Flare Dancer in the Fire Temple. These enemies skate around a small room and derive their power from a flame-covered raised platform. To defeat the Flare Dancer the player must first remove him from his flame armor using several different items, and then chase him down and hit him with a sword. This fight involves multiple steps, and mastering each one is essential to winning the battle. These more complex enemies are a good contrast to the simpler ones found throughout the world.

Boss Battles

At the end of every dungeon in OoT there is a boss that must be defeated. These enemies are always larger than Link in size and they take much longer to defeat than all the other enemies. This is essentially the final test of the dungeon, where the player must apply everything that she has learned. Navi will sometimes be able to offer advice and support for the player, but for the most part she can only give slight hints about the correct strategy. The battles all have multiple phases, where the player must successfully repeat a set of actions. This almost always includes the use of items found within the dungeon to stun the boss, and while the boss is vulnerable the player can then use the sword to actually deal damage.

The boss battles are some of the most memorable encounters in the game. While in the dungeon leading up to the boss, the player has a chance to try out and

understand all the possible uses for the items that Link acquires. The boss is the final test. From the start, there is a puzzle to figuring out the strategy to defeat the boss. Once the strategy is discovered, it becomes a challenge to actually pull it off several times. This is another example of chain gameplay, where many different mechanics come together.

Volvagia, the boss of the Fire Temple, is a great example of a gameplay chain found within a larger puzzle. Navi can offer no advice about how to defeat the Subterranean Lava Dragon, so discovering the strategy is the first link in the chain. Once this is solved, the player must watch the way Volvagia moves, finding the holes that he emerges from and avoiding a head swipe attack. Once this is established the player must uncover how to hurt the boss, the only way being through the use of the Megaton Hammer. At this point Volvagia is stunned by a hammer hit, and can be damaged with the Master's Sword or the Biggoron Sword. After this link in the chain, Volvagia will retreat into the ground and emerge from a new hole to circle the player dropping rocks and breathing fire. The player must successfully recreate this chain several more times to actually defeat Volvagia. The elements involved with avoiding the Boss's attacks while successfully landing hurtful blows is an excellent example of a gameplay change.

— Collection —

Collection and adventure go hand in hand. In OoT, one of the most fun parts of the game is exploring the world and finding new artifacts and items along the way. One of the more interesting design choices within the inventory system is showing where each item will go. This means that the player is compelled to go in search of these items simply because she knows that they can be found. The inventory is also useful in showing progression through the game, since so much of the game depends on finding and using new items. Discovering these items is always interesting and meaningful, and each new item unlocks a new gameplay interaction.

Economy

The very first objective in OoT introduces the player to the economy. Throughout the entire game Hyrule is littered with rupees, which are used as currency at every shop. In order to meet with The Great Deku Tree, the player must collect 40 rupees and buy a Deku Shield from the shop in the Kokiri Village. Finding rupees is not difficult as they are nearly everywhere; hidden in jugs, plants and even enemies. This creates an interesting dynamic between the player and environment where cutting down every plant and destroying every jug will reward the player. This also encourages exploration, since there are higher value rupees hidden in certain

locations. There is no real challenge to collecting rupees, and the economic system is very simple, but it is the rewards given for exploration that are powerful.

Side Items

Throughout the game there are several different side items and quests that can be completed. These most often give the player simple rewards and slight pieces of added story. There is no direct influence on the main storyline; it is just part of the depth of the world of Hyrule. There are several examples, but one that is a personal favorite is the chicken wrangling puzzle found in the Kakariko Village. Here Link is enlisted to grab a number of chickens lost throughout the village and return them. This is not required, but it is merely an entertaining way to learn to use chickens to fall slowly to the ground. Without doing the quest it is likely the player may never learn that a jump from a ledge while holding a chicken will increase the distance of that jump.

Golden Skulltulas

Golden Skulltulas are a special type of side item. These hidden treasures can be found all over Hyrule and are the highest form of collection. They have very little impact on the game itself, only giving very basic rewards for finding them. However, they stand for the game mechanic that most completion-oriented gamers really care about. The fact that there are so many, and they are hidden everywhere creates a challenge for the player to seek out all of them. This sort of collection and exploration is very appealing to some players, and again adds to the depth of the world and overall gameplay challenges.

Game Experience Analysis

OoT is a story of courage and sacrifice that puts the player in a fantasy world. As stated earlier it follows the mythic structure very closely, with some exceptions that must be made due to the non-traditional medium of storytelling that video games provide. The real difference between a hero's journey in a movie or book and the gamer's journey in OoT takes place in Act 1 or the early parts of the story. In traditional media it is necessary for the audience to be introduced to the hero, but in games the player must not only be introduced to the hero, but she must become the hero. This takes time, and if the player is rushed and is not confident with the skills of the hero, it can lead to frustration and difficulty for the remainder of the game. A comparison of the outlines of the Writer's Journey, The Hero with a Thousand Faces and the Player's Journey in Ocarina of Time is below.

Player's Journey in OoT	Writer's Journey	The Hero with a Thousand Faces
Becoming the Hero	*Act One*	*Departure, Separation*
Introduction to the Hero	Ordinary World	World of the Common Day
Call to Adventure	Call to Adventure	Call to Adventure
Discovering the Hero		
Refusal of the Call	Refusal of the Call	Refusal of the Call
Testing the Hero		
Meeting with the Mentors	Meeting with the Mentor	Supernatural Aid
Mastering the Hero		
Crossing the Threshold	Crossing the First Threshold	Crossing the First Threshold
		Belly of the Whale
Being the Hero	*Act Two*	*Descent, Initiation, Penetration*
Hero Reborn		
Minor Trials (Preparation)	Tests, Allies, Enemies	Road of Trials
Approach the Inmost Cave	Approach the Inmost Cave	
Major Trial (Ordeal)	Ordeal	Meeting with the Goddess
		Woman as Temptress
		Atonement with the Father
		Apotheosis
Reward	Reward	The Ultimate Boon
Leaving the Hero	*Act 3*	*Return*
	The Road Back	Refusal of the Return
		The Magic Flight
		Rescue from Within
		Crossing the Threshold
		Return
Resurrection and Return	Resurrection	Master of the Two Worlds
	Return with the Elixir	Freedom to Live

The table shows the clear correlation between the hero's journey in several forms and the experience that the player receives in OoT. The titles of the different sections of the story for the player's journey all relate to the Hero. This is the major distinction between a gamer's journey and a hero's journey: the player must become the Hero. This creates a complicated narrative, since it is the narrative that is crafted by the player through the in-game hero. Therefore the player must make a transition into becoming the Hero, then fulfill the Hero's destiny and then make a transition out of being the Hero. If this is broken at any point in the game it can severely damage the overall experience.

There are two key aspects of OoT that make this complicated fantasy possible and help craft the deep narrative that it has been praised for. The linchpin in the entire

story and game is the player's investment in the Hero. As shown in the above table this kinship is vital. OoT attempts to forge this bond in as many ways possible, using art, animation, sound, story and dialog to help reinforce the connection the player feels to Link. Another powerful part of the game is the land of Hyrule. The attention to detail and the care taken to make the setting for the story feel vibrant and alive is hugely successful in immersing the player and allowing them to really fill the role of Link. These two points help to ease the player's transition into becoming the Hero and also make it possible for the player to not only want to stay in the role of the Hero, but to also be compelled to fulfill the Hero's destiny.

Becoming the Hero

The game starts with Link as a child, and it is very metaphorical in many ways. At this point the player is also childlike in knowledge of the hero, the world, and the skills necessary to complete the game. The entire time that Link is a child is essentially a long and very story-driven tutorial. This is important because before the player can really be tested there is much that must be learned. Due to the depth of gameplay in OoT, it takes a large portion of the game to introduce the player to all of the mechanics and to allow enough time for the player to become familiar with them. This does not mean that new mechanics are not still discovered after this phase of the game. It simply means the majority of them have already been taught.

— Introduction to the Hero —

The introduction to the world and to Link is done through an initial cut scene. The cut scene gives a brief tour of the actual space of the Kokiri village, which is the initial ordinary world for the player. Then the Hero is revealed and the player is right away given some insight into the character of the Hero. This is the first step to create agency in the player. From the start it is obvious that Link is special, since he is the only Kokiri to not have a fairy.

The purpose of the Introduction to the Hero and World is to give the player a chance to see the environment, setting and character that he or she will be stepping into. This needs to be very clear and is kept separate from all gameplay mechanics. Since this is done with a cut scene and the user interface is hidden, it is a very intimate moment for the player and Hero. Unlike traditional storytelling where an audience simply needs to be introduced to the Hero and World, a player must be introduced but also compelled to understand and become the Hero and live in the World. This is also the point where the player is introduced to the most important NPC in the game, Navi the Fairy.

— Call to Adventure —

The Call to Adventure is a vital part of any story because it creates motivation for the Hero to go on the adventure. If there is no motivation or if it seems meaningless the story will often fall short because it is difficult to believe. Navi the Fairy plays many roles in OoT but her most important is that of the Herald. The Herald's purpose is to provide the Hero with the Call to Adventure. In literature it most often comes in the form of a challenge. The Call to Adventure in OoT is Navi simply telling the player that the Great Deku Tree has summoned him and that it is important to go speak with him as soon as possible. This is not the last time that Navi provides direction and information for the player.

Periodically throughout the game, when the player is lost or has been idling in an area for too long, Navi will cut in and provide some insight. This is done for several reasons, with the first simply being a way to direct the player through the story. The Herald follows the player during the entire experience, issuing new information and challenges quite often. Since the game experience is long, and could not comfortably be completed in one sitting, it is important to remind the player where they are in the story and what the next objective is. Navi is not intrusive, either; the player almost always has the option to listen to her, or can simply ignore her. From the start of the story she is given considerable significance because of her relationship to the Great Deku Tree as well as becoming Link's fairy since he was not born with one. This contributes to the player's willingness to listen to her and makes sense that she would be able to have all of this information.

— Discovering the Hero —

After the introduction to the Hero (which sets the stage and gives the player a chance to connect with the setting of the game) and the Call to Adventure, (which gives the player motivation to explore the new world and play the game) the player is finally given a chance to take control of the Hero. This is another important step for the player in becoming the Hero and is found in nearly every game in the form of a tutorial. Some games choose to do bland and meaningless tutorials; OoT is not one of those games. The entire first area, the Kokiri Village, was created just to give the player a chance to explore and learn in an open environment that truly feels alive.

After stepping out of the Link's hut and into the village there is numerous NPCs around that provide information about how to navigate the world, use the controls and even initiate dialog. The first of these NPCs is Saria, who immediately shows her affection for Link which helps to reinforce the player's interest in Link. The area is setup in such a way that the player can practice moving, climbing and jumping.

Rewards are placed in some of the areas to promote practice of these techniques so that the player can be comfortable with the most important skill in the game: navigation. It is not clear where the player must go to find the Great Deku Tree, but there are signs around the village that give direction. If the player explores long enough, Navi will chime in to remind the player that they need to go see the Great Deku Tree. Following the signs that point to the eastern most part of the village there is a path blocked by an angry looking Kokiri.

A common archetype in the Hero's Journey is the Threshold Guardian. The purpose of these characters is to test the Hero and to also provide quests that may help the Hero progress through the adventure. Mido is the first such character that is found in OoT, and he is quite literally a threshold guardian because he stands in front of the path to the Great Deku Tree. After talking with Mido it is clear he is jealous of Link's relationship with Saria and he will not let Link pass until he is properly armed with a sword and shield.

The player is not given any more specifics about the artifacts that must be found. This is the first test for the player, because while the village offered plenty of tutorials and an open place to practice and learn, there is no way of making sure the player has acquired any of the needed skills. This helps to reinforce the player-hero connection by making the player take ownership over items in the world. After exploring more of the village, there is a mysterious hole that Link can crawl through. In this secret area there is a large rock rolling around the corridors of a small maze. This is the point where the player is tested to see how well she can navigate the world. By using the camera based navigation and also Z-Targeting, the player can make it to a treasure chest at the far side of the maze.

Approaching the chest it is obvious that there is something of value inside it, and the chest itself is considerably larger than Link is. When the player opens the chest a small cut scene starts that shows Link nearly falling into the chest in order to grab the treasure. Once he does, he presents the Kokiri Sword to the screen (essentially to the player) and its' description appears. It is clear that the sword is a meaningful artifact to the Kokiri, since Link is only borrowing it. By acquiring the sword the player feels strong ownership over it, and since it is such an important part of the game and story it helps reinforce the player-hero bond. With the sword in hand it is now time to find the shield.

Unlike the Kokiri Sword, a shield is not easily found by simply exploring the village. The only way to obtain the Deku Shield is to buy it from the store inside one of the huts. By forcing the player to buy the shield it, means that she must understand the way the economy works in the game along with collecting the required amount of rupees. It is important for the player to understand that rupees come from essentially

everywhere and that collecting them is a driving force to explore the environment. With the sword and shield in hand it is time to return to Mido.

Mido allows passage to see the Great Deku Tree but not after complaining more about Link. Adventuring down this path is the first time the player experiences combat with an enemy. Now that the player has been introduced and tested in navigation, this acts as the introduction to combat. This pedagogic structure, the subtle progression in teaching the player, eases the transition the player must make into the Hero. OoT reinforces and helps the player throughout, and this care taken for the player means that despite the depth of the game it should never be overwhelming. Even though the player is directed through the experience, there are many points during the story where the player is given freedom and choice. The first comes upon meeting the Great Deku Tree.

— Refusal of the Call —

The Great Deku Tree is pleased that Navi has brought Link to it. During the encounter Link is told of his destiny and that the nightmares he has been having is due to the rising evil. The Great Deku Tree has been cursed and Link must go break this curse using his wisdom and courage. After hearing all of this, the player is given a choice: "Dost thou have courage enough to undertake this task?" Other than the fact that this is foreshadowing to Link's piece of the Triforce and role in the story, it is a chance for the player to decide if she is ready. This also means the Deku Tree could be considered a Threshold Guardian because of the challenge and test that it provides for the player.

If the player decides that she is not ready, the Deku Tree simply says to return to the village and practice the skills of combat and then return when ready. This choice allows the player to say she is not ready without feeling defeated. It is important that the player be ready for this task not only as part of the story but to also ensure that the player will not be frustrated. Confidence is important in bridging the gap between player and Hero and before the trials really begin the player must know for herself that she is ready for them.

If the player is ready, the Great Deku Tree allows Link to enter. Navi is instructed to aid Link during this quest and the Great Deku Tree reinforces that Link should listen to her words of wisdom. By accepting that the player is ready, this initiates the first test that the player must undertake as the Hero. Many of the mechanics have been explained and the player has admitted that she is comfortable being the Hero. It is now time to make sure that is true, and this is done through the first dungeon in the game: Inside The Great Deku Tree.

— Testing the Hero —

So far the player has been introduced to many of the key mechanics that will be used in the game. These tutorials have occurred in a safe place where there was little risk to Link. Inside The Great Deku Tree the player is not only introduced to dungeon mechanics like the compass and dungeon map, but also to a new type of environment. Dungeons are broken down into a series of rooms with each room usually requiring the completion of a puzzle or task to pass through. This new type of space is challenging to the player, but Navi is available for guidance each time a new mechanic or enemy is encountered. Early on in the dungeon, the first important item is found in a chest.

The slingshot is the first ranged attack item that is available to the player. It is used to solve numerous puzzles in the dungeon and it is also the key to defeating the dungeon boss. This follows the trend seen with other mechanics of introduction: use and then testing. This sets the precedence for all the other dungeons to come. This is another important step for the player on the road to becoming the Hero, particularly with respect to becoming comfortable with the Hero's environment. Once the boss is defeated Link is returned outside the Great Deku Tree.

Even though Link was successful in cleansing the curse, the Great Deku Tree was too damaged to survive. Before dying, the Great Deku Tree explains that a desert man in black came in search of The Deku Tree's spiritual stone and when he did not get the stone he placed the curse. As a final mission the Great Deku Tree sends Link to find Princess Zelda in Hyrule Castle. This is a push to adventure often seen in stories and movies. Since Link no longer has much reason to stay in the village he is essentially forced to head into the unknown. Fortunately, Navi will accompany him and other mentors will be found along the way.

— Meeting with the Mentors —

Upon leaving the village Link is stopped on the bridge leading out of the Kokiri forest by Saria. She says that she knows he must leave because Link is different. She asks, "But that's OK, because we'll be friends forever… won't we?" This moment in the game was of particular significance to me because it was the first real time I felt upset that Link is a silent hero. He does not respond at all to Saria, much like he never responds to any dialog in the game. This was an important choice for the developers when creating Link's character. In most instances where I felt that Link should respond, I would respond in my head as if he had said it. This is the point where I was totally invested in Link's character and in the world. This is a strong emotional moment for Link; despite the fact that he never speaks, he shows emotion through his expression and animation. This subtle directed emotion helps

the player feel for Link and often themselves. Saria is important to Link not only as far as the story and his quest is concerned, but also on an emotional level.

Before leaving Saria gives Link the Fairy Ocarina. This cut scene shows considerable emotion on Link's face as well as displaying how magical this artifact truly is. Saria is a mentor to Link throughout the story, but in this particular interaction she gives link some spiritual aid, which will be key to Link's success on his adventure. Her emotional ties to Link just reinforce the player's trust in her words and how important the Ocarina will be in the coming trials.

Stepping out of the forest and into the Hyrule Field brings Link down a narrow corridor. Before the end of this passage, Link is stopped by an Owl. The Owl provides information on using the map and on traversing the open world. He is seen several times throughout the game and always offers Link direct instructions on how to use certain menus or other parts of the game. This particular form of mentor is somewhat less emotionally important, but still serves an important purpose. The player will need instructions, and rather than breaking out of the narrative this character is used to provide such aid. By not breaking this "fourth wall" too dramatically it allows the player to stay in character as the Hero while still getting the requisite information needed to complete the quest.

After entering Hyrule Castle and sneaking into the inner courtyard, Link finally meets Princess Zelda. At first she is surprised that anyone could get passed the guards, but when she notices Navi she believes that Link is the boy she has had dreams about. She asked if Link has the Spiritual Stone of the Forest and admits that in her dream the dark clouds covering Hyrule were pierced by a ray of light from the forest, which turned into a young boy holding the stone. She explains that this is a prophecy and tells the legend of the Sacred Realm. At the end of this tale she tells Link that the dark clouds in her dream in fact symbolize a man. Link is offered a chance to view him through the window as he meets with the King.

This is the first introduction to The Shadow. Ganondorf is the ultimate enemy in OoT and for the first time the player is reassured that the man in Link's nightmares is in fact this man. Also, it gives the player a clear view of the monster that killed the Great Deku Tree and is threatening to destroy all of Hyrule. Zelda provides much of this information in her role as a mentor. She also provides Link with spiritual aid in the form of a letter that can be used to show Link's connection to the royal family. After this conversation ends, Zelda tells Link that her attendant will show him out of the castle.

Impa is Zelda's bodyguard and a Shiekah. She professes that everything Zelda has said is true and that Link is heading out on a "big, new adventure". Her role in

Zelda's dream was to teach the boy from the forest a melody that is passed down from generation to generation in the royal family. This song is what Impa played for the Princess as a lullaby and there is mysterious power in the notes. Impa is another mentor to the player because of the spiritual aid she gives in the form of the first song Link learns on the Ocarina. Zelda's Lullaby is used often in the game whenever the Triforce symbol is seen as part of a puzzle. This connection to the royal family enables Link access to many locations throughout Hyrule. At the end of this meeting with the mentors, Link is sent to find the remaining Spiritual Stones and the Ocarina of Time.

— Mastering the Hero —

Link is now set to head into the open world to recover the remaining Spiritual Stones. This quest will bring him to Death Mountain where he will meet the rock eating Goron people and to the domain of the Zora people where he must venture into the belly of a giant fish. Along the way, the player will encounter many new challenges and allies. While the player is never forced to go anywhere and is free to explore most of Hyrule, the story does not progress until Link has recovered both of the Spiritual Stones. The first is the Goron's Ruby and Link must travel under Death Mountain to recover it.

The leader of the Goron people is named Darunia. When Link first meets Darunia he is upset because his people are starving to death. The cavern where these edible rocks are found has been overrun by Dodongos and sealed by Ganondorf when Darunia refused to give him the Spiritual Stone. Link eventually befriends Darunia after traveling into the Lost Woods and finding Saria again, where she teaches the player Saria's song. Saria's song can be played at anytime to contact Saria, again showing her true archetype as a mentor to the player. When Darunia hears Saria's song, he becomes delighted and says that Link may have the Goron's Ruby if he rids the cavern of all Dodongo's. Darunia is a Threshold Guardian but it is obvious he is not on the side of The Shadow. This neutral Threshold Guardian is seen often in games as most quest givers require the Hero to complete a task before they receive a reward.

This is a contrast to most Threshold Guardians in traditional media and is an interesting twist on how these characters help to progress the story. The character of Darunia would be totally different if he had lost the Goron's Ruby and the boss in Dodongo's Cavern had stolen it. This would mean that Darunia would not be able to reward Link with the ruby himself, but instead could only instruct Link on where to find it. By having Darunia give the ruby to Link as payment for completing a trial it reinforces their relationship because it shows that Link has earned Darunia's friendship and it also allows the player to feel closer to Darunia since he is doing

this task for him and not just for the ruby. After the dungeon is completed, Darunia rewards Link with the ruby and proclaims that they are now brothers. With the ruby now obtained, it is time to venture into the Zora's domain to find Zora's Sapphire.

The leader of the Zora's is known as King Zora. His daughter, Princess Ruto, is the character that is in possession of the Spiritual Stone. Ruto has been trapped in the belly of Lord Jabu-Jabu and Link must travel inside the fish's stomach to find her and the sapphire. Much like Darunia, Princess Ruto is a threshold guardian. She will also have a close relationship with Link, as she explains that the Spiritual Stone was her mother's and that she was instructed to only give it to the man she intended on marrying. Once Link recovers the Princess from Lord Jabu-Jabu she willingly gives Link the sapphire, but now considers them to be engaged. While this does not really impact gameplay, it is interesting to consider how it changes the emotions of the player.

So far in the story there have been several love interests introduced to Link. Saria, Princess Zelda, Malon and Princess Ruto could all easily be seen as possible mates for Link. As part of the adventure, Link must essentially agree to marry Ruto, who is not even human, to continue on. This is resolved later but as far as romantic love is concerned this is one of the few times where it is brought up to the player, and the player is not even given a choice. Now with all three Spiritual Stones it is time for Link to return to the Temple of Time fulfill his destiny.

— Crossing the Threshold —

Just before entering the Hyrule Castle Town, Link is stopped short of the drawbridge. Here his nightmare plays out before his eyes, with Zelda being taken away on horseback by Impa and Ganondorf trying to follow. As Zelda passes by she tosses an object into the moat surrounding the castle town. Ganondorf stops to scoff at Link and then continues on his way after Zelda. When the cut scene has ended the player can retrieve the Ocarina of Time from the moat. This is the last remaining item needed to open the door into the Temple of Time.

Upon entering the temple, Link places the Spiritual Stones on a pedestal in front of the door and by playing the Song of Time on the Ocarina of Time he is able to open the door. Inside sits the Master Sword in a stone pedestal that is in the middle of a giant Triforce. The player can navigate Link to the sword and when he retrieves it another cut scene begins. As Link removes the Master Sword, a shadow appears; Ganondorf has followed Link into the Temple and now has access to the Sacred Realm and the Triforce. Ganondorf tells Link that he owes this great fortune to him since Link was able to get all the keys to the Temple of Time. The screen fades to black with Ganondorf heard laughing.

Being the Hero

Now that the player has had a chance to discover, learn, and become the Hero, it is time to fulfill the Hero's Destiny. Everything leading up to this point has essentially been a tutorial. It is clever that the player goes through this with Link as a child, because it represents the level of skill the player may have. With Link as a child, the player may feel that any mistakes made are simply the result of inexperience. This will not last, the time of learning in the safety of the ordinary world has ended. The following trials for the player do include some new mechanics and techniques, but the bulk of the skills have already been mastered. Link is still within the Temple of Time and is about to learn his true destiny.

— Hero Reborn —

As the picture comes back into focus, someone is calling Link the "Chosen One" and telling him to wake up (much like Navi did at the start of the game). The man speaking is Rauru, an Ancient Sage that was partly responsible for building the Temple of Time to protect the Sacred Realm. He reveals that Link is standing in the Temple of Light, the last remaining stronghold against Ganondorf's forces of evil. He tells Link to look at himself; Link has aged seven years because when he first pulled the Master Sword from the pedestal, he was not yet ready to be The Hero of Time. In the years that have passed Hyrule has been taken over by Ganondorf and is now inhabited by monsters. Rauru finally tells Link that the other Sages must be found and that they will add their power to Link's so that he can defeat Ganondorf. This is considered another Call to Adventure that sends Link on his way to his destiny.

At this point, Link has been reborn as a man. As such, the player will soon realize almost all of the items that were acquired as a child can no longer be used. Many of the mechanics that relate to those items will be used when new, more appropriate items have been found. This transition is important to the player because now there is no more childish play or fooling around. The world is in need of the Hero of Time and all of the skill of the player will be required to save it.

On the way out of the Temple of Time, Link is stopped by Shiek. This character tells the legend of the temples that is passed down by all Shiekah and it explains where each of the Sages may be found in the five temples in Hyrule. Shiek continues to tell Link that he must seek out these temples and awaken each Sage, starting with a certain girl he may know that dwells in the Forest Temple.

Shiek is a Shapeshifter in nearly every sense of the archetype. The character is totally asexual, making it difficult to ascertain what sex it truly is. As the last remaining Shiekah, it stands in a uniquely neutral place in the current balance of

power. The player has no choice but to trust and listen to Shiek but it is never clear despite the constant help that it supplies to the player where it's true loyalty lies. This enigma is an interesting addition to the story, and becomes vitally important in the end.

— Minor Trials —

The world of Hyrule has been turned into an utter wasteland. Evil monsters inhabit the world even during day light and traveling anywhere has become increasingly dangerous. As Shiek instructed, Link must go now to each of the temples located throughout the land of Hyrule. After defeating each of the dungeon bosses, the Sages will awaken and add their power to Link's. Each of these minor trials include more than just the dungeons, as there are numerous other locations that must be explored and several other items that are required to bring all the Sages together.

At each of the dungeons Shiek reappears, aiding Link with a new song that allows Link to transport back to that dungeon at anytime. All of the sages are characters that are met in the adventure before they are awoken. Saria is the Sage from the Forest Temple, Darunia is from the Fire Temple and Princess Ruto is from the Water Temple. All of these characters have very strong ties to Link, but Ruto's particular relationship with Link is very important. Upon freeing Ruto the player is reminded that Link had promised to marry her when she gave him the Zora's Sapphire used to open the Temple of Time. Here Ruto explains that since she is a Sage she cannot marry Link, therefore lifting their vow of matrimony. Again, even though Link is no longer betrothed to Ruto there is no more discussion of Link's love interest in the story.

The remaining two Sages have a somewhat weaker connection to Link: Impa the Shiekah was acts as Zelda's protector, and Nabooru. Nabooru is a high-ranking Gerudo thief and Ganondorf's second in command. Unlike the other Gerudo, she possesses free will and shows disdain towards Ganondorf by choosing to leave on her own pursuit of treasure. Link will eventually save her from Ganondorf's surrogate mothers, the witches Koume and Kotake.

The Minor Trials give the player a chance to truly be the Hero. The challenges that the Hero faces are the players, and through the skill and abilities of the player, the Hero is able to overcome them. The connection between Hero and player is so strong that they should be considered one and the same. The player should be totally invested in the story and believe in the quest of the Hero. This is simply a chance to hone any remaining skills and find all the necessary artifacts before the final showdown. When all of the Sages have been awakened, Link must return to the Temple of Time.

— Approach the Inmost Cave —

Upon returning to the Temple of Time, Link is stopped by Sheik. The last of the Shiekah tells Link that he has come a long way and that by awakening the Six Sages he is ready for the final challenge: defeating Ganondorf, the King of Evil. Sheik would like to talk to Link in private and continues to tell an unknown legend passed down by the Shiekah. The tale is of the Triforce and how each part (Courage, Wisdom, and Power) was given to a different person. The Triforce of Power was stolen by Ganondorf when Link initially opened the Sacred Realm and since that time he has been searching for the other two pieces. The one who holds the Triforce of Courage is Link (this is often alluded to during the game with numerous characters commenting on how courageous Link is) and the last piece of the Triforce is held by the Seventh Sage who is destined to lead them all.

A Triforce now appears on Sheik's right hand and a flash of light blinds Link. When he recovers, Sheik is no longer standing in front of him; instead, it is Princess Zelda. She apologizes for using the disguise of Sheik, but she felt it was necessary in order to hide from Ganondorf. The plan is to trap Ganondorf back in the Sacred Realm and she asks for Link's help to protect her while she completes her task. To assist Link in this task, the Princess provides him a final piece of aid: Light Arrows. These arrows are the only weapon that can penetrate the Evil King's defenses.

Just after she finishes giving the arrows to Link, a rumble is felt throughout the temple. Ganondorf traps Zelda in a crystal and then kidnaps her. She is taken to the castle of the Evil King and Ganondorf then tells Link that if he wants to rescue Zelda he must come to the castle.

— The Ordeal —

Ganondorf's Castle glares like a fortress out of a nightmare. Dark and covered with spikes, it sits where the old Hyrule Castle once stood. This is the final test for the player. The dungeon is small, consisting of only a few rooms. The center of the castle is the spire atop which Ganondorf is waiting with the Princess. To get to her, the player must travel into five different wings to unblock the dark magic covering the symbols of the Sages with the Light Arrows. Each of these rooms are the most difficult found in the game, as they are the final tests of the player's skill. Once these curses are lifted and the spire is unlocked, it is a few long stairways to the top of the castle.

Entering the room, Ganondorf is playing an organ and the Princess is seen trapped floating above him. After playing for a bit longer, he explains that the Triforce pieces have recombined and then takes control of all of them. With his newfound power Navi is unable to get close to him, meaning that she cannot help Link now. This

is an important moment in the story, because in order for the player to feel truly accomplished this task must be done alone (and without Z-Targeting). Like most boss fights in the game this one has several stages, and after the first Ganondorf destroys the top of the castle leaving a broken roof.

At this point Ganondorf transforms into a monster and knocks away the Master Sword from Link. Navi refuses to be denied this time, and flies close enough to help Link. After hurting him enough, the player can retrieve the Master Sword and finish him off. The combination of the Master Sword and the Light Arrows is simply too much for Ganondorf and he eventually falls. On the edge of his death, Zelda uses her power to hold him so that Link can land the final blow.

With Ganondorf essentially stripped of his power, the Sages are able to banish him from Hyrule forever.

— Reward —

There are several rewards gained from this: Hyrule and Zelda are both safe, and Link has fulfilled his destiny as the Hero of Time. Ganondorf is now sealed in the Evil Realm, locked away forever. Peace and prosperity will now return to Hyrule and the proper balance has been restored.

Leaving the Hero

The end sequence in OoT is short. In fact, the Reward,Resurrection, and Return stage happen within the same cut scene. The third and final section in the player's journey is the time that the player must let go of the Hero and leave the world of the game. In traditional media, the ending is when the Hero returns to the normal world but is changed forever. In games, both of these transitions are made simultaneously. Since the Hero no longer needs to be a Hero, the player no longer has anything to play.

— Resurrection and Return —

After explaining that the world has been saved, Princess Zelda continues to say that all of this is her fault. The hardships and pain Link has endured was because she attempted to control the Sacred Realm. Zelda takes the blame for all that happened to Hyrule as well and she asks that Link lay down the Master Sword and close the Door of Time. If Link does this, the path between time will be severed, meaning Link can no longer pass freely between the past and present. As a Sage, the Princess can return Link to his childhood, but first he needs to return the Ocarina of Time.

This is a vital step in letting go as the player; with Link giving away the tools he used on his quest, he is leaving the adventure behind. The player is helpless during all of this, much like during every dialog interaction in the game. However, the player is still invested because while Link is silent his emotion is made very clear. This is left open enough so that the player can interpret this in their own way, drawing conclusions that are unique. The story has ended and with no remaining quest or adventure, the game is no longer fun.

Link and Zelda say goodbye and she prepares to return him to his home. The final words before she plays the Ocarina bid farewell to Link, but also the player:

Home…
where you are supposed to be…
the way you are supposed to be…

Everybody should feel the thrill of telling an ugly stinky pirate for the first time:

"How appropriate. You fight like a cow."

CLARA FERNÁNDEZ-VARA

THE SECRET OF MONKEY ISLAND: PLAYING BETWEEN CULTURES

The Secret of Monkey Island is one of the clearest examples of what adventure games can do best: providing a world fun to explore, a compelling story and good puzzle design. These positive qualities are usually overlooked by both academia and a large sector of game makers, who tend to ignore the genre, or discount it because of its "linearity", preferring to qualify it more as a story form than a game form (see Aarseth, 51). Dismissing adventure games for these reasons, however, is not only unfair but it is also partial to a restricted concept what games should be. The ensuing analysis is a vindication of this game and of the adventure games genre, by focusing on my personal experience as a young player and on the game design qualities of the game. *The Secret of Monkey Island* showed me the wonderful potential of videogames, it made me laugh and scream, and gave me yet another reason to become a games scholar.

This analysis is initially an exercise in nostalgia, which allows me to remember the excitement of playing the game for the first time, to then become a critical analysis. I first played *The Secret of Monkey Island* with my brother back in Spain as a teenager, which is the experience I am relating here. In recalling that first play-through in the early 90s, I am aware that I run the risk of romanticizing (or downright misremembering) those events. Thus, I would like to give a humble apology for the sections of this analysis that are closer to a self-indulging trip — I hope that at least you enjoy them as much as I was delighted to write them after I played the game again.

This analysis contrasts the experience of first playing the game translated into Castilian Spanish, in Spain in the early 1990s, with replaying the game recently in English as an academic, and after having been living in the United States for the last 6 years. The key is articulating what I felt was fun and enjoyable when I was a kid, and comparing it to how it may still be engaging (or not) from the more informed perspective of a videogames scholar. The dichotomy is therefore between my younger self and who I am now, as well as between cultures of different countries. It also contrasts the game experience of a young player with that of someone who studies videogames. Having replayed the game recently, I must say that my opinion about the game remains the same, although now I am better informed to articulate why. *The Secret of Monkey Island* is a wonderful videogame, fun and pleasurable, with some of the best writing and puzzle design I have ever seen in adventure games.

What I Mean by Adventure Game

Before continuing, I must define what I mean by "adventure games". The non-academic, intuitive definition is that adventure games encompass:

> - text adventure games (a.k.a. Interactive Fiction), such as *Zork*
>   or, *Adventure*.

> - graphic adventure games (think *King's Quest* series, *Space Quest* series,
>   or *Day of the Tentacle*, or *Grim Fandango*)

> - some people also refer to them as "point-and-click" games because they
>   base all their interactions on mouse clicking, as was the case of *Myst.*

If you have played any of these games, you probably get the idea. My definition of the genre is based on its distinctive features, i.e. the characteristics that distinguish adventure games from other genres when they appear together.[1] Adventure games are **story-driven**, meaning that the gameplay is practically inextricable from the story. The gameplay is based on **puzzle-solving**, which means that solving puzzles makes the story unfold. Another defining feature is that there is always a **player character**, who acts as a surrogate of the player in the gameworld. The player commands the player character using commands to navigate the space or affect the gameworld, usually following (explicitly or implicitly) a **verb + object interaction pattern** (e.g. "open door" of "walk to archway").

One of the great things about adventure games is that they can be played by more than one person, with (almost) no struggle about who has the controls, or having

to design a multiplayer feature, special user interfaces or including additional controllers. The frequent absence of time-dependent actions and events makes it easier for two, or even three players to sit down and play together in front of the computer. The person who types or moves and clicks the mouse normally takes the lead, with the other players giving suggestions and instructions, as well as making observations. The positions can also rotate, so that each time a different person takes the lead. This is how I played the *Monkey Island* games with my brother.

The analysis below is full of spoilers, in case you have not played the game. The account of my own experience and analysis, however, are in no way a substitute for playing the game. I hope that after reading this article, players will be encouraged to play (or replay) it, since there will be enough puzzles unspoiled, and the writing is still a joy to read.

Early Adventure Gaming

The Secret of Monkey Island was not the first adventure game I played. Years before, I played text adventure games on our MSX-2 computer. As is typical of text adventures, most of the gameplay consists on finding the right word, even when you know more or less what the next action should be. The parsers in Spanish were also weaker than in English — the commands are not written in natural language ("abrir puerta" translates as "to open door"), and the dictionary parser was very limited and did not recognize many commands that should have been valid.

Years later we got our first PC, and the first game that we bought for it was *King's Quest V: Absence Makes the Heart Go Yonder*, a gorgeous graphic adventure. At first we were happy we did not have to do word-hunting again. We did not even have to type — we could use the mouse! However, soon my brother and I were pretty stumped and baffled by constantly getting killed, or getting stuck. After that, I played *Indiana Jones and the Last Crusade* adventure game, whose challenges I took eagerly, because I love Indiana Jones. Much to my chagrin, I did not get far in it, although I did try hard.

Both *King's Quest V* and the Indiana Jones game were afflicted by some of the recurrent problems of adventure games — they were very well written, had good stories and interesting puzzles. But some of the puzzles consisted of trying to guess what twisted and quasi-sadistic sequence of events the designer had envisioned as their solution. On top of that, in Spain there were no "hot lines" to call for hints, and game guides were extremely rare. Our best chance was hoping for our favorite computer games magazine to publish a walkthrough soon, or asking friends who had already figured out the puzzles after many hours of hair-pulling.

My brother and I were captivated by the adventure game genre, although we had not quite found a game that did not frustrate us at some point. We were two players in search of a game.

"El Secreto de Monkey Island"

One day, my dad showed up with this game that some friends ours had recommended, "El Secreto de Monkey Island". It had been around for a while, and the copy that we had was the first version of the game in 16 colors. We installed it with curiosity, floppy disk by floppy disk, and ran the game. The graphics were not as pretty as the VGA graphics of *King's Quest V*, because we got the EGA, 16-color version of the game, but they were still pretty good. We were transported to "Deep in the Caribbean, The Island of Mêlée (™)". The music, on the other hand, played wonderfully in our brand-new sound card, catchy and enticing.The first two lines in the game were spoken by the player character:

- Hi! My name's Guybrush Threepwood, and I want to be a pirate!

Figure 1: The goal of the game is established in the second line of dialogue.

This succinct but to the point introduction sustained the promise of good fun — we had to become pirates! Although the spelling of our character's name was complicated, very soon we figured out how to pronounce it ("Gaybrus Zrepuud"); the name was also perfectly memorable, although it's also easier to remember weird names when you're a kid. We could understand the recurring jokes about the name, although for us many names in English sounded just as silly. Thus we happily joined Guybrush in his adventure to become a pirate.

The hook of the game was definitely the writing. The game started with Guybrush talking to the blind lookout, who told us that we should go talk to the pirate leaders if we wanted to be a pirate. We entered the Scumm Bar,[2] full of pirates either drinking grog or passed out. We spoke to a few of the pirates, who told us that they were all very scared of a certain pirate LeChuck, a ghost pirate who was pillaging the seas, keeping all the other pirates at home because they dared not meet him at sea. Thus, bit by bit, we were introduced to the inhabitants of Mêlée Island™ and its story as we spoke with all the characters. After talking to all the pirates (and the dog), we finally found three "important-looking pirates" sitting at a table on the next screen — they must be the pirate leaders the lookout told us about. The important-looking pirates told us that we needed to master the sword, the art of thievery and find treasure in order to become a pirate (or rather, help Guybrush become one). These were the three goals that we needed to achieve, and seemed challenging enough.

Figure 2: Meeting the Important-Looking Pirates

I remember vividly the moment when the game completely got us: the game offered us the opportunity to ask "What's in that grog stuff anyway?" which was exactly what we were thinking. All the pirates were drinking it and we had no idea of what it was. The response of the important-looking pirates was as follows:

- Grog is a secret mixture, which contains one or more of the following:

- kerosene

- propylene glycol

- artificial sweeteners

- sulphuric acid

- rum

- acetone

- red dye no. 2[3]

- scumm

- axle grease

- battery acid

- and/or pepperoni

- As you can imagine, it's one of the most caustic, volatile substances known to man.

- The stuff eats right through these mugs and the cook is losing a fortune replacing them.

The grog recipe had us howling with laughter, and right then and there, my brother and I decided that *The Secret of Monkey Island* was sheer genius. The list encapsulated the far-out humor of the game, it was also an introduction to a world that had nothing to do with ours and had its own weird logic. It was a world with a blind lookout, and pirates so tough they can drink the above beverage without ending with a hole in their stomach. The recipe was also an important introduction to grog as a game element — it corrodes any material it touched, which turns into a powerful alternative to lock-picking. It was also a sleep-inducing drink, as the passed-out pirates in the bar evidenced.

The game was full of lovely findings, such as a rubber chicken with a pulley in the middle — in Spanish, "un pollo de goma con una polea en el centro", whose alliteration made it sound almost poetic. The description was exactly what it was, although at first it looked like a useless object, we put it in our inventory. It was the

available for pick up because that means it will be useful later on. Sure enough, we got to use it not only once (as is usual in adventure games) but twice. The first time it was in an unexpected place: Guybrush can use the chicken-with-a-pulley-in-the-middle to slide up and down a cable bridging the main of Mêlée Island™ with an islet close by. The surprising usefulness of this weird trinket was another off-the-wall example of what we could do. Realizing that a key opens a lock is rather mundane, but making the connection between the pulley and the cable made us feel very smart. The animation of Guybrush sliding and the "shwoooosh" of sliding down the cable made the "eureka!" moment the more rewarding.

The North American Re-invention of the Pirate

The Secret of Monkey Island also introduced us to a concept of what pirates were like that seems to be rooted in U.S. culture, which was rather new to us. As I have found out while living in the U.S., there is this "pirate world" as imagined by Disney, embodied by things like the *Pirates of the Caribbean* rides, or the film *Blackbeard's Ghost* (1968). Although my brother and I had seen this last film, we were not as familiar or fascinated by this Disneyfied world before arriving in Mêlée Island™.

This pirate world is populated by fearsome pirates, who in spite of their looks are quite harmless. Their innocuousness may have to do with their colorful clothes, which also tend to be rather clean for pirate standards. The language of the world is "pirate speak", which did not translate into Castilian Spanish because normally dialects and accents are omitted translation. This omission is traditional, since accents may sound rather phony. The game did not really use any of the few pirate expressions in Spanish, such as "¡Al abordaje!", to make up for what was lost in translation. *Monkey Island* and its sanitized pirate world was attractive because, for us, it was a novelty.

Battle of Wits

One of the most memorable parts of the game is sword fighting, or rather, insult-fighting. In order to master the sword, we had to defeat the Sword Master of Mêlée Island™. For that to happen, like in all good adventure games, we had to fulfill a set of other conditions, namely, getting a sword and finding someone to train Guybrush. We found Captain Smirk, who thought that we did not stand a chance against Carla (the Sword Master), but needed the money anyway, so he taught us with the help of his "Machine". After hours of training (roughly a minute-long cut-scene), Smirk revealed to us that the secret of sword fighting was saying the right insult to your opponents, to catch them off guard. Of course, every good insult could be countered

by a good comeback, thus foiling the enemy. It turned out that we had just started to learn, so we had to get out to the roads of the island, and learn impressive insults.
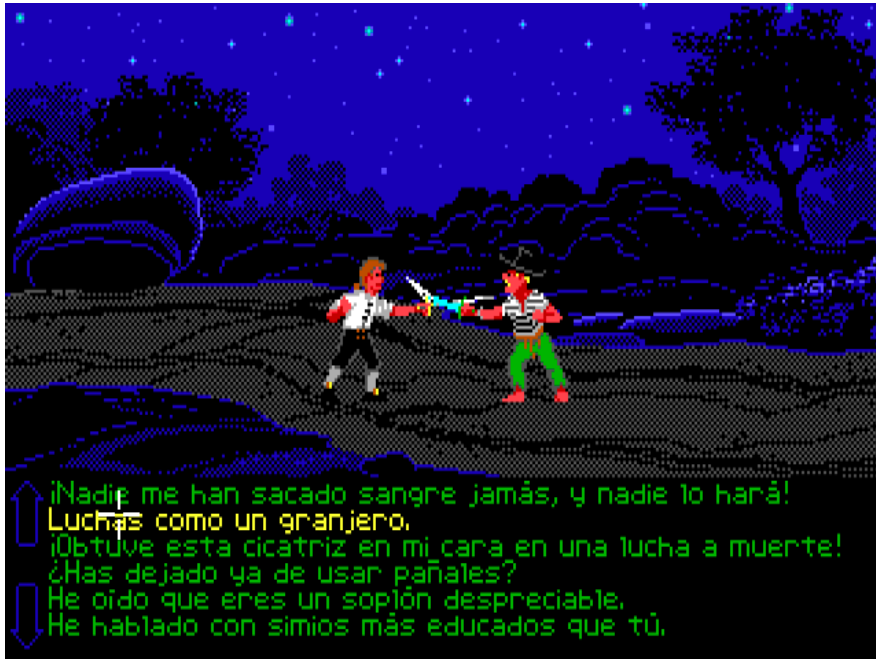
Figure 3: Insult-fighting: "You fight like a dairy farmer."

Sword fighting thus became a battle of wits — we had to learn the insults to attack our enemies, and their witty retorts to block attacks. Captain Smirk provided us with two insults and their corresponding attacks:

> **Insult:** *You fight like a dairy farmer.*
> **Comeback:** *How appropriate. You fight like a cow.*

> **Insult:** *Soon you'll be wearing my sword like a shish kebab!*
> **Comeback:** *First you better stop waving it like a feather-duster.*

In order to learn more insults and comebacks, we had to fight other pirates on the island, and lose against them many times. They would insult us, and we would not have the proper comeback, but we learned that insult to use it against someone else. If the next pirate knew the response, we would learn

it to use it later, but that also meant that we would lose that particular bout. The final twist was that, once you finally encountered the Sword Master, the key to win was not the insults you had learned, but the comebacks. Carla used new insults, and we had to find a retort in our repertoire to counter them. For examples, the comebacks we first learned could be used against the following insults:

> **Sword Master's Insult:** *I will milk every drop of blood from your body!*
> **Comeback:** *How appropriate. You fight like a cow.*
>
> **Sword Master's Insult:** *My tongue is sharper than any sword.*
> **Comeback:** *First you better stop waving it like a feather-duster.*

Even when we had learned enough insults to fight the Sword Master (the pirates we defeated started telling us so), we went on until we learned all the insults — we wanted to learn them all, because they were so funny and witty. The insult-fighting was nothing like anything we had seen in a game before, since it was a battle of wits rather than skill. I have never been too good at fighting games, so swear-fighting was a type of combat I felt much more comfortable with.

LeChuck and Other Pirates of the Caribbean

The memorable characters also contributed to our engagement with the game. The world was populated by characters who were fun to talk to, such as the angry cook of the Scumm Bar, the grumpy shopkeeper, and the men of low moral fiber (and their rat). They felt alive because of the great dialogue that at times we delighted to read aloud as we played. The timing of the display of the dialogue was wonderful, creating a rhythm of speech that we could hear in our heads, since there was no voice track.

One of the funniest characters was Stan, who sells second-hand ships in Mêlée Island™. He was a typical fast-talking salesman, very annoying, and would not let us go without buying a boat. His most memorable moment occurred as we were trying to leave the dock. After saying goodbye, we walked to the left, thinking that we were leaving him behind. But there he appeared again, out of nowhere, to give us his business card. It crept us out — this was the salesman from hell!

The governor of Mêlée Island™, Elaine Marley, was the love interest of the game. When she showed up, she chased away the sheriff of the island, Fester Shinetop, who was out for us. She was immediately fascinated by Guybrush's name, and was also impressed because he had been the only one who managed to steal the Idol of Many Hands from her own mansion, the mission that proved that we mastered

the art of thievery. Elaine was self-sufficient, and probably the cleverest person on Mêlée Island™ (having a reasonable, non-silly name probably helps). It was easy to understand why the pirate LeChuck fell in love with her at first sight, and when she told her to drop dead, he actually did, turning into the fearsome Ghost Pirate LeChuck.

LeChuck really scared us, from the beginning of the game. The first time we left the Scumm Bar, a cut-scene appeared that showed us who the Pirate LeChuck was. His hideout was underneath Monkey Island™, where his ship floated on a river of lava. One of the members of his ghost crew came to tell him that "there's a new pirate in town", or rather, an inexperienced wannabe (that must be our Guybrush). LeChuck decided to take care of Guybrush in person, since apparently he did not want amateurs to interfere with his big plans. He was coming for us!

Figure 4: LeChuck loves the smell of molten lava in the morning.

Knowing a bloodthirsty ghost pirate was after us, we were pretty scared. He captured a ship and made the whole crew into ghost pirates like him, which seems to be a fate worse than death. LeChuck truly haunted the island — everybody talked about him, all these thugs were afraid of him. But knowing that we were his objective made us very uneasy to say the least; so that whenever he appeared, we were really spooked. The game did a wonderful job of reminding us of LeChuck periodically. After he kidnapped Elaine to marry her, we find out that the sheriff, who had some weird fixation on us and had tried to drown us, was actually LeChuck himself in disguise! The knowledge that the ghost pirate had been so close to finishing us off made us feel rather vulnerable, and be even more afraid of him.

The Underworld of Monkey Island™

LeChuck's threatening presence made the end of the game even more frightening. In the last part of the game, we had to venture into the depths of Monkey Island™, whose labyrinthine passages we could only navigate with the aid of a magical object, the mummified head of a navigator. We had to hang the head by its hair, and it would turn to the proper path. The eyeball necklace made us invisible to the eyes of the ghosts, so we could board the ship to find Elaine, and pick up the voodoo root that would help us defeat LeChuck. We had to talk to the head of the navigator to persuade it to let us "borrow" its magic necklace. It smiled at us too.
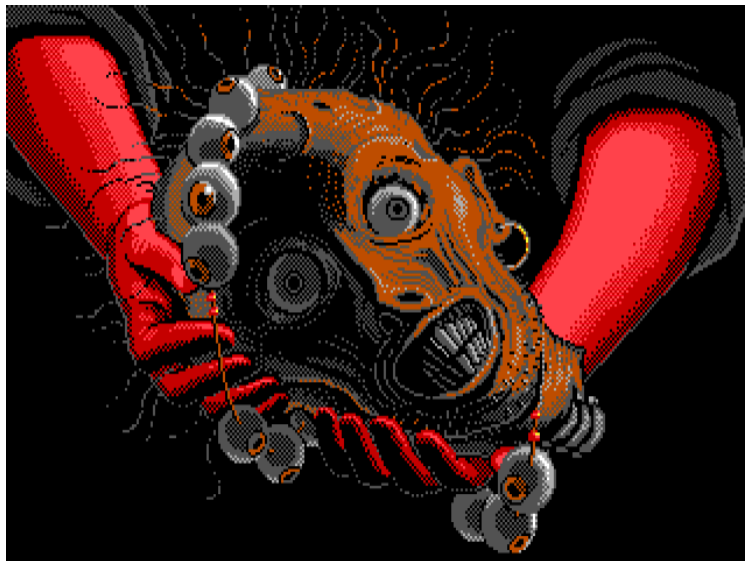
Figure 5: The navigator's head likes us.

This mummified head is still creepy, and the close up while we talked to it added up to the stress of going to LeChuck's ship. We were scared and thrilled of going into the depths of Monkey Island™ with the aid of the navigator. The game hit a sweet spot in the fright scale, scaring us just about right to keep playing.

While we went to get the magic seltzer bottle, made with the voodoo root we stole from the ship, LeChuck was already sailing back to Mêlée Island™ to marry Elaine. So we went back where we started for the final face-off with the ghost pirate. My brother and I were quite spooked by now, but we were also determined to save Elaine, armed with our magic root potion. By the time we got to the church, it turned out Elaine had already escaped — she had dressed three monkeys in her wedding gown to act as her double. But LeChuck was still very angry at us for persevering,

having escaped his ploys, and spoiling his master plan. So to start the final battle, he punched us so hard that we flew over the map of the island, and we lost our precious magic seltzer bottle.

The final battle took us a while, since we did not know how to fight LeChuck. Our bottle was gone, so was our sword; the list of verbs on the screen did not include any type of fighting. To make things worse, we only had a few seconds at a time, because wherever we landed, LeChuck would show up, wind up his arms and punch us sky-high. The time limit meant that we could only try one thing before getting hurt; our inventory was empty except for a pile of pieces of eight, and we could not insult LeChuck. We saw Guybrush getting hit again, and again, and yet again, making us feel quite helpless. My brother and I had been shrieking in fear since we faced LeChuck in the church, and we were so excited we did not know what to do. We would reach out to the mouse to try something, and he would smack us again. Only after a few punches we realized that after the first punch, we had landed on a Grog machine, and that a bottle had come out of it. That bottle was root beer — we tried it on LeChuck because we realized it was also made of a root, and because drinks seemed to have a corrosive effect on things in this game. We sprayed the beer on LeChuck as he was getting ready to hit us again, and it worked! The ghost pirate exploded, his ghostly skin rocketing to the skies and leaving his skeleton to collapse behind. We even got a bird's-eye view, so we could see how high the head of LeChuck flew over the island.

Feeling Smart

We won, and we got to see the fireworks against the night sky with Elaine at our side, while cheesy romantic music soared in synthetic notes. LeChuck had only been the opening explosion. The sense of relief and accomplishment was great, especially because we had not completed any other adventure games before that. One puzzle early in the game had stumped us, though. We solved it by trial-and-error, and we did not quite understand why. In the first part of the game, there was a bridge that gave access to the east of Mêlée Island™, where a troll keeps guard and said "NONE SHALL PASS!!" when we tried to get across. The payment he demands was "something that will attract attention, but have no real importance". My brother and I did not know what he wanted: the troll was unfazed by our pieces of eight, our shovel, or our rubber chicken with a pulley in the middle. However, he finally accepted a fish that we had picked up in the Scumm bar kitchen. As we crossed the bridge, the troll took off his mask, revealing it was only a guy in disguise, and gulped the fish in one bite. After previous abuses in other adventure games, this puzzle was a minor inconvenience, especially in a game where most other puzzles were accessible.

One of our favorite things about the game was that it made us feel smart. We got stuck a couple of times, as with the troll and the fish, but through persistence, exploration and some trial-and-error we managed to complete the game without a walkthrough. After all our previous endeavors, we finally got to a game that we finished without help. Perhaps we had more patience with it than with other games, perhaps the drive of the attractive world made us try harder. In any case, being able to finish on our own made us feel great, and think that the game was even better because we could get to the end. We completed *The Secret of Monkey Island* in a week, playing for a couple of hours after school. And we were ready to play it again — we had found our game.

Drop the Pirate Hat and Put On the Scholar's

Fast-forward to 2009. Now I study videogames, and I am older and wiser. On top of that, I have also been living in the United States for the last six years. These circumstances provide me with a different and more informed view of *The Secret Monkey Island*. What follows is based on what I have learned so far based on that experience.

From now on, the textual analysis will continue, but from the standpoint of game design as cultural practice. I will focus on the game-like qualities of the game, which have to do with puzzle-solving. The discussion will be supported by theories from diverse fields: semiotics (Danesi), psychology (Sternberg) and game design (Bates, Rollings & Adams). This theoretical approach helps me argue in favor of the good qualities of the game, and understand the experience my brother and I had while playing the game.

Monkey Island Revisited

I replayed *The Secret Monkey Island* several times after that first play-through; the last time I played it was in the mid-90s. Studying adventure games became a good excuse to play the game once more. I was surprised at how much I remembered of the game, and how much I enjoyed visiting Mêlée Island™ again. Eighteen years after its release, the game is still a lot of fun, thanks to its wonderful writing and its good puzzles. Comparing both versions, I also noted that the translation was very literal, and at times downright clumsy. The game had been translated but not localized, making some parts of the game rather baffling. Thus I have discovered that the translation had left many references that had escaped us originally, which have become evident after living in the US. There is this myth that adventure games have no replay value, because once the

player solves the puzzles she knows what is going to happen. Some compare the replay value of an adventure game with re-reading a book, which is partially true. However, games like *Monkey Island* have an interesting depth, which allows the player to explore the world again and find new things and events. There are many things that the player does not need to do to finish the game; most of them are talking to different characters, such as the Voodoo lady, the men of low moral fiber (pirates), or any of the pirates in the Scumm Bar. Nevertheless, those characters are still integral to the game, because they are the ones who inform the player of what has happened in Mêlée Island™, what is going to happen to Guybrush, and give you hints about what to do. They make the world come alive and the game is not half as enjoyable without them. Exhaustive exploration is rewarded by meeting all these quaint characters, who give the player all the pieces of information necessary to understand and live in the world of the game. Exploration also creates the illusion of freedom to move around and interact with the world, a much sought-after quality in narrative games to this day.

The first part of the game, when Guybrush must pass the three trials to become a pirate, is still as non-linear as I remembered, enhancing the illusion of freedom. The tasks do not have to be completed in any particular order, even though they are somewhat interwoven. Having a good stack of pieces of eight is the first requirement to complete all the trials: in order to master the sword, the player needs to buy one and pay for the classes; to find treasure, the player needs to purchase a shovel. In the case of becoming a master of thievery, it is a bit more complex — the player must buy mints in order to be able to talk to a prisoner, Otis, whose breath is unbearable. He will provide you with the file that will open the lock to get the Idol of Many Hands. Thus there are certain puzzles that act as key for others, but the way in which they are interconnected is rather subtle.

On the other hand, the part that takes place in Monkey Island™ actually more linear than I remembered. Probably the time spent going around the island made it seem more open-ended, but playing the game carefully again I realized that there is a more or less set order to solve the puzzles. Having a single sequence of actions means that if the player cannot solve one puzzle, she is stuck in the game, because there are no other puzzles for her to solve and come back later to the one troublesome puzzle. This is the "linearity" that is often cited as a handicap of adventure games. *Monkey Island* palliated its linearity by giving the player lots of little things to examine and try, as well as several lines of action open at any one time in the first part of the game.

Monkey Island does not reuse many objects, although the memorable rubber chicken with a pulley in the middle gets to be used twice. It is both a pulley, which allows Guybrush to slide up and down a cable, and a chicken, which is one of the ingredients for a voodoo potion. The tacit one-use-per-object rule seems to be a

way of making sure that the player uses the object the way the designer intends to. It also prevents potential inconsistencies, in case something is used in a puzzle and cannot be retrieved to be used in another one.

Sword fighting also remains one of the best and most memorable puzzles in the history of games. The verbal-fight mechanics modeled learning in a really engaging way — the player must fail many times, letting herself be defeated in many occasions in order to learn all the insults. These mechanics were revisited in the third and fourth installment of the *Monkey Island* series, but their influence has not spread outside of adventure games.[4] It may have to do with how memorable and well-written they are — the author or the insults and comebacks is sci-fi writer Orson Scott Card.[5] The cultural penetration of insult-fighting is quite evident amongst Spanish players of my generation. I have seen online forum threads start reminiscing about the great old adventure games; as soon as someone mentions *The Secret of Monkey Island*, the thread invariable turns into insult-fighting, with people responding to one another in the forums. Quotes from the game also plague any post referring to the game or its sequels.[6]

The Tangled Web of Puzzle Design

The puzzles in *The Secret of Monkey Island* remain fun, even when I remembered how to solve most of them straight away, and I just had to make a bit of an effort to recall the rest. Part of the ease in which I found the solutions may have to do with having played it several times years ago, though it also has to do with good design. A sign of good game design is that the puzzles are integrated in the story (Bates, 119), so that solving a puzzle is both enacting a segment of the story and learning more about the characters, the world, and the events that are taking place in it.
The three trials that Guybrush has to pass in order to become a pirate are three sets of puzzles, for example. More interestingly, the naivety of the player character also shows through several puzzles: Guybrush has to buy an expensive map to the treasure of Mêlée Island™, which looks a diagram for dancing steps. He confesses to the player he's been swindled, so it is up to the player to figure out the puzzle. Those dance steps are actually a set of instructions to navigate the forest, and finally get the treasure. Guybrush is gullible and new, it is the player who has to help him overcome the obstacles, become a pirate, and defeat LeChuck.

The puzzles in the game thrive on a basic design principle of puzzles, even outside the realm of videogames: they require insight thinking to be solved (Danesi, 14). Puzzles help us discover things about our own world, and make us see things that we already know in a new way. They also deal with information in a playful way — they point to a missing piece of information, and invite the player to fill it up. Marcel Danesi talks about the "puzzle instinct" as the drive to fill that gap in the information,

the irresistible nature of solving a mystery. In short, puzzles are a device to reveal new information about the world.

Thus puzzles in videogames should help us know more about the gameworld, the fictional world where the game is taking place. The world of *The Secret of Monkey Island* is rich and interesting enough to draw the player into solving more puzzles to know more about it. For instance, puzzle-solving reveals that Mêlée Island™ is becoming a tourist attraction of sorts — since the pirates cannot make a profit from their usual trade, they make a living out of aspiring pirates, who will pay for lessons in swordfighting. The "treasure" Guybrush digs up is a t-shirt, and he gets another t-shirt when he defeats the Sword Master as proof of his accomplishment. These are not good times to be a real fearsome pirate.

Puzzles in general are also paradoxical in nature: they both hide the solution and lure the player into finding it, and both the constructor and solver should derive pleasure from it (Hovanec, 10). As Bob Bates puts it, the designer is as much the player's partner as her adversary (Bates, 128). A designer who wants to demonstrate how clever he is may get personal satisfaction from showing off in his puzzles, but not much admiration from the people who try to solve them. The designers of *The Secret of Monkey Island* seem to have been having fun in coming up with the challenges, building the world and writing the story. They certainly tease the player, but in the end they also share their enjoyment with her. As the players solve the puzzles, they can discover the little wonders of the gameworld.

Going back to insight thinking, the cornerstone of solving a puzzle is finding a piece of missing information, based on previous knowledge of the player. The nature of that knowledge and how the relationship is established is tricky. Information about how everyday things work, such as locks or commercial transactions, is the basis for most puzzles. If the knowledge needed is more specific, the fictional world can resort to certain domain knowledge, i.e. knowledge about a specific topic, such as cooking, topography or shoe-mending. A specific environment can invoke concrete domain knowledge; for example, a crime scene appeals to detective work, such as finding evidence or cross-questioning. If the knowledge is only relevant to the gameworld, and the player cannot be expected to know it beforehand, then it must be provided by the game. The player must have all the information necessary to solve the puzzle, either from their own knowledge of the world, or from what she learned about the gameworld. When the connection between pieces of information only happens in the designer's mind, and does not have any evident connections with the domain knowledge, the player will not be able to solve the puzzle other than by trial and error. This is what is popularly called a "designer's puzzle" (Bates, 128). The designer may not be aware that the player does not have all the information needed, or that the connection is only evident to him, making the player frustrated.

The Secret of Monkey Island does an excellent job of setting up its world and the knowledge needed to solve the puzzles. Caribbean pirates point to a certain domain knowledge, which would include things like sailing, swashbuckling, and finding treasure. The voodoo lady and the ghost pirates bring magical powers to the gameworld, which are a component of some puzzles, such as brewing a voodoo potion to defeat LeChuck or using the head of the navigator to get to LeChuck's vessel. Setting up the magic contributes to learning how the world works, and helps achieve the insight that leads to the solution to the puzzles.

There are different types of insight, depending on how information is connected in order to solve a puzzle (based on Sternberg, 80-81, originally quoted by Danesi, 28):

- making apparently irrelevant information relevant.
- using analogies and metaphors, in order to draw a non-obvious relationship between two pieces of information.
- combining two items in order to form a novel one.

The Secret of Monkey Island is full of good examples of these three types. The dance-steps turned into a map is a clear example of how to disguise information; the dialogue with the different characters not only contributes to make the world lively, but is also full of hints and cues for puzzles. This was the case of introducing grog above: the important-looking pirates mention how it eats through the mugs, which indicates how corrosive it is. Guybrush has to use grog to dissolve a lock in the jailhouse later (a variation of the lock-and-key type of puzzle), but in order to do so, he must bring a good number of mugs to carry it, because it keeps dissolving them.

There are several lock-and-key puzzles in the game, but they use analogies or metaphors in order to surprise the player. An example of an analogy used in a lock and key puzzle happens late in the game, once Guybrush gets to Monkey Island™. In order to enter the underworld, we need the key to the Monkey Temple, which is a giant monkey head. The key looks like a giant cotton swab, which goes into the monkey's giant ear and cleans it before unlocking the door. The mouth of the monkey opens, clearing the way to enter the underworld of Monkey Island™. Since the temple is a giant monkey's head, the analogy of opening a lock with cleaning your ears makes for a hilarious, and yet somewhat logic analogy.

Figure 6: Cotton-swab-in-ear puzzle.

Another example of how puzzles resort to analogies is how Guybrush earns his pieces of eight: the Fettucini brothers have settled their circus tent in Mêlée Island™, and they need someone to test their cannon. Guybrush wants the job, but he needs a helmet in order to become a human bullet. There are no helmets on the island, but a cooking pot is close enough, especially one where, as the description notes, "someone has cooked a headcheese".[7] Guybrush puts on the pot on his head, climbs into the cannon, gets shot out of it, hits one of the circus' beams, and lands on his head and on his well-earned 478 pieces of eight. The pot-as-helmet puzzle repeats later in the game, where in order to get to Monkey Island™, Guybrush must use the cannon on his ship to get shot to the island. This repetition helps making the world consistent — people get shot out of cannons repeatedly, and they need a pot to not get hurt.

As for the third type of connection, there are several examples where the combination of two (or more) objects obtains a new one. Two puzzles require Guybrush to cook several things together. In the first case, the "piranha poodles" guarding the Governor's house have to be put to sleep by sprinkling cooked meat with some yellow flowers. Later, Guybrush finds a recipe but he does not have all proper ingredients for the potion, so he has to find substitutions (another example of using analogies in puzzles). For example, breath mints can work as leaves of

mint, or the rubber chicken with the pulley in the middle as an actual chicken. The concoction puts the crew to sleep and magically transports them to the vicinity of Monkey Island™.

These last puzzles also demonstrate the importance of patterns throughout a game. Making a potion to get transported to a location does not make much sense, but the game does a great job of setting it up and giving all the information. Guybrush finds a piece of paper that says "Directions to Monkey Island", which is a recipe. The player has already seen that maps in this game never tell how to get to places directly, as in the case of the dancing steps diagram. The Captain's Log also recounts that the ship arrived on Monkey Island™ after preparing a dinner that made them sleepy. Moreover, Guybrush already had to prepare another sleep-inducing meal before, creating a precedent for this puzzle. Recurring patterns also help getting the player into the right mindset to work out the puzzles, in this case as well as using pots as helmets. The analogies are not limited to knowledge of the world, they apply within the game itself. The puzzles are thus interconnected, creating rich and engaging gameplay.

Tricky Cultural References

The game is also full of references, which when identified help draw the player into the game. My brother and I reveled in the references to Indiana Jones, for example; there are also references to *The Princess Bride* — whenever Guybrush initiates every sword fight with "My name is Guybrush Threepwood. Prepare to die!"[8] However, cultural references are two-sided, since they require a recognizing specific domain knowledge. It is fun if the reference is a wink to players "in the know" of that specific culture. The problem is when that reference is necessary to solve the puzzle. Rollings and Adams warn against this kind of puzzle: for example, a puzzle that requires knowing the dialogue of *Monty Python and the Holy Grail* will only be solved by very few players (Rollings and Adams, 473). This specificity certainly can affect gameplay, unless the game designer intends to make the game exclusively for Monty Python fans. As we saw, the player must share the domain knowledge of the puzzle in order to solve it. However, this can be a fine line to tread — Pythonesque references are geeky and niche, but also what is common knowledge in one country may often not be part of the culture of another.

Cultural differences surface very quickly in linguistic translation; in this case, it explains why my brother and I had problems with the troll and fish puzzle. In the Spanish version, when we looked at the fish, the description said "Parece un arenque" ("It looks like a herring"). Later we saw that the fish was also red. As you read this, you have probably realized of the joke, another example of how puzzles

can be based on metaphors. The troll wanted something that will attract attention, but have no real importance: a red herring, literally in this case. But "arenque rojo" does not have the figurative sense it has in English, so the puzzle remained cryptic. The puzzle with the troll and the fish makes perfect sense to me now, but only after playing the game in English.

Language references are obvious examples of potential cultural issues, but they can also be evident through references to everyday things as well. When Guybrush gets the magic seltzer bottle prepared by the cannibals in Monkey Island™, they make it from the magic voodoo root stolen from LeChuck's ship. The ghost pirate kept it because that root was the only thing that can kill him. As the cannibals give Guybrush the magic potion, they say:

- One squirt of that stuff, and the ectoplasm really hits the fan!
- And, if you have any left over, it's delicious with a little vanilla ice cream.

For North American players, this joke refers to a root beer float. In Spain, where there is no root beer, and where we tend to believe that putting ice cream in soda cannot be good for you, jokes about root beer floats fall flat. The problem is not only that the joke is not funny when translated literally, as was the case — the comment is a hint for the final battle which we completely missed. Since what the cannibals get you is basically root beer, any root beer would do. The vending machine where Guybrush crashes after the first punch in the face-off with LeChuck says "Grog" on the outside, so the bottle that came out of it we believed was also grog at first. Knowing what a root beer float was would have helped us solve the final puzzle faster.

In the worst cases, trial-and-error is still a possible strategy; the game, however, is not designed like that, since it gives all the information the player needs. The missed clues and information demonstrate that the game was made with the U.S. market in mind, and not taking translation issues into consideration. Good translators can work wonders for a game, but game designers should also be aware of how the cultural background can affect game design, even in the case of games as good as this. In any case, cultural differences are tricky to deal with. The opposite of the excessively specific domain knowledge would be appealing to extremely basic knowledge. Appealing to the most common denominator ends up with a game almost exclusively made up of "lock-and-key" puzzle variations (which are nonetheless the most common type of puzzle in adventure games). Where to draw the line of cultural specificity depends on what the intended audience of the game would be.

To the credit of the game, most the puzzles are still solvable for players from other cultures and speaking other languages. Transcending cultural barriers and clumsy

translations and still being engaging is one of the most important triumphs of the game. It may have to do with the cross-cultural appeal of pirates and the setting (the Caribbean, around the 17th century), which are familiar in Western culture through movies as well as colonial history.

Conclusion

The Secret of Monkey Island is one of the finest examples of what adventure games do best: an interesting world which is a delight to explore, full of engaging characters, and with witty and well-designed puzzles. The game was fun for my brother and I in the early 90s, and it is still fun now, even when the task is writing an academic analysis. Very often reviews mention good or bad puzzle design, not quite explaining what that may be. The goal of this analysis has been to explain what good puzzle design means in terms of player experience, and to highlight the importance of world-building and cultural specificity when it comes to designing successful puzzles, all through an in-depth analysis of *The Secret of Monkey Island*. The main achievements of the game are the interweaving of the story with the puzzles, as well as the creation of puzzle-solving patterns that help the player understand the logic of every puzzle, creating overall a coherent and captivating gameworld.

Although I have spoiled quite a few puzzles in the game, including the end, I would encourage readers who have not played the game to find a copy and play it. The game is crammed with good writing and fun puzzles, and I have only managed to include a few here. Everybody should feel the thrill of telling an ugly stinky pirate for the first time: "How appropriate. You fight like a cow."

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[1] See Fernández-Vara for a more detailed discussion of this definition.

[2] SCUMM is also the name of the engine / story system used in the Lucasarts games, Script Creation Utility for Maniac Mansion.

[3] This is still my favorite ingredient.

[4] The only game to my knowledge that has picked up on the mechanics, has been Dave Gilbert's The Shivah, which pays a homage to the style these early graphical adventures. In it, two rabbis fight each other verbally, asking questions to each other; the key is knowing that a rabbi's question is always answered with another question.

[5] According to the credits of the game.

[6] See example http://meneame.net/story/mas-monkey-island-por-favor

[7] In Spanish, the translation said: "Alguien ha cocinado un trozo de queso aquí dentro", translating "head cheese" for "cheese" instead of "cabeza de jabalí", which is the correct translation (literally, "boar's head"). Because of the incorrect translation, this hint was lost to Spanish players.

[8] More references at http://www.worldofmi.com/features/trivia/injokes.php?game=MI1&s=1

Here was a game that actually attempted to justify and explain the mechanic of extra lives!

JESSE SCHELL

I ♥ MINES OF MINOS

Ka-chink-chink-chink-chink-chink-chink-chink.
Ka-chink-chink-chink-chink-chink-chink-chink.

I'm about to waste your time talking about a game you have never even heard of. It was not a hit. It is not a cult classic. It did not have spectacular graphics. It did not invent a new genre of gameplay. It probably lost money. I've never even met anyone else who remembers having played it, or even remembers hearing of it.

But I'm going to talk about it, because this forgotten game resonated deeply with me. When I played it, it made me realize the potential that videogames have for a new kind of storytelling. When I played it, I realized that I wanted to be a game designer.

I can still remember when I first saw it: It was 1983, and I was pawing through the Atari 2600 bargain bin at CB's Electronics at the Rockaway Mall, and there it was: "Mines of Minos" by CommaVid – A company I'd never heard of. In the heyday of the Atari 2600, the big publishers were Atari, Activision, and Imagic. They were the cool companies with the successful titles. But on the heels of their success came other publishers – big companies like Parker Brothers and 20th Century Fox, but also little companies that no one had ever heard of, like US Games and Commavid.

I'd never seen a Commavid game before, but the first thing I noticed about it was how long the cartridge was – at least an inch longer than the standard cartridges. That was weird enough to get me interested, not to mention the mysterious robot on the yellow box. How could this game have come out, and made it to the bargain bin before I'd even *heard* of it? Extremely curious, but not expecting much, I paid my $5.99 and took it home.

I plugged in the game and turned it on. Despite the robot on the box, the idea of fighting a Minotaur (that must be what this is about, right?) was intriguing. Immediately, I felt kind of disappointed – it appeared to be another Pac-Man clone, with a robot taking the place of Pac-Man, and weird monsters taking the place of the ghosts. But where were the dots? Moving around the maze a little bit, I was excited to see something different – it had a scrolling maze that was larger than the screen. As I explored it, I was quickly overtaken by one of the creatures, and my robot perished, and… GAME OVER? Wait… that can't be right… surely I have more than one life? Let me reset and try again. Hmm… nothing on screen to indicate number of lives… strange. I wonder what happens when I push the joystick button? "Meowm-meowm-meowm-meowm"… a pulsing white square appears where I am standing, and then disappears after a few seconds. Weird. I've played a lot of videogames that look like this one, but I can't figure this out at all. Grudgingly, I open the manual.

In the manual, I read the story of Mines of Minos. For reasons not made entirely clear, a robot-operated mine has been taken over by aliens. Only one sentient robot remains, who must try save robotkind. This robot has little chance of defeating the aliens in hand to hand combat (if he runs into an alien both he and the alien simultaneously perish), and he has no gun. He has only one weapon: Bombs. He can drop a stationary bomb anywhere in the maze, and if an alien runs into it, the alien is defeated. However, he can only drop one bomb at a time – he cannot drop a second bomb until the first disappears.

I'm immediately fascinated by this unusual system of combat, and so I go to try it out. And, in fact, it does work as advertised – if an alien is chasing me, I can push a button, drop a bomb, and the alien is eliminated. But the system is only good if the alien is chasing me – if I run at him, or if I stand still when he approaches – I am helpless. I've never seen this before – a game where you can only defeat your enemies by fleeing them. This alone was enough to make Mines of Minos special to me. In most games, the hero is, well, more heroic – or at least cute. This guy was the definition of underdog. I actually felt bad for this shambling, clanking robot, so badly outnumbered, with the most passive weapon I've ever encountered, and only one life. Only one life? Wait a minute – that's crazy… I better check the manual again. Aha!

> *Collect robot parts to build spare robots. Carry a part to the center of either the top or bottom row of any level of the mine. There it is collected and added to your complement of spare robots.*

While you start with only one life, you can gain more lives only by *building more robots*! Somewhere in the maze is a spare part. Find that, and take it to either the top or bottom of the maze (presumably, workshop areas), and it becomes part of an

additional robot. Every three parts you bring to the workshop creates a full robot. More than just a cool challenge (I not only have to kill these bad guys, but I have to build robots while I do it) it is the very first time I saw a traditional videogame convention turned into a literal story. We easily take for granted, playing games, that we have some finite number of "lives." This has no parallel in the real world – it is just a convenient game mechanic, which probably originated with pinball. Games never try to explain it (Yeah, see, Mario has two identical twin brothers…) it is just one of those things you accept and ignore. Here was a game that actually attempted to justify and explain the mechanic of extra lives! This small change made the game so much more real for me. I could imagine the robot gathering the parts, and building up his brethren. This made him an even more tragic figure – for when Mario dies in Donkey Kong, we assume that his next incarnation is "still him" somehow. But not our robot – he knows he is going to die, and is building replacements for when that happens. One thing that games lack is a sense of the inevitable, for there can be no tragedy if you can always rewind time and try again. But here is a character who knows he is personally doomed, and whose only hope is to save his progeny. What fascinated me was that no one told me anything about the character of this robot, but that through these simple, unusual game mechanics, his world-weary, self-sacrificing character was crystal clear to me. He was a character that I cared about – I wanted badly to help him save his race of mining robots.

This did lead to a question. Why in the world are aliens of various shapes and sizes invading a mine/robot factory? The manual doesn't really say. I came to imagine that this race of robots could only reproduce by building more of themselves using whatever weird mineral is in this mine. I imagined a planet populated by surface dwelling robots, who had tremendous respect for the robots who did the mining, since it was the only way for the race to survive. I imagined that the aliens wanted this unusual mineral, and had killed all the surface dwellers, and only the mining robots stood in their way. I wasn't sure that this was the "real" story, but the fact that I made it up gave me a unique ownership. The story existed in my mind, and nowhere else.

So, down to business. But wait, is this all? Just kill as many bad guys as you can before all your robots perish? A story with the depressingly tragic ending of Space Invaders or Missile Command? That is, "we held them off as long as we could – but eventually, they became too much for us." I really hoped that wasn't the case – I felt so strongly for this miserable robot. If he has no hope of winning, it would be depressing beyond words. To my delight, the manual makes clear that there is hope!

If he can assemble a large enough robot army, he can battle the aliens to fight his way down to deeper levels of the mine and even destroy the alien command center at the lowest level.

Keep in mind that at this time in videogame history, it was unusual for games to have an ending. Usually, they just looped, getting gradually more and more difficult, until they exceeded the abilities of the best player in the world. All you could hope to do was to get a higher score than last time. But here was something different – a terrifying challenge, a novel story, and the potential for a dramatic climax! I was incredibly psyched to find and destroy the "alien command center."

So! Onward! But… which way is down? There is no visible way to leave the first level. There are side tunnels, but, like Pac-Man, they just serve as a way to teleport to the other side of the maze. At first I presumed I had to defeat enough monsters and I would get there… but that didn't seem to work. The manual contained the surprising answer:

> *Change mine level by holding down joystick button when moving through a tunnel.*

> *Don't move to a new level too quickly. Increase your power level by scoring points. If power level is less than mine level, it takes more than one bomb to kill a monster.*

This, again, was something new to me – you don't automatically "level up" when you achieve a certain objective. Instead, you move to the next level only when you feel you are ready. This added a new element: bravery. There is a moment when you decide, "Okay, I think I'm ready – let's do this!" And you descend to the next level. Imagining my poor, doomed robot making this kind of courageous "action movie" decision really turned things around, and gave a sense of power and possibility I had never experienced in a game before.

Okay, so, my strategy is clear – stay on the first level until I've built a massive army of robots, and only then, go down to the more dangerous levels! Right?

> *Don't spend too much time in a level because:*

> *Meaner monsters appear.*

> *Water gradually fills each level starting at the top. The water slows the robot down and prevents it from dropping bombs.*

 Oh bloody hell. This is NOT an easy game. As if things weren't bad enough, the maze FLOODS if you stay on one level too long. That makes things REALLY hard, but it is also exciting. Other games usually just had an abstract timer. When it was up, you lose. Here, there is no timer, just a slowly creeping flood of blue water

that gradually makes more and more of the maze inaccessible. Why is the mine flooding? Again, this is left to the player's imagination. The reason was obvious to me: the evil aliens are amphibious (the water doesn't slow them down at all) and are flooding the maze so the robots can more easily be destroyed. I loved how real, how visual this was… I had a clear picture in my mind of the aliens slithering through the rushing water to destroy my struggling, rusting robot.

Wait… what was that about "meaner monsters appear"?

> *Some monsters can move through walls. One monster can steal a spare robot from you. You can see the robot jumping inside the monster. Kill the monster to regain your spare robot.*

Good Lord. The manual understates the case. The aliens come in many varieties, each more evil than the last. Trying to defeat aliens that *move through walls* when all you have are stationary bombs is a challenge that requires a new kind of thinking. Other aliens move so fast that they are only a blur – your only hope is to drop a bomb as soon as you see them enter the screen, and hope you are right about which side they are approaching you from.

I played the game for several weeks. Gradually, gradually, I got good enough to descend to lower and lower levels, each with a unique maze layout, and terrifying new monsters. Finally, I made it to level five… the final level, supposed home of the "alien command center." Not surprisingly, it is a terrifying place. The maze is designed so that it forces you to start at the bottom, and gradually work your way up. This is incredibly difficult because the maze is full of terrible monsters, including one that moves at supersonic speeds *and* can go through walls. I lost several robots trying to get to the maze center, until finally, with one robot remaining, I made it. I'm not sure what I was expecting … maybe some big red "self destruct" button that I could push to win the game. Instead I saw something that completely baffled me.

In the center of the maze is a long, open space. In the space are three aliens. They have no faces – they are just sets of glowing, oval, concentric rings, each with some kind of glowing nucleus. Every alien I have met so far is a horrible killing machine that has no other goal in life than wiping every robot from the face of the earth. But here these three sit, completely motionless, seemingly unaware that I am here at all. I feel like I have stumbled, clumsy and clanking, into a monastery, and here sit three gurus, meditating in a trance. I feel kind of uncomfortable that I am here to destroy them. I partly feel like I have pulled the curtain off the wizard of Oz… but on the other hand, it is clear that I am at the nerve center, the brain, of something evil and terrible. So, I collect myself, and set out to destroy them! I drop a bomb, and… nothing. Well, of course, nothing! My bombs are stationary, and only blow up if an

enemy runs into them! But these enemies don't move. I feel like such a lumbering idiot, clanking around in this holy place, dropping bombs that just sit there humming before they disappear. Am I crazy? Is there some way to get these things to move? Because there are only two ways to destroy an alien – either with a bomb, or by crashing your robot into them, which of course destroys your… oh.

Oh.

Oh, I see.

Here I am at the center of everything, up against my worst enemy, and the only way to destroy him is by sacrificing my own life. And since there are three of him, and only one of me left, he has won this round, because building new robots on level five is out of the question, and level four is now completely flooded. Through completely passive means, by being even less aggressive than I am, my enemy has defeated me.

I stare at my enemies a little more, and pointlessly crash my robot into one of them, killing it, but ending the game with still two of these meditating aliens still alive.

I shut the game off, and I didn't play it again for a while. Partly because I realized how incredibly hard it would be to get to the center of level five with four robots intact, but also partly because, I don't know, something shifted inside me. I could feel something sinking deeply into the lower recesses of my mind. I found myself avoiding thinking about the game, and when I did, it was with a weird mixture of sadness, guilt, and betrayal. I remembered the feeling of hopelessness as a lone robot facing those three wise aliens – a feeling that every path led to failure. I also felt evil for wanting to destroy them, for they seemed superior to me in so many ways. But most of all, I think I was confronting my own mortality. The idea that "to truly win, you must destroy yourself again and again" was having some kind of deep, transformative impact on my thirteen-year-old brain.

Eventually, though, I returned to it – this time with a firm goal in mind – build up enough robots to win the game. God knows, it wasn't easy – each time you sacrifice a robot in the center, the next robot has to run the horrifying gauntlet again to get back there. But after many attempts, I finally managed to destroy the third "alien commander" with a single robot to spare. And, true to form, my efforts were rewarded with a thoughtful, but economical display: all aliens destroyed, the maze was full of happy, dancing robots.

To this day, when I confront a seemingly impossible situation, and I have nowhere to turn, my mind sometimes goes back to Mines of Minos, and I find myself wondering, "what do I have to give up in order to survive this?" And more than once, that has helped me find the answer.

This game changed my life. It made me realize that simple games could confront people with profound truth as well as any other art form. I wanted to make games that would mean something, something important, and Mines of Minos gave me the confidence that I could do it.

> **" Goo seems to be a wonderful universal everything, they are delicious and nutritious and able to be used in a variety of inventive and (possibly) nefarious ways. "**

DREW DAVIDSON

FROM EXPERIMENT GAMEPLAY
TO THE
WONDERFUL WORLD OF GOO
AND HOW PHYSICS IS YOUR FRIEND

In the spring of 2005, an experimental game was prototyped in seven days. This little experiment was *Tower of Goo*, and it was the seed that led to the development of the independent video game, *World of Goo*, which was released in the fall of 2008. With this essay, I will engage in a close in-depth reading of *World of Goo* in order to parse out various meanings I've found in my experience with the game. Normally, I approach a game playing experience from the perspective of how its game design and narrative development can combine to help a player learn how to play the game, and I relate this experience in a fairly linear fashion while interjecting analytical insights as I go. With this analysis, I'm going to try to relate my entire experience with *World of Goo*; from participating in the beta testing during its development and exchanging emails with its designer Kyle Gabler, to reading about it in the press and online, and to the actual experience of playing the game itself.

Overview

So I'm going to explore the development of the game, from initial prototype to the final release on multiple platforms, to illustrate the process of how an experimental game prototype evolved into a full indie game experience. And I'm going to look at the pop cultural buzz around *World of Goo* and the industry interest it has been generating. Finally, I'm going to discuss the gameplaying experience. Sequences from the game will be analyzed in detail in order to illustrate and interpret how the various components of the game come together to create a fulfilling playing experience that leads to a literacy and mastery of the gameplay mechanics. I'm curious to develop and define a literacy of games as well as a sense of their value as an experience, and braiding these three threads together provides a thorough analysis of the game. I believe videogames are a complex medium that merits such careful interpretation and insightful analysis.

In the interest of full disclosure I should note that I know Kyle Gabler. He was a student at the Entertainment Technology Center (ETC) at Carnegie Mellon University (CMU) when I was an adjunct faculty member. I didn't work directly with him during his studies; although since his graduation I've stepped up to help direct the ETC in Pittsburgh, and I've kept up with the work Kyle has been doing as he continued the Experimental Gameplay Project, and then founded 2D Boy with Ron Carmel and began developing *World of Goo*. Usually when I analyze a game, I play it multiple times, and do some reading and research around it, and then develop an analysis based on the experience I've had playing the game. When I considered analyzing *World of Goo*, it was still in development and I thought it was an interesting opportunity to take a look at both the development process as well as the final gameplay experience. I asked Kyle about this idea, and he was interested. So, I participated in the beta testing of the game, and he and I discussed over email various points about the game in terms of its story and gameplay. This testing experience went well enough that I had the honor of being listed in the "Special Thanks" section of the game's credits. Throughout, I've followed all the media and industry attention *World of Goo* has been receiving. There have been numerous articles and innumerable blog posts, as well as many presentations, demos and awards at various professional conferences. I've kept up with online forums (and the beta testing site) as well as GameFAQs in order to ensure that I didn't miss any parts of the game. Also, I dug around in the program files to get a sense of how 2D Boy organized them, while also finding media files (sounds, music, images and animations) for reference and use in a conference presentation and this essay.

In terms of gameplay experience, I've played *Tower of Goo* (and it's sequel *Tower of Goo: Unlimited*) countless times (literally) on my Macbook laptop through Boot Camp in Windows XP. On the same platform, I've also played through the preview version of *World of Goo* Chapter 1 about six times (it was released in the Summer of 08). During the beta testing, I played through the entire game at least 2 times on XP (recording my first playthrough in its entirety) and played through the gold candidate completely as well as then revisiting many of the various levels multiple times on both my laptop and PC desktop. I also gave a presentation on the analysis of this game at the Meaningful Play Conference in October 2008. And I've played through the final release version multiple times on XP (on it's own and through Steam), Mac OS X (both native and through CrossOver Games), Linux (through Parallels) and the Nintendo Wii (through Wiiware) where I also enjoyed the cooperative multiplayer gameplay. The first *Tower of Goo* was always short and sweet (around 10-15 minutes per game). *Tower of Goo: Unlimited* could last longer, although the longest I played it was probably 45-60 minutes. The Chapter 1 preview probably took me around 60-90 minutes. The final game took me around 5-6 hours total. Playing time for the beta testing was roughly twice as long as the final game (mostly due to recording and taking notes). The game was similar enough across the Mac

OS X, Windows XP, and Linux that it doesn't merit more detailed discussion in this regard, but the Wii version has a cooperative multiplayer mode I'll explore later.

Experimental Gameplay

Now before we dive into the *World of Goo*, let's take a look at the history of development of the game, and how it came to be. Back in the fall of 2004, a small group of graduate students at the ETC pitched a project that would focus on the rapid prototyping of gameplay mechanics. This pitch evolved into the Experimental Gameplay Project (EGP), which took place during the spring semester of 2005. The project focused on game prototyping under the constraint of 3 rules;

1. Each game must be made in less than seven days,
2. Each game must be made by exactly one person,
3. Each game must be based around a common theme.

During the course of the semester, the 4 graduate students (Kyle Gabler, Kyle Gray, Matt Kucic and Shalin Shodhan) were able to prototype around 50 games. The EGP developed into a second semester, with 4 new graduate students carrying on the rapid prototyping, and the original EGP developed into an on-going website and open challenge to a growing community of independent game designers interested in trying to design game prototypes within these 3 constraints. The founding members have hosted EGP competitions across the years to encourage more people to join the experiment. Another interesting enticement they created is EGP Apparel where art from the games was printed onto t-shirts, and the shirts were sold at Target and came with the related videogame on a disc. While this experiment in fashion didn't pan out fully and is currently on hold, EGP is alive and kicking with people designing, submitting, playing and rating game prototypes as we speak.

That said, one of the original fifty games was a simple little physics game called, *Tower of Goo*, which was prototyped by Kyle Gabler in a week. *Tower of Goo* was one of the more popular of the games on the EGP site, which led to Gabler developing an iteration, *Tower of Goo: Unlimited*, that took the original game and made a version that was a potentially endless experience. The on-going success of the EGP and the popularity of the *Tower of Goo* games helped inspire Gabler to partner with Ron Carmel, and they both quit their jobs at Electronic Arts and founded 2D Boy in 2007.

2D Boy

They immediately started working on their first game, *World of Goo,* which built on the success of the *Tower of Goo* games. 2D Boy is an independent game studio based in San Francisco, and as described on their website, their focus is on, "making games the old fashioned way - a team of two, no money, and a whole lot of 'love'." Gabler has contributed to the art, design, music and story of the game development, while Carmel provided programming and production. Toward the end of development, they hired two others to help with testing and final implementation. They used many open source technologies during the development process, such as Open Dynamics Engine, Simple DirectMedia Layer, PopCap Games Framework, TinyXML, Advances Encryption Standard, irrKlang and libcurl (*World of Goo* readme.html). They also kept a development blog and an active community forum on their website. This enabled them to work with their community during the development process. Their fans were happy to help out with beta testing and often made suggestions in regards to gameplay and level design. This transparency has helped to create a passionate community that feels connected to the game. Scott Juster (2008) noticed how this connectivity around the game resonated with the connective gameplay mechanics within the game.

Development

I got involved with the final rounds of beta testing as the whole game was coming together. 2D Boy was having a small group of people video tape themselves playing through the game and they encouraged us to comment aloud as we were playing. As they were continually developing, Kyle sent me successive builds of the complete game up to their gold candidate that they submitted for approval for PC and Wiiware distribution. Using CamStudio, I recorded a complete playthrough of the game along with all the verbal comments I made as I was playing, and these videos inspired many email discussions with Kyle about the design of the game. After this first recorded playthrough, I went back and played through the gold candidate again, this time taking written notes as I went, which I shared with 2D Boy as well. At this stage, the game was mostly complete and 2D Boy was primarily tweaking the gameplay balance and finding any obscure bugs. One thing I noticed is that during beta testing, the difficulty curve seemed a little off; sometimes it would get too hard too fast (to the point that I would have to skip a level) followed by times that then felt too easy. I actually never finished "You Have to Explode the Head" in Chapter 3 until the gold candidate. 2D Boy successfully addressed this issue by adding signs for clues, altering level goals, and tweaking level design. By the final release, I found the difficulty curve to be well balanced; the challenges and rewards ramped up smoothly, keeping the flow of the experience engaging and compelling. In the end,

it was interesting (and rewarding) to see how my comments seemed to be helpful and at times to impact changes and possibly even aided with improvements in the design and development of the game.

Cultural Buzz

Next, let's consider the media and industry buzz and excitement that *World of Goo* has been generating. I've already described how the conception of *World of Goo* was the Experimental Gameplay Project. During that semester, the student team received a lot of industry, media and internet attention. The students jokingly said that they were "media whores," but they were quite savvy about making the most of the attention. Initially, it was apparent that the interest was less about the specific games, and more about the rapid prototyping process through which the students designed and developed the games. This led to a white paper and a presentation at the 2006 Game Developers Conference on "How to Prototype a Game in Under 7 Days." Also, EGP was covered by various news outlets and industry weblogs, which helped establish an awareness of all things related to EGP. So when Kyle Gabler and Ron Carmel founded 2D Boy, they were able to capitalize on this earlier interest and actively begin generating excitement for the company's first game, *World of Goo.*

Since 2D Boy began developing the game, they've had continual coverage in various industry news outlets and prominent weblogs. Similarly to EGP, 2D Boy has received attention for the game they're making as well as their process for making the game. This has occurred in conjunction with the development of a vocal and supportive community interested in the game. The development weblog on their company site helps to keep information flowing out about the game, and they have very active discussion forums in which they participate and solicit ideas and suggestions from their community, which in turn grows the community as they feel more engaged and invested in both the game and the process. The first fansite was created well before the release of the game even.

They've also had a lot of support from the independent game development community. They've presented and demoed at conferences around the world, and written articles and participated in interviews discussing their game and how they're making it. They enabled fans to pre-order the game, which helped provide funds for development, and in return players would receive a demo of the first chapter to play as well as a profanity sound pack that would have the goos swearing during gameplay. They were also nominated and won many awards, as well as made and topped many best of the year lists. They won the Design Innovation and Technical Excellence awards at the 2008 Independent Game Festival, and they won the Best

Independent Game Award at the Spike 2008 Video Game Awards and Outstanding Achievement in Game Design at the 2009 DICE Awards, and they've been nominated 2009 Game Developers Choice Awards. Game Developer Magazine listed Ron Carmel and Kyle Gabler as "Progressives" who have implemented new ideas in game development, in the 2008 Top Deck of the industry's most influential players, and Spike declared 2D Boy as one of the next great game gods. Edge Magazine listed 2D Boy as a 2008 Game Industry Hero as well as a 2009 Hot Game Developer, and *World of Goo* as one of 2008's Top Games. *World of Goo* was on Metacritic's Best of the 2008 lists for both Wii and PC, and it was the most popular Wii game on Game Rankings, and on Moby Games it was third overall for 2008 and second for the Wii. It topped nine of IGN's best of 2008 categories, including Wii Game of the Year, and GameSpy named it Wiiware Game of the Year. Gamasutra named *World of Goo* the 2nd best game of the year, while IGN, Jay is Games, VG Chartz, GameSpy and Game Tunnel named it the top puzzle game of the year. Wired named it one of the Top 5 multi-platform games of the year and Eurogamer listed it in their Top 10 for 2008. Rock, Paper, Shotgun named it Game of the Year, while Jay is Games lists it as one of the best casual games ever, and these are just the highlights, for more see the reference section at the end of the book.

With the release of the game in fall 2008, they garnered laudatory reviews (as of this writing, *World of Goo* has a 95 Metacritic score for Wii, 3rd overall, and a 91 for PC, 62nd overall, as well as a 93.9% for the Wii and a 90.8% for the PC on Game Rankings) which just added to the attention around the game. They released it for the Nintendo Wii through the WiiWare shopping channel (and *World of Goo* was the top title on WiiWare (above even *Mega Man 9*) following it's release) and Nintendo promoted it on the Nintendo Channel. They released it for PC download through their own site, and through Direct 2 Drive, Impulse, Greenhouse and Beanstalk Games. They also released it through Steam, which enabled players to track their game achievements through the Steam system. And Brighter Minds, the parent company of Beanstalk Games, is distributing the game through traditional retail (and around the 2008 holidays, it was one of the top-selling PC games on Amazon and made the top ten best selling PC game list for the week of January 17th, 2009). One thing that should be noted is that 2D Boy decided to release the game with no DRM (digital rights management) that could possibly restrict players' enjoyment of the game. This decision shows a trust in their fans to enjoy the game and not pirate it. Upon the release of the game, they also released the Chapter 1 demo for free and encouraged people to share it around, so that anyone could try the game before they buy it. Even so, about a month after the release of the game, 2D Boy estimated that there was a 90% piracy rate of the game. That said, it was important to 2D Boy (both philosophically and financially) to make it easy for players to access and experience their game. Two great examples of this are that they also released the soundtrack of the game as well as revisiting the making of the game and releasing

various old playable development versions, all free for download. All in all, they've done a great job of winning interest and excitement in *World of Goo*.

Game Analysis

As I mentioned earlier, I normally analyze a game by playing it, and while I believe this is the best way to analyze a game, I've found it interesting to consider this game's pop cultural context and development process. So after discussing all of the above, let's begin analyzing and interpreting the gameplay and narrative of *World of Goo*, and how they combine to create a meaningful gameplaying experience. A quick aside: for those who have yet to play this game, the rest of this paper contains a lot of spoilers. I will progress linearly through my experience of playing the game and uncovering the attendant story.

Tower of Goo

First, I should describe *Tower of Goo*. Briefly, the game starts with instructions to drag your goo-balls up higher and higher, and then a bunch of black goo balls drop from the sky, along with a small rectangular goo tower that lands and bounces at the bottom middle of the screen. To play, you click and hold to grab the loose goo balls and start adding to this initial tower building up in a triangular fashion of trusses until you run out of goo balls. You're encouraged to build up by the game's name, and how you're instructed to build higher. Also, there's a sign pointing up that reads, "25 Meters." As you play, the game tells you how many meters up you've gone, and players began posting how tall a tower they had built. There's a funky music loop playing, and when you interact with the goos, they make little squishy sounds effects (and high pitched, "yippees!"). So, each loose goo ball can attach to two other goo balls that are already connected to the tower (hence the triangular truss-work building). You see faded black lines that roughly show you how your addition will add to the tower. I say roughly because the tower is gooey and there is a looseness to its stability as it sways and wobbles, adding to the construction challenge.

Tower of Goo: Unlimited is the mostly same game except that now for every goo you add to the tower, another goo falls from the sky, so you never run out of goos, and since it's unlimited you get some hot keys so that you can zoom the camera in and out. Also, the sign in *Unlimited* reads, "no limit," and your tower height is monitored along with the number goo balls you have used. The goos have the same sounds effects, but now there's a high-energy gypsy music loop. For the first iteration, it's all about solid construction, using your limited resources to get as high as you can. For the second, it's still about solid construction with the game tracking both your height and the number of goos you've used, but now you can literally go on for as long as you like.

World of Goo

Like both versions of *Tower of Goo, World of Goo* has the fundamental elegant physics gameplay with the addition of iterated dynamics derived from variations of goo balls and levels designed with a destination to which you're building, and this has evolved into a casual puzzle game with an attendant story to go along with the playing experience. I chose this game specifically because it's a great example of gameplay mechanics that are easy to learn, but hard to master, and it is also

a compelling example of how a student project can be independently developed into a professional mainstream product. As described by 2D Boy on their website, "*World of Goo* is a physics based puzzle / construction game. The millions of Goo Balls that live in the beautiful *World of Goo* don't know that they are in a game, or that they are extremely delicious." The gameplay in *World of Goo* is spread over 6 sections made up of 4 chapters, an epilogue, and a metagame. For awhile, there was an additional chapter planned for a later European release, but in the interest of offering everyone around the world the same quality experience, 2D Boy decided not to do it. So as of this writing, the potential extra chapter is on hold, and if it is released, it will be offered on every platform. That said, each chapter is an island on the world, and is full of individual levels. As you play your way through the levels, you advance along paths across the islands, and as you make your way from chapter to chapter you also travel through the seasons of the year. There are 48 levels across all the sections with around 25 different types of goo balls. There is a leaderboard and the game can save up to three profiles of player progress (tracking the number of goo balls and time units). The Wii version of the game also has a cooperative multiplayer mode for up to 4 players. It seamlessly allows other players to join (or leave) gameplay at any point during the game, so that they can play together. Playing in multiplayer is actually a lot of fun, you can get through the levels much more quickly and can support each other's building. The camera is controlled by the Player 1 Wiimote, so the other players are dependent on the first player in that regard, but everyone can grab goos and add to the structure. Also with the Wii, the interactivity is through the Wiimote. You point at the screen and click A or B to grab a goo. On the computer, you just use the mouse, although I've also played it on a tablet PC, which was probably the most direct way to interact with goos (which makes you wonder about potential touchscreen versions on platforms like the Nintendo DS and the iPhone). In all cases, the input allowed for easy interactivity with the game.
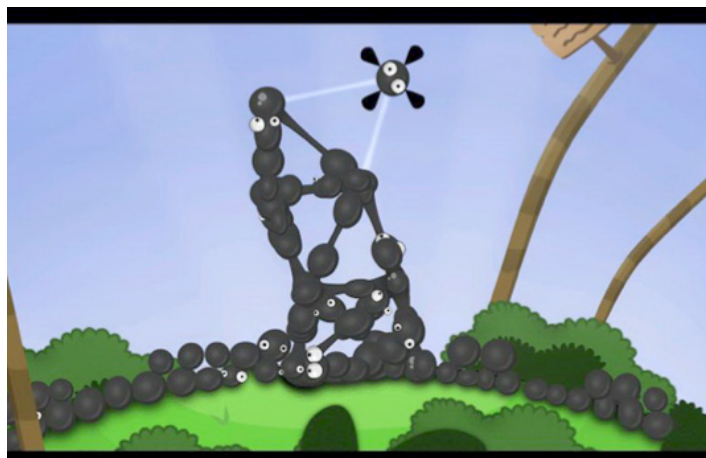
Gameplay & Narrative

Now, let's look more closely at the *World of Goo* gameplay experience. I'm going to walk through my experience exploring how the game design and narrative development unfold. To help track this process, I'll refer to two diagrams. The first diagram used is a classic literary plot diagram (Davidson 2005).

Climax

Conflict

**Falling Action/
Denouement**

Rising Action

**Exposition/
Introduction**

**Resolution/
Conclusion**
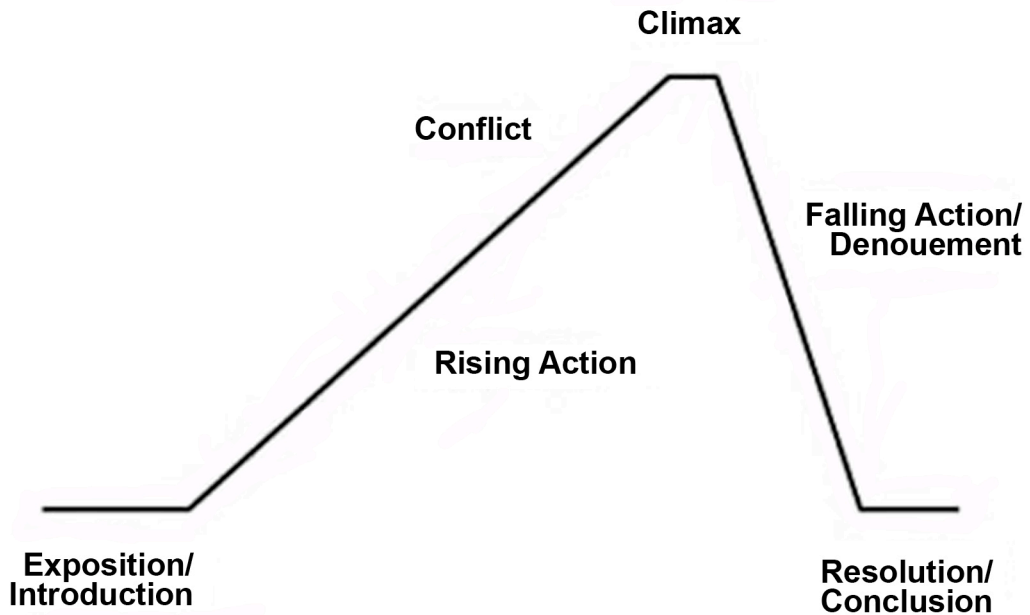
Using this diagram, I'll follow the story of *World of Goo* as it develops across key moments in the game. Next, a diagram illustrating the stages of interactivity is used.

This interactive diagram was developed in a previous paper (Davidson 2005) and outlines the interactive experience of playing a game. Briefly, the experience is posited to have 3 stages: involvement – being initially introduced into the game; immersion – becoming engaged with the gameplay and the gameworld; and investment – feeling compelled to successfully complete the game. The interactive diagram illustrates these three stages. The x-axis shows the relationship of the time spent playing the game, from start to completion. The y-axis shows both the level of interactive engagement, down from shallow to deep, and the percentage of game experienced, up from none to all.
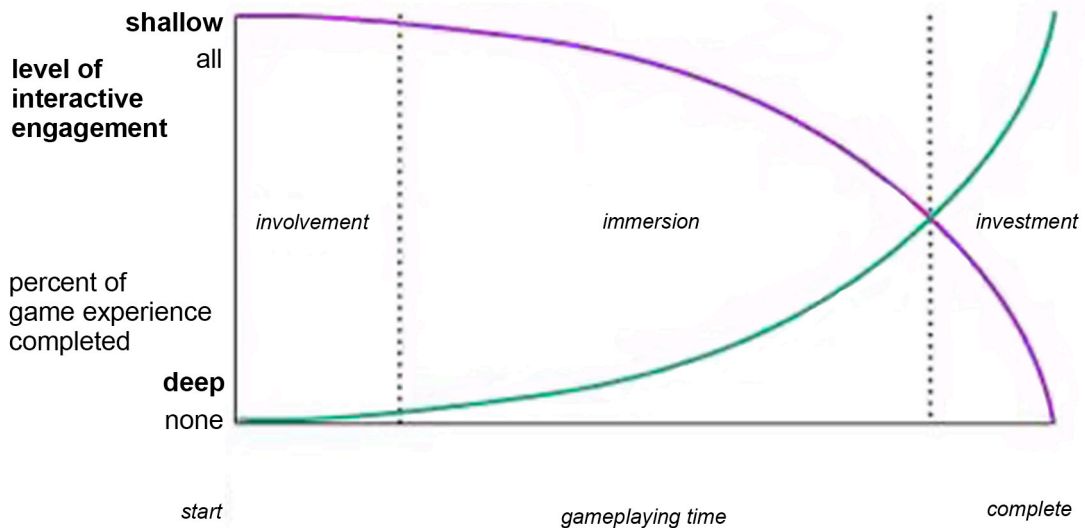
Comparing the results from both of the above diagrams helps to illustrate the relationship between a game's story and its gameplay and how they can fit together to create a satisfying and engaging interactive experience. Of course, this approach wouldn't necessarily be the most apt for analyzing all the different genres and types of games, but I think it works well for the *World of Goo*.

One method I don't directly explore is the procedural, computational nature of how this experience is created. Michael Mateas (2005) and Ian Bogost (2007) have written on the importance of procedural literacy, but for the purposes of this interpretation, I keep the focus more on a gaming literacy (GameLab Institute of Play 2007) and explore the gameplay and narrative. Also, James Paul Gee (2007) has written on thirty-six learning principles associated with games, which illustrate how a game teaches us to play. And in performing this interpretation, Bogost's (2007) ideas on "unit operations" as an analytical methodology are not explicated in detail, but combined with Gee's ideas of learning principles, inspire an exploration of how the gameplay and story can be seen as learning units of meaning that inter-relate in a variety of ways and lead us to a literacy and mastery through the playing experience (Davidson, Well Played, 2008).

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Basics

With this in mind, let's explore *World of Goo*. Even before you start the game, the fun begins as you're invited to enjoy the installation process which ends with the option to "Make me dirty right now." And it continues as you start the game and immediately get exposed to more of the humorous sensibility of this game with the text that scrolls while the game is loading. For example; "bending the spoon… challenging everything… embiggening prototype…meticulously diagramming fun…" and many more.

A musical intro starts up with a high-energy gypsy tune. Then a gooey black wave washes across the screen revealing the World of Goo. The planet is floating in purple space and you can roll over each island, or chapter. At this point, you see an arrow bouncing over Chapter 1, and it's the only island that lights up in color when you roll over it with the cursor, the other islands go clockwise around the world, but are currently all blacked out. And the cursor is gooey as well, as you move it around it forms a gooey tail that catches up to the round gooball of a cursor when you stop moving it. Clicking on the Chapter 1 island takes you out of the world menu and into the island menu with another gooey black wave which serves as the filmic transition between scenes and areas throughout the game. All the menu screens are in widescreen format with a black border across the top and the bottom of the screen.

Art Direction

Chapter 1 is titled, "The Goo Filled Hills," and is also denoted as "summer." The island menu is gorgeous with an art style that recalls a mashup of Tim Burton and Dr. Seuss with a colorful palette mixed with some slightly darker imagery. Eerie fairy music plays, reminding you of the music from Danny Elfman movie scores. It looks like a green little island of nature, but there are some rotating gears and the heart of the island is a raging inferno, and then there's a huge pipe that is leaking a black (gooey?) liquid along with a set of smoke stacks. So it seems nature is being plundered, and all this just from the theming of the island menu. A red arrow bounces over a node, inviting you try the first level. Like the islands, all the levels are titled (and also subtitled). Clicking on the node causes another filmic transition, but this feels like vegetation growing over the screen and then parting to reveal the level. The camera pans over the level providing a brief visual fly-through of the level that gives you a general sense of what you have to do. It then pulls back and the black borders recede into full screen for gameplay. The first level is titled, "Going Up" and is subtitled, "easy as Goo pie." It directly recalls *Tower of Goo* with a simple rectangular goo structure and goos falling to the ground and then moving onto and about the structure. There's a pipe at the top of the screen and a large sign that instructs you to drag and drop to build to the pipe with a little graphic showing you how to add a goo to the structure. The goos are cute little grey blobs with eyes and they ooze around the level and up onto the structure. In talking with Kyle Gabler, he related that the goos weigh more when they're part of the structure than when they're crawling on the structure, which adds to the wobbling as you build.

User Interface

There are minimal menus along the bottom of the screen; a retry button to the left, and to the right a general menu button and the text, "0 of 4 collected." The retry button lets you start over, or you can choose to skip the level if you want (although it shows that you only have a limited number of skips available). The menu button lets you retry, pause or end the level. It also lets you see the level's OCD, or "Obsessive Completion Distinction" criteria. OCD can be a larger number of goo balls to collect, or a small amount of moves used, or a short amount of time.

Rolling the cursor over the moving goos causes the goo to stop with an audible pop, and the selected goo gets highlighted with a targeting graphic. You can then click and drag this goo around the screen, which causes a little trill of sound from the goo. If you are close to the structure, you see faint white lines that give you a sense of how your goo will connect to the structure. I say it only gives you a sense, because the placed goo and overall structure is definitely gooey, and it expands and

squishes and wobbles and jiggles and sways. The placed goo lets out a variety of joyful and endearing sounds, squeals and shouts. It's hard not to love the goos. If you drop a goo away from the structure, it makes a little grumble. It seems the goos like building structures as they swarm on and around what you're building. So, you build up to the pipe and once you get close, it starts sucking at the structure you've built. Text also pops up saying that you "Made It!", and the remaining loose goos move up and get counted as they're sucked into the pipe with more joyful noises. It's rather reminiscent of the classic game, *Lemmings*. Both games have a goal of puzzling through environments to lead characters (lemmings and goos) to an end point.

Off to the right, a small "World of Goo Corp." tank appears, and you see all the extra goos collected in the tank. You'll also see an "OCD!" if you met the level's criteria. You also can tell that the numbers at the bottom of the screen increase as well, ending (in this case) with, "11 out of 4 collected" and once you collected 4 out of 4 (or the minimum for the level) a plunger drops from the top of the screen with a handle that reads, "continue," and the crowd cheers. Clicking "continue" causes the plunger to drop away and the screen reverts to widescreen as a larger "World of Goo Corp" tank clanks into the center of the screen and fills up with black liquid and the extra goos that just got sucked up into the pipe. You can see the level behind the screen, so you get to view the structure you just built. And then a lever pops out below the tank with "continue" written on the handle. You also see the goal (number of goos, which was 4 for this level) along with the gooballs collected (in this case 11) and the extra gooballs (+7). You're also shown the number of moves (3) and the time (0:38). Along with OCD (if you achieve it) there's a checkbox to submit your score to the World of Goo Leaderboard of Excellence. Clicking "continue" causes the goos to drain out of the tank and then the tank gets whisked up out of the screen and it fades to black and back to the island where a goo trail forms and connects to the next node for the next level. And if you just achieved OCD, the previous node now has a flag flying above it, scrolling over the past level now gives you the name along with the number of goos you collected.

It's a bit of an ominous transition with ambivalent tension as you're not sure what just happened to the cute goos, and it feels like it may not be such a good thing to have the goos sucked away into the pipes. This is just the start of a sense of the story that builds across the game in small units of information. In terms of gameplay, the mechanic is true to the fundamental mechanic originated in *Tower of Goo*, but there is a subtle difference. In both games there is an inherent fairness to this physics-based mechanic with serves as a basic unit of the experience as you have to build sound structures, but in *World of Goo*, you are also building toward the pipe, so another unit is added as you have a goal beyond just height, it's now a destination. Also, the game is consistent with the use of fullscreen for gameplaying,

and widescreen for cutscenes, menus, and transitions. It's a gentle introduction into the interactivity, and I'm already getting involved in the game.

Variations

With that in mind, we will take a closer look at how the game starts with this fundamental unit of physics gameplay mechanic and then creates a wonderful diversity of iterations and variations across the playing experience. Gameplay variations are created through different goos, clever level designs and the overall theming of the islands.

The gameplay variations help to continue the flow of the playing experience as players learn and master the various units of gameplay throughout the game. You see this immediately in design of the second level, "Small Divide." This is the first time the gameplay mechanic is used horizontally, as you must construct a bridge across a small chasm.

Three other concepts are also introduced in this level. First, there are sleeping goos (denoted with little "z"s) that you can't use until you build the goo structure close enough to them to wake them up, which they do with a quick trill and then they can be used to add to the structure. This little addition gives a level another direction that players have to go, you aim for the sleeping goos (to gain more goos) and then you aim for the pipe to end the level. In this level, the goos are sleeping on the other side of the chasm, directly below the pipe, so you build toward both at the same time. Second, the level is larger than the screen so that you have to move the cursor around to explore the whole level. You have a small bouncing arrow that points you in the direction of the pipe when it's not visible on the screen. This provides you with wayfinding mechanism for larger levels. In both cases, it's a gentle introduction into new gameplay mechanics. Third, we are introduced to the Sign Painter. There is a small wooden sign (with exclamation points bouncing around it) and if you click on the sign, you get to read a message from the Sign Painter. Clicking causes the sign to pop up, covering the screen, and the message can take up several signs (you click to "scroll" through all the signs).

This first message discusses the mysterious pipe (with a warm and inviting look) across the way, and how the goo balls wondered where it might lead. The message ends with a sign off from the Sign Painter and then the sign drops off the screen and you're able to play the level (and the wooden sign in the level no longer has a bouncing exclamation point). This introduces you to how a lot of the information is shared throughout the game. Every level from here on out will have a sign or two that serves as units that provide you with commentary, suggestions and opinions,

often with a dash of snarky humor that reminds me of the writing found in games written and designed by Tim Schafer.

The gameplay variations continue in the next levels, "Hang Low" and "Impale Sticky." In "Hang Low," the level requires you to build down to wake up some goos and then build up to the pipe above (so two different directions in the level). And we're introduced to a new type of goo; albino goos. These goos are able to connect with up to four goos on a goo structure (so twice as many connections as a common goo). And they are able to make much longer trusses than normal goo, although they are much more jiggly and bouncy than normal goo.

Story Development

In between this level and the next is the first short narrative cutscene. The screen stays in widescreen and you see a huge World of Goo Corporation silo with a "Now Open" sign and two women gesturing like Vanna White at the sign as ominous music plays. It then shows a woman saying "let's go shopping," and she is joined by three more as they run off and you see another sign that notifies you that the World of Goo Corporation is now unlocked and it highlights it's place on the world menu map (accompanied by more ominous music). With the Sign Painter and this cutscene we're getting our initial exposition, and a further foreboding sense now connected to this corporation.

Metagame

Back in the Chapter 1 menu, you now have a silhouette of the World of Goo Corporation silo down in the bottom right corner of the screen along with text that tells you that it's a shortcut to the World of Goo Corp. and a number (+22) that marks how many extra goos you've collected above the minimums required to complete the levels. If you click on the shortcut silhouette you are introduced to the metagame (you can also get to the metagame from the main world menu). It's a very industrial scene with all the extra gooballs roaming around a small triangular base structure from which you can start building. There is a large sign that lets you connect to the internet if you click on it, and it informs you that the clouds you see in the sky are the height of other players' goo towers. Each cloud has a profile name and a national flag to represent the other players in the metagame. You can also see your own cloud, and in the upper right it tells you how high your tower is (in meters) and the number of goos used along with the total number of goos you currently have available for the metagame. On the Wii, the metagame works through WiiConnect 24.

There is also a computer terminal that when you click on it, and it says it's a World of Goo Corporation terminal with no new messages. Along with the terminal is a wooden sign. Clicking on it gets you another message from the Sign Painter who lets you know that this is the new World of Goo Corp. 2.0 campus where all the extra goos come. The Sign Painter also notes that everyone is building up, as if it were a metagame (hint, hint). There is also a reset button at the bottom of the screen. Clicking on it causes a red alarm to sound, which you can either turn off, or click again to reset your metagame tower and start rebuilding from an initial triangle foundation. It's nice that this is made into a two-click process so that players don't accidentally reset their towers. There is also a "Save and Exit" button that will save your metagame progress and take you back to your last menu.

So, you can start building a tower up, a nice clear homage to the original *Tower of Goo* where players also competed to build the tallest towers. Here the pure goos are grey and behave like the common goos with a twist in that they all can be detached and reattached to the tower you're building. The metagame clouds give you a sense of how other players are doing (although you cannot see their towers which would be informative and kind of cool (and is addressed in a fansite) and it encourages you to replay levels, since you can get more goos for the metagame if you can collect more extra goos above the minimum required. The metagame also factors into the story later in the game.

Back to the levels in Chapter 1, the units of gameplay continue to diversify. In "Impale Sticky" you have to build out from a cave, up and around a set of spinning gears (that will break your structure if it touches the gears) to a ledge above with sleeping goos, and then up to the pipe above. So you're building both horizontally and vertically. You also have another large wooden sign (like the one from the first level) that tells you that you can pop a timebug to go back in time by one move. This doesn't make sense until you see little bugs periodically pop into existence (seemingly based on the number of moved you've made) and flutter about. If you click on one of these flying bugs, the screen will flash and your gameplay will be rewound by one move. If you don't click on the bugs, you end up with several silently buzzing about in the sky.

Physics is Your Friend

I've only just begun to cover the types of iterations and variations throughout the game, but as you can already see, they continually keep coming. It keeps the game from ever feeling repetitive or boring, and keeps the player engaged and challenged. While it would be fun to walk through each and every level in great detail, with 6 islands encompassing 48 levels and around 25 different goos, it would also take a

rather long time, so instead I'm going to focus on key points across the game that introduce interesting units of mechanics, concepts, themes, and narrative. That said, I should note that "Impale Sticky" was the first level where I really clued into how much physics really is your friend (in terms of the fundamental fairness of the gameplay) so much so that it becomes an overarching theme running through the game. In this level, you have to build a structure that goes out into space and then up and around to a ledge above; so, it's inherently unstable and sways and wobbles a lot. But I noticed that you could make the structure more sound by building up to the roof of the cave and wedging the base of the structure into the cave from floor to ceiling, and that this provided a more stable anchor from which to build. Starting with this level, "physics is your friend," became a mantra for me throughout the game. No matter what the variation, there was always a physics-based solution to every level and puzzle, which made them all feel fair, and hugely satisfying to complete. Plus, the sense of fairness helped alleviate frustration as the difficulty increased, you felt rather smart as you could figure it out as long as you considered the physics.

Looking more at Chapter 1, the "Flying Machine" level introduces balloon goos, that come with a elastic balloon sounds effects and can be attached, detached and reattached to common goo structures and also to various levers found in levels. When attached, the balloon goos inflate and can help float a structure, or raise a lever. Interestingly, balloon goos are one of the few goos that don't get sucked

up into the pipe at the end of the level (and this is never really explained, they just never do). Next "Ivy Towers" introduces us to ivy goos. Ivy goos are really elastic and can connect to 3 points on a goo structure, and they are also able to be attached, detached and reattached. This enables you to build multiple structures with the same goos in any level that has ivy goos which in turns comes with levels that require you to do just that.

"Fisty's Bog" uses balloon goos to support a horizontal bridge that you have to build while not going too high or too low. This adds a new timing dimension in that you have to build well, but also quickly, in order not to rise up too high or fall down too low as you shift balloon goos around while building your bridge. This is actually opposite of how I normally play this game (taking my time and trying to figure out the physics to build a sound structure) but it still felt fair in that time is just another dimension of physics, you still have to build good structures, you just have to do it quickly as well. And this is one of the first levels where the groupings of goo on the structure play a role in terms of timing, as you often had to quickly grab for a balloon goo amidst a crowd of common goos (or vice-versa) and if you missed, you would go too high or too low. Again, this felt fair from a physics perspective in terms of a cluster of goos and time pressure, as you still had to be quick and pay close attention to the highlighted goo before you click. Also, this is one of the first levels where I realized the physics of the sucking pipe can be used to your advantage as well. Once you get close enough to the pipe, the sucking actually pulls on your structure, which provides some stability to help end the level.

In "Ode to the Bridge Builder," the penultimate level of the first island, you see a throbbing sign off in the distance that appears to have two eyes. Clicking on this sign gives you a message from "MOM" saying hello, and asking if you are there, and if you are coming home. These MOM signs are few and far between, but it's now apparent that MOM is another character in this story.

Chapter 1 concludes with "Regurgitation Pumping Station," and the gameplay units are more directly tied to the narrative units in this last level, as you don't build toward a pipe. Instead, you have a different, less defined goal that relates to the story. In this level, the Sign Painter lets you know that the goos don't realize they're delicious (the goos happen to be in a stomach at the time) and that you may have to leave some goos behind, but that's okay, we're all in it together.

The idea that the goos are delicious (and don't even realize it) underscores their innocence in this unfolding saga as well as their charm. Also, the notion that we're all in this together gets repeated by the Sign Painter throughout the game, giving us an ambiguous hint that our relationship and role with the Sign Painter and the goos is cooperative.

You build up and free the goos which transitions to a cutscene that shows the goos floating away, and text scrolls relating to you how the goos can see farther than ever to other new places and islands with new goos and endless play possibilities. And that the goos knew they would never be back. With that we get a cheer and the "End of Chapter 1."

You're now back in the world menu, and with a gooey explosion, there is now a bouncing arrow over Chapter 2, "Little Miss World of Goo." This island now highlights along with Chapter 1. Note, you can return to Chapter 1 and replay any of the levels if you want. But let's click on Chapter 2 and explore a new island as well as a new season, "fall". So, you're not only moving from island to island on the world, you're also moving through time as you progress. These units of time and space help give a sense of how the story is progressing as well. After Chapter 1, we've had a solid introduction to the story of the world, and we're definitely involved in the game. In fact, due to the solid physics mechanics, gorgeous audio and visuals, along with the humorous story, I'd say I was already firmly immersed at this point in the game.

Aesthetic Theming

In Chapter 2, the menu screen has a different feel than Chapter 1, gone are the vibrant greens and blue sky, which has been replaced by muted browns and greys with leaves blowing across a tan sky. There are windmills, power lines and gears with goo chains, along with a grey ovoid structure with a prominent tower that becomes a torso topped with a women's head, eyes closed, hair blowing in the wind. There is definitely a sense that nature has succumbed to industrial progress, which has

efficiently harnessed goos in some manner, and it seems rather foreboding that this large woman (Little Miss World of Goo?) is somehow plugged into this machinery as well.

Chapter 2 immediately introduces new units, with a new goo in the first level, "Drool." Water goos are transparent and drippy goos that only make one connection, so they are ideal for forming long chains.

This is followed by another type of goo in the next level, "Fly Away Little Ones." Here we find black goos without any eyes that move around, but you can't grab them directly. Instead you have to use other goos to create a structure to help herd them along toward the pipe. Next, the windmills from the island menu are incorporated in the level, "Blustery Day," as they become structures you have to build around since the windmill can chop up your goo structure.

And then a unique goo is introduced in "Beauty School" along with a new mechanic. An extra large beauty goo with a full pink face and eyes that follow your cursor around. You can't directly grab a beauty goo, instead you have to guide it through the level using other goos and into a set of gears that pops the large beauty goo into a bunch of tiny little goos with red lips (and two eye goos). The Sign Painter lets you know that this level has a red pipe, and that red pipes are exclusive. It turns out red pipes will only suck up the smaller goos that came from the large beauty goo.

So, we have another twist in units in terms of your goals in certain levels with red pipes. Also, in Chapter 2 you're introduced to levels that have more movement, so it's not just about building, it's also about negotiating goos around and across moving parts and surfaces across larger levels. In fact, almost all the levels are large enough that you have to pan the camera (by moving your cursor) in order to see the whole level. And some of the levels also limit how much of the level you can see, until you build a structure close enough and then you're able to scroll to see more of the level.

More Variations

The continual pace of unit variations on gameplay is almost dizzying in terms of the creative energy, and yet they all build solidly on the fundamental mechanic rather seamlessly so the flow of the experience is quite smooth and enjoyable. There is a great interest curve as you are constantly having to play in different ways as different levels require different strategies. The experience is kept pleasurably frustrating; it's not too easy, nor is it too hard (Davidson, Well Played, 2008). Ideally you get increasing challenges followed by a reward and possibly increased

dynamics that may make it a little less challenging for a bit, but soon ramps up again. Chris Crawford (1984) refers to this as a smooth learning curve in which a player is enabled to successfully advance through the game. Greg Costikyan (2001) notes that "play is how we learn" and move from one stage to the next in a game. Mihalyi Csikszentmihalyi's (1991) notion of flow, in which a person achieves an optimal experience with a high degree of focus and enjoyment, is an apt method for discussing this process as well. And James Paul Gee (2004) thinks that well designed games teach us how to play them through rhythmic, repeating structures that enable a player to master how to play the game. In terms of unit operations, the units are being juxtaposed well so that the meaning and mastery builds as you play. As Gregory Weir (2008) notes, *World of Goo* does an excellent job with variations to create compelling gameplay.

In terms of story, there's a short cutscene after "Beauty School" that shows a woman with a make up container (full of goo?) that she then applies to her face, giggling all the while. As I mentioned earlier, there is some concern that guiding the goos into these pipes may not actually be a good thing for the goos.

This cutscene , combined with the goos' lovable and endearing behavior (which made me feel very protective of them) had me even more worried about what was happening to the goos. At the very least, it seemed that they are being made into a beauty product (!). There's also a very short cutscene after the next level, "Leap Hole," where you're told that you've found the whistle and that goos are fascinated by it.

Whistle while you work

Now you can click and hold to whistle (and you see musical notes around your cursor while you hear a bird-like tune) and goos move toward you. So, a new unit of gameplay is introduced through the story right around when I found myself rather conflicted about what was happening to the goos. I now have the ability to have them come when I call, which makes me feel even more responsible for them, and for what may be happening to them. This is followed by the level, "Whistler," where you are immediately required to use the whistle in order to complete the level. Interestingly, I never really thought much of the whistle for the rest of the game, but when I started a new profile to play through the game a second time, I realized I had been using the whistle all the time after I found it. It became a great way to get the moving goos where you wanted them in order to build more effectively.

At the time, I related this impression to Kyle Gabler and he shared that this mechanic was actually suggested by their fans in their forums. So as well as adding a subtle and useful mechanic to the game, it also is a great example of how 2D Boy worked actively with their community as they developed the game. Kyle also related that

there is an easter egg in the next level, "Beauty and the Electric Tentacle," which I found (but won't spoil here) although the "original" Sign Painter just tells you it's so simple.

Back in Chapter 2, the story continues to grow along with the gameplay. You see another sign from MOM, the Sign Painter hints that you're getting close to the source of power, but won't tell you what it is, and the level design gets more complex. In "The Red Carpet," you have a level that requires several different stages of construction that need to be done in the correct sequence in order to succeed. It's rather reminiscent of a Rube Goldberg contraption, but one that you have to puzzle out and construct correctly with various goos.

It's an interesting new dynamic unit that again adds even more of a sense of time and timing into the gameplay. This is followed by the final level, "Genetic Sorting Machine," which has a narrative dimension similar to the end of Chapter 1. You start this level separating 3 "ugly" flesh-colored large beauty goos from the "pretty" pink one.

The ugly large face goos are actually broken apart in order to fill a pit so that the beauty goo can travel over them and onward and upward. The beauty goo is also broken apart and then up a pipe to a platform with a large sleeping women (Little Miss World of Goo, I presume), and you end with these pretty goos getting sucked into the red pipe in her head.

This starts a cutscene that relates that the giant lady is an electric generator powered by beauty, but her power has been fading as she got older. Until now, with all the new surgery options and beauty products, her beauty and power is back (even though she can't move her face) and there's electricity for everyone. And a new factory opens in the south, "End of Chapter 2."

More Story

So, we're back in the world menu with the bouncing arrow over Chapter 3, "Cog in the Machine." Before we move forward, let's consider that last cutscene and the continuing development of the satirical story of this game. We're solidly into rising action now and definitely involved in the game. Chapter 1 showed us how the goos were being plundered from nature. Idyllic summer was beginning to be industrialized. In "fall" (or Chapter 2), we saw how beauty was waning and the island was more fully focused toward civilization as opposed to nature. Power was at the heart of the problems, and in this world it's intertwined with beauty, giving us a twisted satiric metaphor of our own celebrity-driven culture. And with our help, the goos have increased the power and enabled a factory to open. Goos seems to be a wonderful universal everything, they are delicious and nutritious and able to be used in a variety of inventive and (possibly) nefarious ways. The foreboding feelings of before seem to have been confirmed, the adorable goos are being used, maybe (hopefully) we can save them.
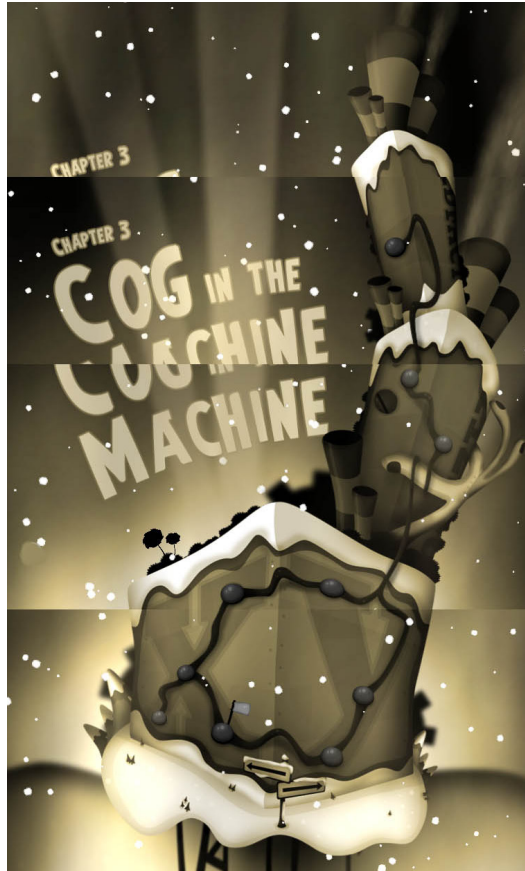
More Aesthetics

Chapter 3 continues with the island variations. This chapter menu is full of muted greys, blacks and browns and it's snowing, as it's "winter." The island appears to be fully taken over by a factory, with a base that closely resembles a boxed and wrapped present. From this base, a large hand holds up a tier of tottering towers and smoke stacks. You hear the muted voices of children, adding to the oddball holiday air. This third chapter appears to be focused on manufacturing and machinery. As before, the gameplay variations continue at a constant pace. In the first level, "Burning Man," you're introduced to fuse goos which when added to the structure the connections look (and sound) like matchsticks.

The fuse goos are highly flammable, so if you get a structure near a flame the whole thing will burn down. So now you have levels in which you need to avoid flames at times, or build toward them in order to burn down a fuse structure and move whatever it's supporting, or free a structure made up of other goos (who

don't ignite), or build quickly since part of your structure is already ignited. The units of gameplay resonate with the development of the story and the theming of the islands.

During "Second Hand Smoke," the Sign Painter shares a rumor that everything changes in Chapter 4. After this level, there is a cutscene announcing that Z Product is coming soon, and our group of shopping women from Chapter 1 are there to express their excitement. So, it seems World of Goo Corporation is making an ultimate Z product (out of goos?).

The industrial feel is carried across levels full of flames and robots and bombs. In "Misty's Long Bony Road," we have a level reminiscent of "Fisty's Bog" from Chapter 1. You have to build horizontally, but instead of using balloon goos to float a long bridge, you get to use bone goos to support your goo bridge from below, and keep it from touching the spiky ground as you build a bridge that is about 3 times as long as the one from Chapter 1. Like balloon goos, bone goos can be attached, detached and reattached as you work to extend this bridge. So, a nice little twist on an earlier level along with increased difficulty, which feels appropriate as you're now in Chapter 3. Although, unlike balloon goos, bone goos can be sucked into the pipe at the end of the level (again, this isn't explained, it just happens).
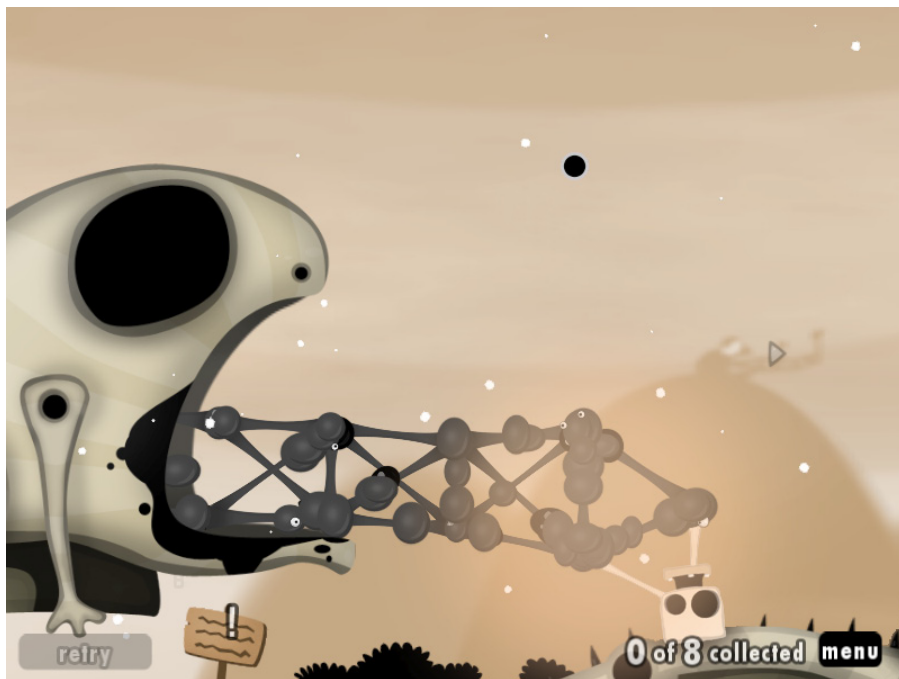
And the variations just keep coming. In "The Third Wheel," you have another new goo, a pokey goo that can stick to anything, this enables you to attach, detach and reattach goo structures to other surfaces in order to move entire structures around a level. "Water Lock" has another sign from MOM, and the Sign Painter is underwater and can only say, "Glrff, Grlgle." In "You Have to Explode the Head," you find sticky bomb goos, which are like pokey goos except they're bombs, so if they're stuck to a fuse goo structure that happens to ignite, they explode. "Incineration Destination" also has sticky bomb goos, and provides an interesting scenario where you have to build two bridges together (one of fuse goos and another of albino goos) in order to be able to ignite the bombs and still have a bridge after all the explosions. It's yet another unit with a clever twist on the gameplay.

The last level of Chapter 3, "Product Launcher," provides a big twist in the developing narrative and gives us some conflict. You help launch Product Z with a bang. The Sign Painter tells you that the product launch will change the world.

At the end of the level, you cause an explosion and then you go to a cutscene that shows a huge gun (held by a huge hand) and it shoots a green ray up into space. A large crowd of people look up as now there is a glowing green square above the world. The square starts falling down and the crowd panics.

Major Story Twist

It impacts and forms a glowing green cube around the world, which in turn, syncs with the world, leaving a green wireframe matrix on the world. A computer terminal pops up into the screen (reminiscent of the Sign Painter signs, except this time it's from, "your friend, World of Goo Corporation") and congratulates you on reaching the 3D world, although you don't have the technology to access this level, so you're going to have to visit tech support on the information superhighway, "End of Chapter 3."

We're back in the world menu with the arrow bouncing over Chapter 4, Information Superhighway. It seems that we're about to go virtual. We've got a conflict in our story, and to be honest, I'm beginning to feel invested as I'm engaged by the experience as a whole and definitely want to complete it (and hopefully save the goos). With our help, the World of Goo Corporation has launched Product Z, which has created a virtual matrix of (and on) the world. The story has an even stronger satirical resonance with our world and the game industry specifically. Digital 3D technology is constantly advancing and pushing the limits of computer hardware. As a gamer, there's almost always a new game coming out that would require the purchase of new hardware (whether it's a new console, or an update of a graphics card for your

computer) in order for you to play the game. In this culture, 2D Boy have gone old school and made a 2D game that can be played on most any computer. Back in the game, it looks like we're going to have to go to the information superhighway (or Chapter 4) in order to upgrade for the glories of Product Z.

And Now for Something Completely Different

Chapter 4 seems to be out of time. It's the first chapter that's not a season, it's denoted as "meanwhile…" It also seems to be out of this world, the menu screen harkens back to the glowing greens of old computer screens. This virtual island has highways wrapping around and around, and it's topped by a large computer monitor along with what appears to be a recycle bin off to the right. So, we've stepped out of the world, into this digital corporate creation. Interestingly, the metagame, which has mainly just benefited from the extra goos you get across all the levels, has now become a part of the story as well. After completing Chapter 3, a visit to the metagame now shows you that it's the beta of the "My Virtual World of Goo Corporation," and it's all virtually green with crazy 8-bit arcade-style music. The terminal still doesn't have messages, but the Sign Painter now discusses avatars and virtual reality, all brought to you be World of Goo Corporation. So, the world really has changed.

The units of gameplay also reflect this change with some of the most unique iterations and variations yet. The first level, "Hello, World," introduces a new round green goo in a clever way. Much like "Small Divide" in Chapter 1, it looks like you just have to build a bridge across a chasm. But when you grab one of these new goos you get a surprise. Instead of getting the usual highlighted lines, you now get an arrow that lengthens as you pull farther away from the structure. When you let

go, this goo shoots across the chasm, leaving a binary trail of 1s and 0s, landing on the structure across the way, and waking up square goos.

These square goos seem to be the virtual version of common goos, and there is some virtual gravity you have to account for as the round goos arc across space. These digital goos bleep and bloop as you interact with them. The green wireframe in the background resonates with the virtual story as well as helping to aim your shots with the grid. So, you shoot the round goos across and then build up to the pipe with the square goos. "Bulletin Board System" quickly builds on the addition of these new goos, with gusty virtual winds that you have to adjust for as you aim and shoot the round goos through the level. The Sign Painter informs you the place is falling apart and that the graphic cards need upgrading (maybe in a later level).

Trustworthy Narrator?

I should note that in Chapter 4 the Sign Painter signs are actually terminals (as opposed to wooden signs). This gave me a weird frission in that I wasn't certain I was still hearing from the Sign Painter or if the signs had been co-opted and I was possibly hearing from the World of Goo Corporation (particularly after the terminal/sign from "your friend, World of Goo Corporation" at the end of Chapter 3). The tone was consistent, but just switching to a terminal made we wonder, which reminds me of how fluid digital identity is, and how pseudonyms and (mis)representation through avatars and usernames occurs. So, the narrator of the game, while always snarky, is now a little more unreliable.

In "Grape Vine Virus," yet another new goo is introduced, along with a new red color to go with the green. Round green goos that touch the red virtual fluid, turn into infected red goos. These new goos shoot as well, and they also can be shot to attach to extend chains (like the water goos). "Graphic Processing Unit" has both the green goos and the red goos on a small moon above a planet. The Sign Painter tells you that this is the creative, graphic heart with 256 colors. The planet's gravity plays a large part in this level as it strongly effects all your shots. You have to curve around the planet with elliptic shots with red goos to form a chain to the pipe, and then shoot the green goos onto the chain. "Road Blocks" shows the new graphics, and the Sign Painter notes how everything is in stereo and colors, as simulated water splashes over pieces the information superhighway. And this comes along with more new goos, large square and rectangle rocky block goos (another species of goo that doesn't get sucked into the pipe). In this level, you stack these blocks up to provide support for a common goos bridge. In "Graceful Failure," you play a gooey version of *Jenga*, unstacking a tall tower of block goos to lower some other goos to a pipe below.

MOM

In the next two levels, the Sign Painter tells you about a surveillance system that used to monitor everyone and may still be working and that all the servers are 99.9% stable (guaranteed). You also get another sign from MOM, right before the penultimate level, "MOM's Computer." This is another one of the more narrative levels. Interestingly, Chapter 4 felt like an interactive embodiment of Ian Bogost's (2007) ideas on how units can operate together to form experiences. It's an old glowing green desktop screen, with an open application window and icons for Apps and Games. Clicking on the icons gives you rectangular games and square apps. You can catch these digital blocks and start stacking them on the application window to build a tower. You can build up and out of the desktop. The Sign Painter is up here and asks how high does it go. You keep stacking and you see more icons for Apps and Games, soon you see a Shortcut to MOM. If you click on it she says to come closer. Once you get close enough, clicking on the shortcut opens up a pop up window to MOM. The window has eyes and a text field and an "Ask" button. Clicking on the text field starts a dialogue tree with MOM.
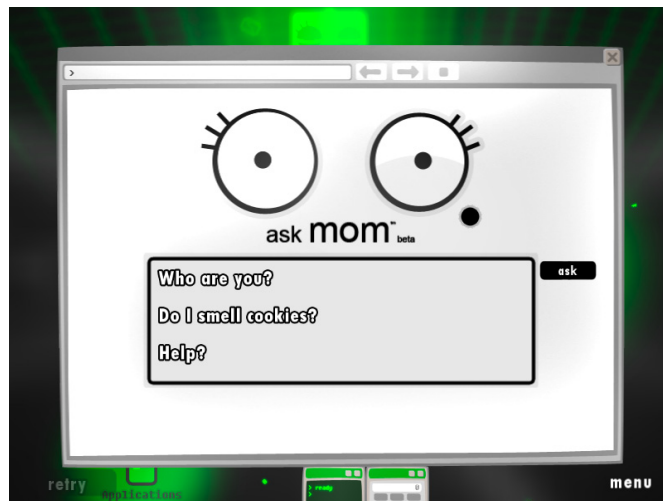
Satirical Story

Apparently, MOM is an automated search companion who wants to help you. She has been baking your information into cookies. She used to be a big website, but the users got small. She bakes all your info into the cookies to help you. She discusses 3D and 2D as well as how the information superhighway was abandoned, but she's hoping users come back, and that your info is safe with her unless someone asks

for it. She can delete your info, but then she'll forget you. She was written with love and feels good, and she can help you destroy World of Goo Corporation, although that's not really friendly. She has a million messages to deliver and knows what's best. She's happy if you let her keep your cookies (if you delete them, you get kicked out of her computer and you have to stack back up to click on the shortcut again). She's been watching you, and everything is going well. She sends spam to everyone with love, but with everyone gone she keeps sending special offers and invitations to visit. She'll send you an invitation and all of her offers, but she needs your help. All of her emails have been deleted, so she needs you to go to the recycle bin and undelete all her offers. As long as you accept her terms and conditions, she'll take care of you, and she sends you an email with love to the World of Goo terminal.

You're then told that, "You've Got Mail," from the World of Goo Corporation and you're back at the Chapter 4 island menu, which now has an email icon along with the shortcut to the World of Goo Corporation. If you try to go to the recycle bin (the last level), "Deliverance," you can't go, you get a 403 error message and are told to check your email. This is where the metagame level is directly involved with the story. Going to the World of Goo Corporation, you also see an email icon in the computer terminal. You read that you've been selected for special offers from MOM, and you can cancel or accept. You have to accept in order to be able to go to "Deliverance," and you receive another email letting you know you're a special member of MOM's club. Now that you're a member, you can go to the recycle bin. It's another glowing green and red level with a narrative focus, that starts with a huge "Undelete" pill dropping down into the bottom of the recycle bin with a bunch of virtual block goos.

You can shoot the round green goos through some red flame and they in turn ignite and then explode the blocks and also the bottom, dropping everything (along with the pill) down a tunnel full of more round goos and blocks and red flame. The Sign Painter (or World of Goo Corporation) warns you that you're not supposed to be here, and asks you where all the undeleted files will go. You repeat the process and drop further down until you reach a point where the pill falls into a net of square goos suspended over a roiling red pit of liquid with what looks like a large robot skeleton floating in it. You ignite the net which causes the pill to drop into the pit and you get a warning window, telling you that undelete is unstable and cannot be undone, click "Yes" or "OK." Either way it starts the climatic cutscene.

You watch the pit of liquid boil over with a ton of email messages gushing up and out of the recycle bin. You then see the whole world, and a terminal pops up, "New Mail!" and then the World of Goo Corporation swells until it pops. The World of Goo Corporation is destroyed and the green wireframe matrix fades away. You then see

the ruins and a broken billboard ("We're all in it together") falls from the sky, "End of Chapter 4."

So, it looks like you've saved the world from the corporation and also freed the goos. The metagame is now titled the Tower of Goo Memorial Park and Recreation Center. When you go, you see everything back to normal (i.e. no longer "virtual") and there's no terminal anymore, the Sign Painter asks you to take care of this sign (after all the previous explosions) and there is something missing, the air is full of debris. Also, the rest of the goos all seem to be here, but they'll have to build higher if they want to see.

Chapter 4 definitely served up the story's climax along with lots of inventive gameplay variations to go along with it, and I'm decidedly invested now as I'm excited to complete the game.
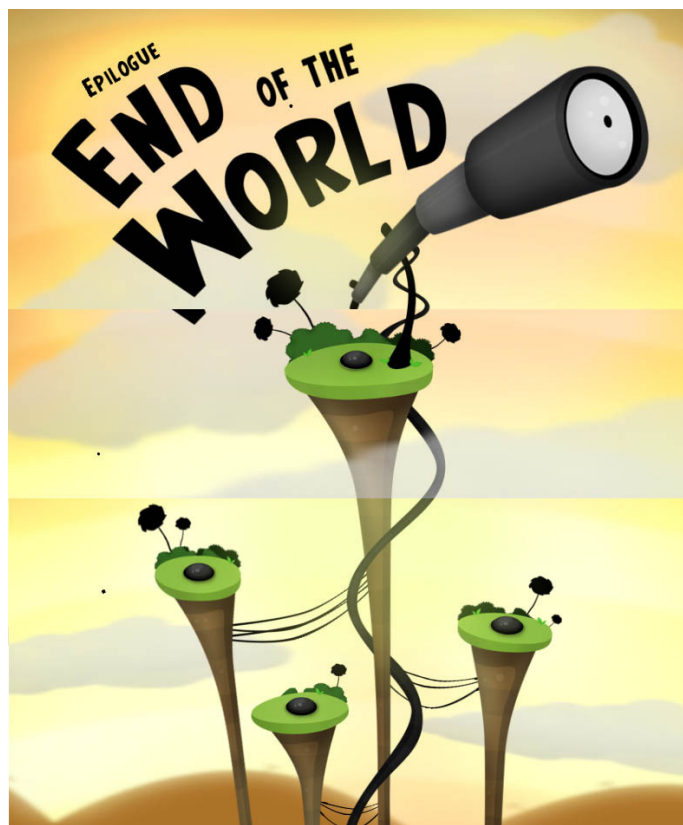
Full Circle

The Epilogue, "End of the World," brings us back into the world and back into time with "spring." You are high up in a sunrise sky among four connected spires with the highest one topped by a telescope (although you can't see this at first until you complete the 3 lower levels). This island brings us back to a more natural setting reminiscent of Chapter 1. It feels a bit more precarious as we're up so high and the spires are so slender. But there's also a sense of possibility and potential as the telescope beckons us upward. Previously, each Chapter had around 10-12 levels, while the denouement of the Epilogue only has 4. In terms of gameplay, this is the final exam with some of the most challenging construction in which I should be able to play the game at a high level of expertise and display some form of mastery of the gameplay mechanics and dynamics. Initially, I was expecting some form of crazy Rube Goldberg combination of all the units of all the various goos from all the previous levels. Instead, these final levels pare it back to the original fundamental units of gameplay and use common goos, balloon goos and plain black goos, and just challenge you to build well.

"Infesty the Worm" takes bridge building to an extreme, as you have to use balloon goos to keep raising and lowering a horizontal goo structure end over end as you extend it to reach islands on your way to the distant pipe. The Sign Painter can see you (so you must be getting close) and you're told that all the debris from the explosion are blocking the telescope unless it can get higher.

"Weather Vane" requires that you build up into the clouds, over a spinning blade, and back down to a pipe. The Sign Painter is not waving to you anymore. "Horizontal Transportation Innovation Committee" challenges you to somehow cross the widest chasm of the game, and the Sign Painter says there are just some raw pure goo left filled with hope and ambition, but you can give up and no one will know, except the Sign Painter. After these three tricky levels, you reach the final level, "Observatory Observation Station," which again has a more narrative dimension. The Sign Painter (now revealed as the Telescope Operator) notes that all the goos are at the memorial and the telescope isn't high enough and wishes you goodbye. You see all the spires in the distance and large pink goos floating in the water around this tall island.

You can attach these goos to the spires and they start fluttering their wings, pulling the whole island up and into the final cutscene. The whole island raises up, and you can now see far, the telescope sees every species of goos from all the islands (giving a visual recap of all the chapters and levels, and a view of a tower of goo going up to the sky). There are hints that the goos are building to future adventures and the telescope looks up to the stars and you see the floating goo structure (from the end of Chapter 1) as it floats through space. And you see goos popping up on the moon, and then the credits roll and you're back to the world menu.

The End?

So you've completed the game, but you can now go back and replay all the levels across all the chapters and try and get more goos into the metagame to build your tower higher (there's a limit of being able to use only 300 balls in the metagame. And there's a leaderboard for both the metagame and for each level). Interestingly, the only level that can't really be replayed is "MOM's Computer." If you stack back up to her shortcut, you're told she has gone away, although this doesn't effect the metagame, but it does mean you have to get OCD on your first try. Outside of that, you can play every other level again if you want.

Joyful Resonance

And there's definitely a joy to replaying, even though you know how to do it all, and you've experienced the story. The metagame beckons, but it's also a joy to build structures well, the fair physics gameplay continues to provide satisfaction. In fact, joy would be a word I'd use to describe my playing experience with *World of Goo*. It really is a joy to play. This also resonates with the development of the game itself, as 2D Boy worked hard to make their first game well, it's obvious it's been a labor of love. This resonance is also found in the story. Kyle Gabler shared with me that;

> *the overarching story of World of Goo is a big metaphor for the development process. Curious and naive little goo balls, encountering a large international corporation with a global pipe distribution system. Meanwhile, we're a curious and naive new indie studio, eager to explore, having to deal with large international publishers and their global distribution systems. Hope, ambition, curiosity, etc, colliding with cold gray reality. World of Goo Corporation is a giant metaphor for some of the absurd experiences we've had along the way with publishers so far.*

So, you not only help the goos in the game, you also help 2D Boy by buying *World of Goo*.

And So…

Thinking about *World of Goo*, the discussion of the cultural buzz, and the participation with the development process, along with the analysis playing the game has helped me fully capture the experience I've had with this game, particularly as they resonate so well together. I've definitely been aware of the media coverage and industry attention, and 2D Boy has done a savvy job on making the most of this exposure to help them develop the game independently. Being involved (even in a small capacity) in this process helped me appreciate the design and development decisions as I watched them tweak the game and work up to the public release. They continually worked on the balance of the gameplay and the difficulty curve for the best flow, along with additions of signs and cutscenes to help best relate the story, and a never-ending effort to polish every facet of the game, from game design and narrative, to art direction, to music and sound, and to technical excellence. I've mentioned it in passing throughout, but the quality is high across the board, and it all resonates well together for a great experience. David Rosen (2008) provides an in-depth video design tour that really clues into all the little details that add up to the overall experience. The game design and story are clever and build well together, and they are complemented by gorgeous art direction that is both wacky and dark. The music and sound effects are stunning, every goo has a unique sound, which only adds to their collective charms, and the variety of music is impressive and just enhances the atmosphere. And technically, the game works well and the physics are rock solid and fair. 2D Boy's attention to detail and quality have helped make the game as great as it is. And the industry has reached a point with distribution channels that enable independent developers to create their own games and get them out through broadband and open delivery systems like Steam and Gametap for computers, along with WiiWare, Xbox Live Arcade and Playstation Network for the current consoles. This seems to herald an independent revolution with high profile games like *Braid, Flow, Fez, Crayon Physics Deluxe, Love*, and many more being independently developed and distributed through mainstream channels.

Another trend in games is user-generated content, and while *World of Goo* doesn't have a level editor, Kyle Gabler informed me that fans from their forums are already working to create a level editor as well as an open-source version of the existing game for modding, and have also developed translated versions and visual player profiles. This will enable other fans of the game to create even more content in relation to *World of Goo* and 2D Boy has been supportive and encouraging of the community development, which in turn has increased the loyalty of their fans, and could also enable more fun and games.

Exploring the narrative plot and the interactive levels has enabled me to show the moments in this game in which units of both elements were working to truly engage me in the experience. It is also a useful method for exploring moments throughout the experience that didn't work as well as they could have. At times certain gameplay mechanics weren't really explained at all. Overall, the zany story development and the variations of the fundamental gameplay help players comprehend the gaming situation, the "combination of ends, means, rules, equipment, and manipulative action" required to play through the game (Eskelinen 2001). That said, I kept my analysis with both diagrams at a general, high-level progression of the plot and the stages of interactivity. I think this was useful, but I also believe it could be interesting to get even more granular with both diagrams and really dig into units that show the details of the diversity of peaks and valleys of interest curve in the development of the plot of the story as well as the moments of engagement, disengagement and reengagement that occur during the progressive stages of interactivity. I think both macro and micro perspectives would be worthwhile to pursue in analyzing and interpreting interactive experiences (Davidson, Well Played, 2008).

Ludic Narrans

A good game can and should teach players what they need to know and do in order to succeed. Ideally, the very act of playing the game should enable players to master the gameplaying units of the gaming situation so they can successfully master the rising challenges and complete the experience. If a game gets too hard, too easy, too confusing, or if it just is too long and seems never-ending, players may not finish. For these reasons and more, players can reach a point where they drop off the curve and lose their sense of engagement, becoming bored, frustrated and tired of playing the game. But if a game enables players to stay on course and continues to hold their attention, players will advance to a point where their immersion develops into an investment in which they truly want to successfully complete the game experience. And when there is a lack in the balance of the interactivity, the story can actually help keep the player engaged in order to move from involvement, through immersion to investment and successfully complete the game (Davidson, 2008).

World of Goo is a great example of how a game can combine gameplay and story together in a resonant manner. I think it has been useful to consider this game (and games in general) from a variety of perspectives. In doing so we can, as Marie-Laure Ryan (2001) notes, observe features that remain invisible from other perspectives. Engaging this medium of videogames, we tell our stories of the game as we relate the varied and visceral experience of the games we play. Noah Falstein (2004) discusses the "natural funativity" of games, how they are activities that help us live in the world. And stories are how we stitch together a continuity of our experiences. They are our "mystories," our stories that enable us to understand the world (Ulmer, 1989). Narratives are how we convey the perspective of our experiences (Meadows, 2002). So, we are both *homo ludens* and *homo narrans*, or as Greg Costikyan (2001) states, "Play is how we learn; stories are how we integrate what we've learned, and how we teach others the things we've learned ourselves through play."

Now, in following the idea that humans begin life in a pre-linguistic consciousness as babies, it seems that we start solely as homo ludens. We literally learn everything through play as we interact with the world. And then we learn language, and a new phase of consciousness begins, one that dominates, shapes, and constrains our worldview for the rest of our lives (Huizinga, 1950). We are now homo narrans, we discursively talk about what we play, what we learn, what we feel, believe, think, etc (Schank, 1995). But being homo narrans does not erase our foundational homo ludens character; we are always already homo ludens, it's just now we talk about it.

I believe that games are an interesting medium, because there are definite para-linguistic activities involved, meaning is conveyed through gesture, space, color, sound and activity and agency. I think one of the reasons these experiences are so compelling is that they enable us to tap more directly into our pre-linguistic homo ludens consciousness as we play them. Of course, we then step back and talk about it, which engages our discursive homo narrans consciousness. Hence, ludic narrans, playful stories (Davidson, stories in between, 2008). I bring this up because I believe *World of Goo* is truly a playful story.

Experiential Themes

World of Goo does a nice job of increasing the complexity of the gameplay along with the satirical story development. In terms of gameplay, the variations are developed and iterated through a combination of a diversity of goos with different abilities, and constructive level design that required you to navigate across environments through building and movement, along with unique theming to every island through which the gameplay mechanics are related. This leads me to how the playful

story also resonates with the actual gameplay. The story is also shared through the theming of the islands, as we move across spaces and times, and through short little cutscenes. And in almost every level, we receive messages from the Sign Painter, and we see messages here and there from MOM. It's a satirically elliptical story with ambiguously ominous hints, which are constructively open to our interpretation. The humor is referential and filled with snarky clues about the fate of the world and of all the goos. The story is related in bits and pieces, and like the gameplay, the story is a puzzle that we can piece together clue by clue and goo by goo as we fill in the blanks and figure it out. Throughout, three themes came to the fore of the gameplaying experience. First, is the overall aesthetic that I've come to think of as GooPunk.

GooPunk

GooPunk refers to steampunk with all the gears and cogs, but with a gooey twist of drips that wobbles deliciously, and combined with the audio and visuals, create a whimsical mood with dark undertones. Second, is the trickster humor found in the Sign Painter.
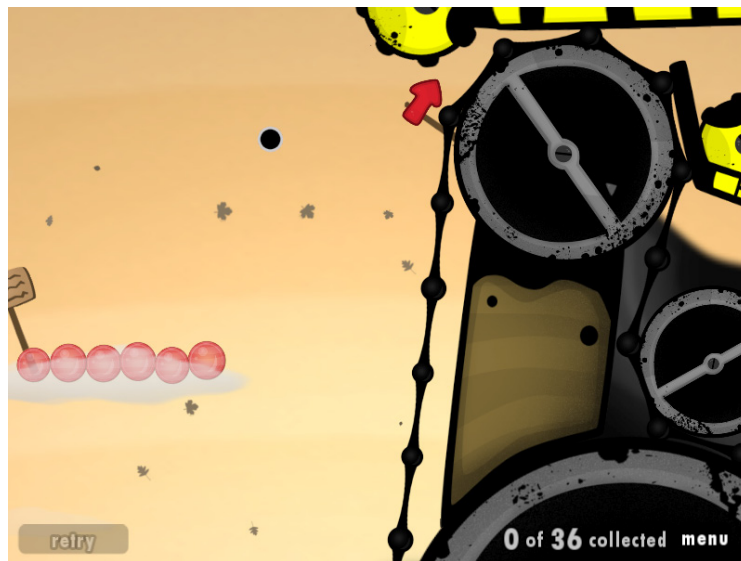
Trickster

As I mentioned above, the story is rather satirical, but even more so, the Sign Painter fulfills the role of the trickster; mischievous and ambiguous, seemingly helpful yet always playful and somehow connected to the creation of this world of goo. Also, Lewis Hyde (1998) notes how tricksters are grounded in dirt, and the goos themselves are dirty, delicious and delightful, and seem to embody the universal trickster spirit. Plus, considering how the story resonates with the development process, I think it would be fair to say 2D Boy represents a trickster in the field. In fact, it made me curious to see more tricksters in games. We definitely see a lot of the hero's journey in games (Campbell 1949), it would be interesting to see even more tricksters.

Friendly Physics

Finally, the idea that physics is your friend became more than just a mantra, it became an experiential theme. In fact, in discussing this with Kyle Gabler, he noted that it was a conscious design choice to make sure all the levels relied on physics so that it was always fair.
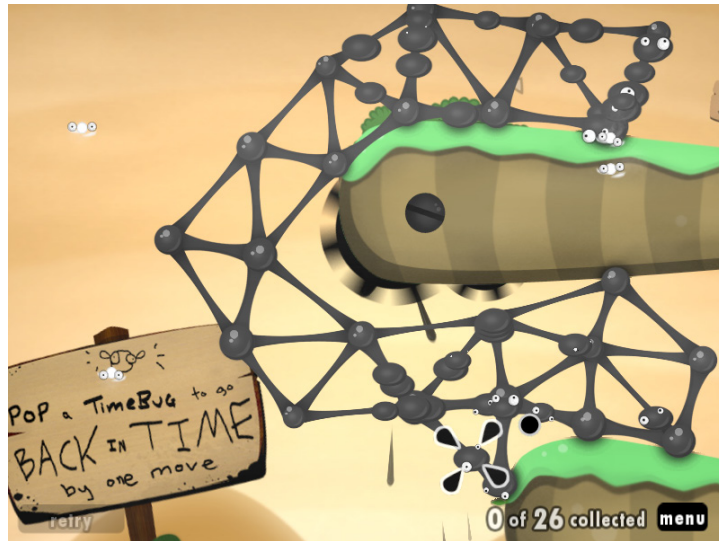
Well Played

A game can be well played in two senses (Davidson, Well Played, 2008). First, well played as in well done, so a game can be looked at in terms of how well it is created. Second, well played as in well read, so through the experience of playing games you can develop a literacy of games. Lev Manovich (2001) notes, when engaging new media (or playing a game), we oscillate "between illusionary segments and interactive segments" that force us to "switch between different mental sets" demanding from us a "cognitive multitasking" that requires "intellectual problem solving, systematic experimentation, and the quick learning of new tasks." So, when the units of story are effectively intertwined with the units of gameplay, the rising action of the plot can parallel the rising challenges of the gameplay, and enable us to have a compellingly engaging experience. There is a definite joy and pleasure, and you feel smart as you figure out the story and how to successfully build a variety of structures with a diversity of goos. *World of Goo* is a game wonderfully well played.
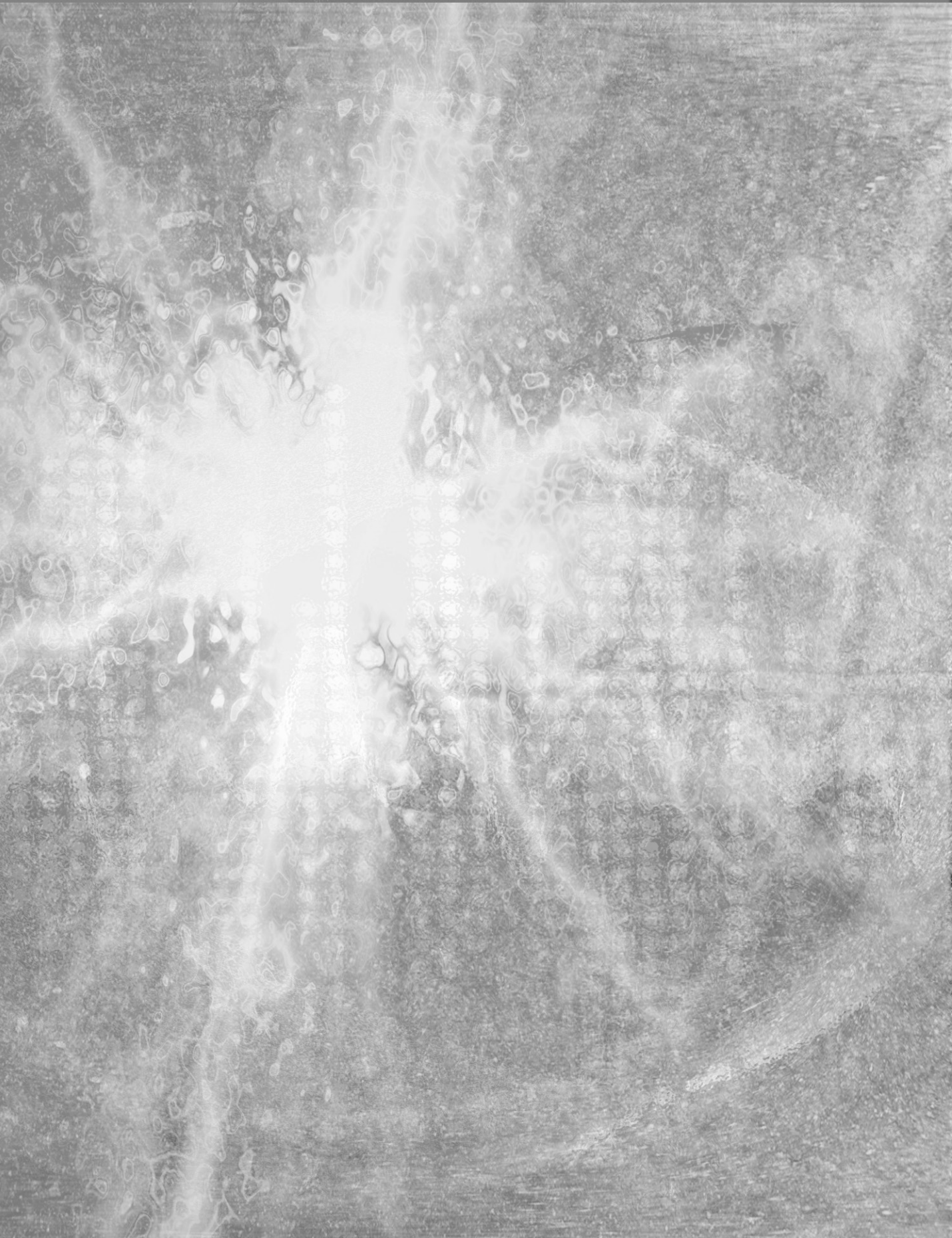
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Kirk Battle is a law student from South Carolina who uses the pseudonym L.B. Jeffries on the internet. After majoring in English, he wandered around the resort scene in California, taught a little creative writing in Vermont, and ended up dead broke on the lower east side of Manhattan. A year of working for the government convinced him that there are some things worse than death so he took the LSAT. He continues to maintain his sanity and artistic sensibilities by posting a weekly on the PopMatters blog, 'Moving Pixels', providing game reviews, and whatever else captures his fancy.

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Mia Consalvo is the Associate Director of Graduate Studies and Associate Professor in the School of Media Arts & Studies at Ohio University. She is the author of Cheating: Gaining Advantage in Videogames (MIT Press, 2007), and is currently co-editor of The Blackwell Handbook of Internet Studies with Charles Ess and Robert Burnett, to be published in 2009. Her research focuses on the hybrid character of the global games industry, as well as gender and sexuality as related to digital gameplay. She has published related work in The Video Game Theory Reader 2, as well as the journals Game Studies, Games & Culture, Television & New Media, and The International Review of Information Ethics.

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Greg Costikyan runs Manifesto Games, a start-up devoted to creating a viable path to market for independently developed games, and Play This Thing!, which runs daily reviews of non-mainstream games. Previously, he was a games researcher for Nokia; and prior to that co-founder of Unplugged Games, one of the first mobile game start-ups in North America. He has designed more than 30 commercially published board, roleplaying, computer, online, social, and mobile games, including five Origins Awards winners (ludography at www.costik.com/ludograf.html); is an inductee into the Adventure Gaming Hall of Fame; and the recipient of the Maverick Award for his tireless promotion of independent games. His essay, "I Have No

Words and I Must Design" is used across the globe in game studies classes, and he has written on games, game design, and game industry business issues for publications including Wall Street Journal Interactive, the New York Times, and The Escapist, as well as chapters to books including SECOND PERSON and BUSINESS AND LEGAL PRIMER FOR GAME DEVELOPMENT. He is also the author of four published science fiction novels.

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Patrick Curry is a game designer, writer and instructor living and working Chicago, IL. Currently serving as the Creative Director at Wideload Games, Patrick has over fifteen years experience creating games and multimedia, having held senior development positions at Midway Games, Skylab Entertainment, and Team SmartyPants! Patrick's recent game design credits include Stubbs the Zombie in Rebel Without a Pulse and John Woo Presents: Stranglehold. Patrick teaches game design and level design at DePaul University's College of Computing and Digital Media.

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Drew Davidson is a professor, producer and player of interactive media. His background spans academic, industry and professional worlds and he is interested in stories across texts, comics, games and other media. He is the Director of the Entertainment Technology Center – Pittsburgh at Carnegie Mellon University and the Editor of ETC Press. http://waxebb.com/

Corvus Elrod

Corvus Elrod is an improvisational storyteller with over twenty years of professional experience. Whether plying his trade on a theater stage or a city street corner, he has searched for ways to craft stories that are ever more meaningful to his audience. While working to use the process of storytelling itself to help people learn to tell their own stories, he began incorporating game mechanics into his performances.

This led Corvus to begin exploring video games as a narrative medium, and he found considerable evidence that game mechanics themselves are powerful storytelling tools. He is now developing the Participatory Storytelling Model, a critical framework for examining the capacity of any media to share the storytelling experience with its audience.

Noah Falstein

Noah Falstein is the President of The Inspiracy (www.theinspiracy.com), a consulting firm specializing in game design and production. He has been designing and producing award-winning games since 1980 (Sinistar, Indiana Jones and the Fate of Atlantis, Hungry Red Planet), and was one of the first ten employees at LucasArts Entertainment, The 3DO Company, and Dreamworks Interactive. The Inspiracy does original design and design review projects worldwide, ranging from corporate training (Cisco, Microsoft) to medical education (Hopelab, Health Media Lab, Medical Cyberworlds) to entertainment (LucasArts, Disney, DreamCatcher, DTP).

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When she isn't geocaching unusual treasures in the privacy of her own home, Mary Flanagan is in the studio in New York or developing games in her laboratory, Tiltfactor, at Dartmouth College. The author/editor of four books on digital culture and a researcher on over 6 NSF funded software projects, Flanagan's approach to design includes a strong theoretical foundation, a sensitivity to culture, a lot of playing around, and a goodly dose of sci-fi. http://www.maryflanagan.com.

Nick Fortugno

Nick Fortugno is a co-founder and President of Rebel Monkey, a NYC-based casual game studio. Before Rebel Monkey, Fortugno was the Director of Game Design at gameLab, where he was a designer, writer and project manager on dozens of commercial and serious games, and served as lead designer on the downloadable blockbuster Diner Dash and the award-winning serious game Ayiti: The Cost of Life. Nick teaches game design and interactive narrative design at Parsons The New School of Design, and has participated in the construction of the school's game design curriculum. Nick is also a co-founder of the Come Out and Play street games festival hosted in New York City and Amsterdam since 2006. His most recent writings can be found in Second Person: Role Playing and Story in Games and Playable Media, published by MIT Press.

James Paul Gee

James Paul Gee is the Mary Lou Fulton Presidential Professor of Literacy Studies at Arizona State University. He is a member of the National Academy of Education. His book Sociolinguistics and Literacies (1990, Third Edition 2007) was one of the founding documents in the formation of the "New Literacy Studies", an interdisciplinary field devoted to studying language, learning, and literacy in an integrated way in the full range of their cognitive, social, and cultural contexts. His book An Introduction to Discourse Analysis (1999, Second Edition 2005) brings together his work on a methodology for studying communication in its cultural settings, an approach that has been widely influential over the last two decades. His most recent books both deal with video games, language, and learning. What Video Games Have to Teach Us About Learning and Literacy (2003, Second Edition 2007) argues that good video games are designed to enhance learning through effective learning principles supported by research in the Learning Sciences. Situated Language and Learning (2004) places video games within an overall theory of learning and literacy and shows how they can help us in thinking about the reform of schools. His most recent book is Good Video Games and Good Learning: Collected Essays (2007). Prof. Gee has published widely in journals in linguistics, psychology, the social sciences, and education.

Charles Herold

Charles Herold runs the Wii game-oriented website nintendo.about.com and writes about gaming for USA Weekend. He wrote the video game review column for The New York Times from 2000 to 2008. Previous to that he covered video games and

technology for timedigital.com and briefly managed his own game review site, The Deskchair Adventurer. He is fascinated by the video game's ability to tell narrative stories interactively, something he hopes to write a book about some day. He is also one hell of a swing dancer.

Clint Hocking

For almost eight years Clint has been at Ubisoft where he has worked as a level designer, game designer, scriptwriter and creative director on the original SPLINTER CELL, on SPLINTER CELL: CHAOS THEORY, and on FAR CRY 2. His current project is unannounced. Before games Clint worked in the web industry and experimented with independent filmmaking while earning an M.F.A in creative writing from the University of British Columbia. He lives happily in Montreal with his wife and their dog.
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Katherine Isbister

Katherine Isbister is director of the Social Game Lab at NYU-Poly, an investigator in the NYU Games for Learning Institute, and an Advisory Committee member of the NYU Game Center. She has written two books: Better Game Characters by Design and Game Usability. Better Game Characters was nominated for a Game Developer Magazine Frontline Award. Isbister serves on the advisory board of the IGDA Games Education Special Interest Group, and on the Editorial Board of the International Journal of Human Computer Studies. In 1999 she was selected as one of MIT Technology Review's TR100 Young Innovators most likely to shape the future of technology.

Nick Montfort

Nick Montfort is assistant professor of digital media at the Massachusetts Institute of Technology. Montfort has collaborated on the blog Grand Text Auto, Implementation, and 2002: A Palindrome Story. He writes poems, text generators, and interactive fiction such as Book and Volume and Ad Verbum. Most recently, he is co-author with Ian Bogost of Racing the Beam: The Atari Video Computer System (MIT Press, 2009). Montfort wrote Twisty Little Passages: An Approach to Interactive Fiction (MIT Press, 2003) and co-edited The Electronic Literature Collection Volume 1 (ELO, 2006) and The New Media Reader (MIT Press, 2003).

Doris C. Rusch

Doris C. Rusch holds a postdoctoral position with the Singapore-MIT GAMBIT Game Lab in the Programme at Comparative Media Studies at MIT. Before that she did postdoctoral work at the Institute for Design and Assessment of Technology at Vienna University of Technology. Her current research investigates the metaphorical potential of games and how it can be used to produce a wide range of emotionally satisfying, thought provoking and insightful experiences. Although her work is theory-driven, Rusch aims at applicability of her research to actual game design with the goal of pushing the boundaries of games as media. Rusch has an eclectic background, having completed studies in German Literature, Philosophy, English and Comparative Media at the University of Vienna, where she also received her Ph.D. in Applied Linguistics.

Jesse Schell

Jesse Schell has taught Game Design and led research projects at Carnegie Mellon's Entertainment Technology Center since 2002. Jesse is also the CEO of Pittsburgh's largest videogame studio, Schell Games, the author of The Art of Game Design: a book of lenses, and the former chairman of the International Game Developers Association. In 2004, he was named one of the world's Top 100 Young Innovators by Technology Review, MIT's magazine of innovation. Before coming to Carnegie Mellon, he was the Creative Director of the Disney Virtual Reality Studio, where he spent seven years as designer, programmer and manager on several projects for Disney theme parks and Disney Online.

Brett E. Shelton

Brett E. Shelton serves as the Director of the Center for Open and Sustainable Learning (COSL) at Utah State University, and is a professor in the Department of Instructional Technology and Learning Sciences. The mission of COSL involves extending educational opportunity to everyone, including the building of hybrid coursework to maximize accessibility of educational resources. He has research interests in effective teaching and learning strategies — grounded in cognitive studies — using advanced visualization technologies and virtual environments. Brett teaches graduate courses in educational games and instructional simulations, and in 2007 served as the editor to the volume The Design and Use of Simulation Computer Games in Education.

Mark Sivak

Mark was born in Groton, Massachusetts in 1983. During his childhood he cultivated a love for games, play and competition with his two brothers, Seth and Scott. Mark received his undergraduate and Master's degree in Mechanical Engineering from Northeastern University. His love for games was not sated in the engineering field so he has been clawing his way into the video games industry with graduate research in games for rehabilitation of stroke patients and games for education of undergraduate engineering students. He has taught game design to High School students and hopes to someday become a professor teaching the next generation of game industry talent about the player experience. He currently lives in Boston, Massachusetts.

Seth Sivak

Seth Sivak is currently a gameplay engineer in Cambridge, MA. He received his undergraduate degree from Northeastern University in mechanical engineering and then traveled to Pittsburgh to attend the Carnegie Mellon University Entertainment Technology Center and study game programming. While there he worked on a new genre of game called an Active-Adventure (www.activeadventuregame.com) and also spent a summer working at Walt Disney Imagineering. He hopes to become a professor someday and look deeper into the journey the player takes through a game. More information can be found at his website: www.sethsivak.com.

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Kurt Squire is an associate professor of Educational Communications and Technology at the University of Wisconsin-Madison and Director of the Games, Learning, and Society Initiative. Squire is the author of over 50 scholarly articles and publications and the co-founder of joystick101.org.

Jason Vandenberghe

Jason VandenBerghe is a designer, technologist, writer, speaker, and director. He has been making AAA action/adventure games for going on thirteen years now. His first game gig was in 1996 (as a programmer on The X-Files Game), and he's never looked back. Of the games he's made, his favorite is still 007: Everything or Nothing, but he hopes that this next one will be even better than that.
He is currently a creative director at Ubisoft Paris.
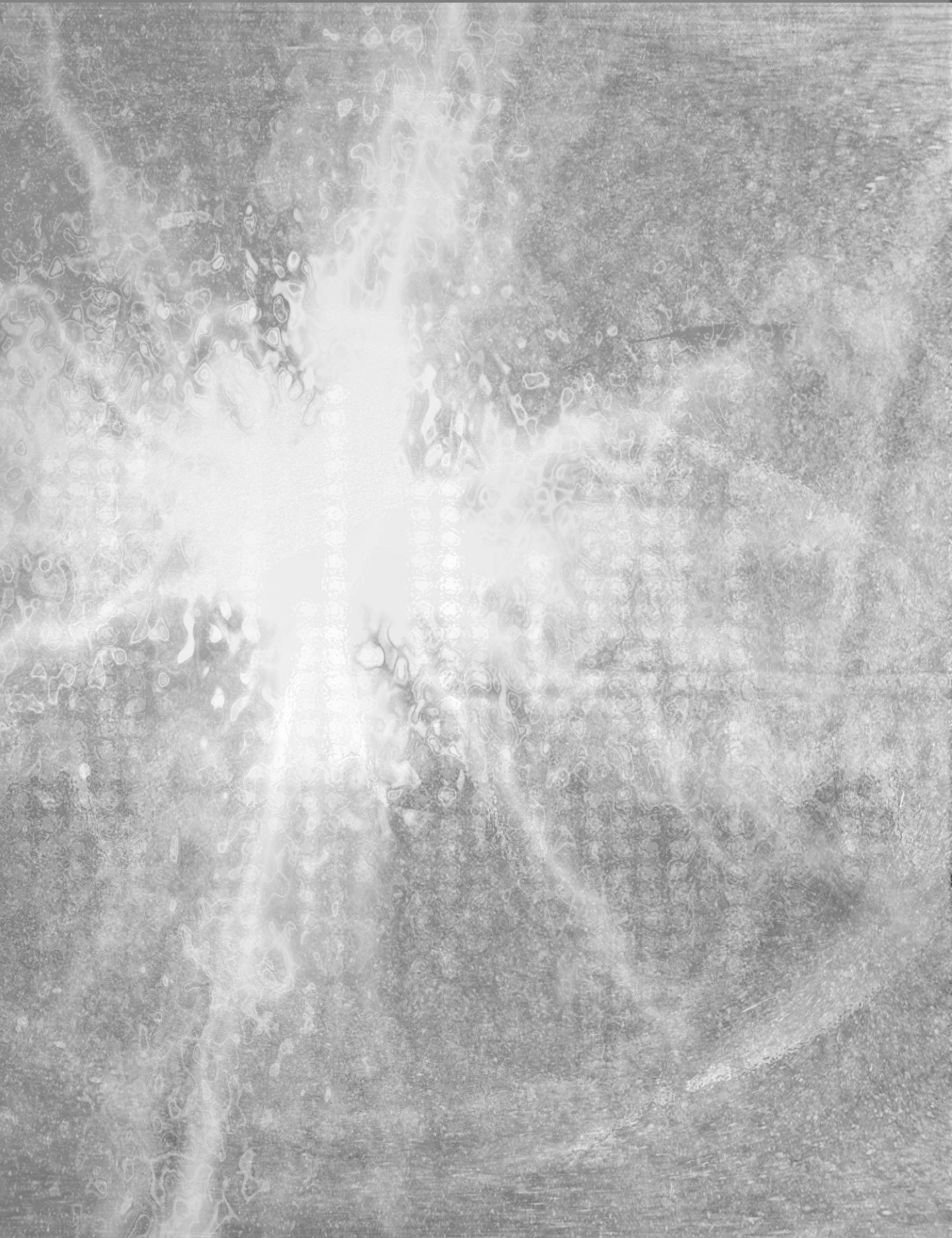
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