

THE CAKE IS NOT A LIE:
NARRATIVE STRUCTURE AND APORIA IN *PORTAL* & *PORTAL 2*

by
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This thesis was prepared under the direction of the candidate's thesis advisor, Dr. Fred Fejes, School of Communication & Multimedia Studies, and has been approved by the members of the supervisory committee. It was submitted to the faculty of the Dorothy F. Schmidt College of Arts and Letters and was accepted in partial fulfillment of the requirements for the degree of Master of Arts.

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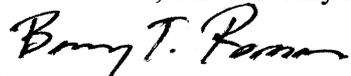
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ABSTRACT

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As puzzle-driven, character based games, *Portal* and *Portal 2*, developed by the Valve Corporation, are not only pioneering in their use of narrative, but they also revolutionize the function of *aporia*. This thesis explores the role of *aporia* and use of narrative in the two video games. It will be argued that the games possess a rigid narrative structure, but while the narrative serves as a peripheral construction, there are other structures that contribute to the experience of gameplay. The research aims to determine how the games adapt narrative and use it in combination with other elements to move beyond simple play and storytelling. As video games become more widely studied in academia, it is important that they merit and maintain standing; *Portal* and *Portal 2* not only provide a rich gameplay experience, but also offer a particular interaction not found in other texts.

DEDICATION

To the two strongest women in my life: my mother and grandmother. Through demonstration and encouragement, they imparted the knowledge, power, and determination to attain my ambitions.

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I. INTRODUCTION

“Momentum; A function of mass and velocity; is conserved between portals. In layman's terms: Speedy-thing goes in, Speedy-thing comes out”

- GLaDOS

This thesis project will explore the role and use of narrative in the *Portal* games (*Portal* and *Portal 2*) developed by the Valve Corporation, as well as the elements beyond narrative, such as puzzle, strategy, role-playing, and adventure, included in the games. As the opening quote suggests by first providing a scientific explanation followed by a more straightforward one, this chapter will condense the mass of previous research on the topic into a manageable explanation as it relates to the research as well assert the main argument of the project. It is argued that the *Portal* games have a rigid narrative structure, but the narrative serves merely as a peripheral construction in the game while there are other significant structures that contribute to the experience of game play in *Portal* and *Portal 2*. At its release in 2007, the original *Portal* game was hailed as “one of the most innovative new games on the horizon and will offer gamers hours of unique gameplay... designed to change the way players approach, manipulate, and surmise the possibilities in a given environment” (*The Orange Box*). As a puzzle driven character based games, *Portal* and *Portal 2* are not only pioneering in their use of narrative, but they also revolutionize the function of aporia. What this research aims to determine is how the games adapt narrative and use it in combination with other elements to move

beyond simple play and storytelling. Games like *Portal* and *Portal 2* not only provide a rich gameplay experience, but they also offer a particular interaction not found other texts.

Significance & Focus

The way *Portal* and *Portal 2* use and adopt narrative merits scholarly inquiry for several reasons. On a broad scale, the proposed research will be an addition to the ongoing debate of narratology and ludology. The appearance of narrative in video games has been a point of contention amongst scholars for some time. Narratologists insist that video games are an expansion of literature, and thus argue that video games should be studied from a more literary perspective. They hold that the story or narrative present in any particular game is the most important element in creating an immersive experience for players, and that the most educated insight can be gained from studying these narratives. Ludologists, on the other hand, hold that there is more to the immersive experience in video games than narrative, and therefore, video games should be viewed, in academic study, as a set of rules that provide an exclusive experience. They insist that video games do not fit into literary studies and should remain as an individual field. More recently, a push has been made towards a merging of narratology and ludology. While many scholars still hold firmly to one side or the other, others have begun to note the benefits of studying the ontological elements of video games in conjunction with narrative. Ian Bogost, for example, points out: “what [a video game] really is: not a strategic, rhetorical, or political question, at least not primarily so. Rather, it is an ontological question.” This thesis adopts the merged position. By studying *Portal* and

Portal 2 from both perspectives, this research aspires to clarify how games can incorporate narrative but still remain distinct from more traditional narrative media.

As can be deduced from the argument of ludology, narrative is not always the dominant factor in a video game. When playing a video game, one encounters more experiences than merely navigating through the story. Players may need to use logic to solve puzzles and utilize strategy skills to lead armies or run through an area undetected. They could be required to repeat sequences over in trial and error efforts or have to learn skills and combinations of moves in order to succeed. There is always the potential for a variety of these elements, and countless others, as well as a mixture of them in video games. Based on the knowledge that many games incorporate different tasks and experiences for players, this project will additionally attempt to determine to what extent puzzle, strategy, role-playing, adventure (as separate from narrative), and aporia are used in *Portal* and *Portal 2*.

While multitudes of video games employ and incorporate narrative, they all do so to different extents and in different ways. Some games may use narrative to simply give the player a backstory as an explanation for occurrences or to set up the structure of the game. Others may use narrative as a force to draw the player in and keep her interested with choices and varying storylines. Still others will use narrative as an overall structure to guide the player through the various tasks to the end. Each video game manipulates narrative distinctively. It is thus important to ascertain how narrative is used and adapted because each reworking will yield a distinctive experience for players. The more that is known about how narrative behaves in a game, the simpler it becomes to establish what other elements are assimilated into the game. This line of inquiry will yield insight into

the possible ways in which video games can alter and transform narrative, and ultimately how they can create a more authentic immersive experience.

Portal and *Portal 2* represent a shift in the genre and a move towards something new for video games. While the fundamental reasons for playing continue to endure, *Portal* and *Portal 2* signify a break in convention and reinvent expectations for the genre. Video games as they are currently recognized will not cease to exist; rather, their design and conventions will evolve in order to keep the audience's attention so players do not become bored with the usual customs. It is an interesting moment for video game studies, and the Narratology versus Ludology debate is what is at stake. To enhance the study of future games, scholars need to better understand and trace the impulse to play video games as well as determine how game designers can better provide players with the means to attain basic needs through game play. The effect of playing a game with the appearance of control and fulfillment provided by completion and rewards is something that future studies will need to comprehend.

Researchers have postulated many reasons for why people play video games, and while escapism has long been a leading theory, a more accurate explanation is that video games allow players to experiment with different identities, traits, places, and satisfy some basic human psychological needs (Reeves). While these reasons could be considered as players looking for an escape, it is better understood as a search for control and fulfillment. Video games have often been seen as a diversion from life for players, but they are actually more of a coping mechanism. A player cannot always have control over her life outcomes, but in a video game, she exerts agency over every action and resulting conclusion. While enabling a feeling of freedom and control, video games also

provide more constant and frequent reinforcement than players may get in real life (Reeves). A player may feel frustrated at a job when her hard work goes unnoticed, but a video game will always provide some type of reward for a player's effort and determination. Most experienced gamers realize that they do not actually have control over the game because everything from the quests, obstacles, goals, villains, and solutions is predetermined by the game's designers; what make the games enjoyable, however, are the illusions of freedom, control and recognition the game promises. A player may logically understand that there is only one resolution in the game, but when playing, she still feels in control of creating that solution and moving forward.

Unfortunately for game designers, players can only go around killing monsters and collecting items for so long before the illusion starts to wear off and the rewards lose their appeal. There are so many first-person-shooters (FPSs) on the market that they all begin to blend together with the same objectives: kill enemies and collect items or money. With all the similarities, even in games that may seem different at first glance, it becomes harder to maintain the impression of control in a game. Understandably, gamers will become increasingly frustrated by the repetitive nature of games; after playing long enough, the mechanics of the game become apparent and it is easy to see through the guise of power. When the mechanics lose their initial transparency, the player can see them for what they are and thus become bored; the games no longer provide the same allure. Because of this conundrum, designers need to consider the gamer's impulse for playing in order to improve mechanics; reinventing unique game play allows for the renewed interest of the player.

The designers of *Portal* and *Portal 2* have devised an inventive method of drawing players into the game world and making them believe they are in control of the character and inventing solutions; the two games are successful because they provide players with a new illusion of immersion and control in a FPS. It is no longer enough for players to merely save the princess and kill things; they should be challenged, discouraged, and be forced to imagine and test various ideas to be able to progress. The new pressures put on players adds to the feeling of control and satisfaction at completing a challenge. With so many factors to consider, constant interruptions, and obstacles, players are likely to forget that the conclusions in the game have been predetermined. Players obtain a sense of accomplishment when they discover the way out of a test chamber even though it was actually the designers who originally created the solution. The impression of influence is important for video games because it is what keeps players interested; no one wants to feel that her life is controlled by someone else, and the same holds true for one's life in a video game.

Portal and *Portal 2* are groundbreaking in providing players with the illusion of control and power in an environment that has fixed solutions and generally only one path to success. Constant impediments and the demand to overcome them in unique ways are what make the games exciting; players may be unable to overcome obstacles in their daily lives, but in the game, a player experiences success when the obstacle is breached and the villain overthrown. Even if the reward for completing a test successfully is more creative insults and further incomprehensible tests, players persist for the feeling of accomplishment and recognition.

Portal and *Portal 2* signal the step towards developing new customs in video games by allow the illusion of freedom (to move and solve the puzzles), when, in fact, the player is actually trapped as a prisoner in Aperture Laboratories; even though players are constantly challenged and insulted, they do not give up and continue to play the game, finding solutions to each of the tests. At first glance, gamers appear masochistic and to enjoy the suffering inflicted while playing, but actually, the suffering is what makes the achievement even more gratifying in the end. The appearance of impasse and illusion of aporia and control are what make the games exciting for players. The player will feel successful even if the solution is scripted; because of the unique game design, the player still feels creative and in control of the outcome of the game.

In sum, this thesis argues that the debate of narratology and ludology can be solved through aporia. As previously mentioned, Ludologists and Narratologists get lost in the argument of what creates an authentic immersive experience for players (rules or narrative); however, they fail to recognize that the disruption of both is what actually draws players in. Originating from Greek, aporia is composed of the roots *a* and *poros*, translating to *without passage* (OED). *Portal* and *Portal 2* foster an atmosphere of aporia to offer a unique experience by depositing a player in seemingly impassable chambers while providing her with the ingenious means to overcome the impasses with portals. The aporia frustrates as well as challenges players; when a player encounters aporia she is reaching the limits of rules and narrative. Players cannot rely on the narrative or their own experiences in *Portal* and *Portal 2*; instead, as the game's catch phrases suggests, players must "think with portals" in order to traverse the aporia.

Aporia is strongest in *Portal* and *Portal 2* where the rules and narrative reach their threshold. The demand of negotiating the aporia serves to distinguish the games from traditional narratives by forcing the player to decide what matters and how to overcome the impediment. In order to successfully navigate the obstacles created by aporia, players must rely on problem solving skills and the rules required by the unique game logic. The resulting epiphany from overcoming moments of aporia in the games provides progression and consequently renders the narrative as a simulacrum. Instances of aporia in the games restrain the typical conditions of rules and narrative; it is only when these are broken that players can be drawn into an immersive experience. I suggest that for future games to create authentic immersive experiences they must set aside narrative and rules in favor of focusing on aporia in the creation of environments that are unpredictable and inhibit players from using normal modes of judgment

Background

The central bodies of literature that inform this analysis are ergodic texts, game design, interactivity, narratology and ludology.

Ergodic Texts – Early Video Games

In 1997 Espen Aarseth connected his idea of ergodic texts to video games. The games Aarseth considered at the time (for example *Zork* and *Adventure*) are entirely or largely text-based, and thus they possess a strong connection to the cybertexts and hypertexts he analyzes in the rest of his book, *Cybertext: Perspectives on Ergodic Literature*. While many current video games require more interaction than simply reading

and typing text on a screen, it is evident that many video games of the current century have roots in ergodic text and cybertext.

Espen Aarseth is often viewed as a forerunner in cybertext theory. He suggests that a cybertext

focuses on the mechanical organization of the text, by positing the intricacies of the medium as an integral part of the literary exchange. However, it also centers attention on the consumer, or user, of the text, as a more integrated figure than even reader-response theorists would claim. (1)

Cybertexts engage both the author and the reader. Traditional texts present fully formed worlds for their readers to visit. Aarseth claims that, “A reader, however strongly engaged in the unfolding of a narrative is powerless...the reader’s pleasure is the pleasure of the voyeur. Safe, but impotent” (4). A reader of traditional texts generally follows the exploits of a character without actively participating in the arrangement of the novel. Cybertexts, on the other hand provide a completely different reader experience: “The cybertext reader... is not safe, and therefore, it can be argued, she is not a reader. The cybertext puts its would-be reader at risk: the risk of rejection” (4). The reader of a cybertext takes a dynamic part in the arrangement of the text; he/she is given a choice and can exert power over the text. Cybertexts can be seen as kin of videogames in that they promote the idea that a player should have power over the specific experience.

Aarseth goes on to coin the term “ergodic.” He describes ergodic texts as those with which “the user will have effectuated a semiotic sequence, and this selective movement is a work of physical construction that the various concepts of ‘reading’ do not account for” (1). In an encounter with an ergodic text, a person is endowed with a power

over the arrangement of experiences, which cannot be achieved through the conventional idea of reading where the person has no control over the content. Aarseth makes the case that with ergodic texts, the reader will be actively involved in the experience. Rather than simply passing one's eyes over the pages, "nontrivial effort is required to allow the reader to traverse the text" (2). The reader must pay attention to the ergodic text, and actively seek out what action, if any, is taking place.

Ergodic texts have an added emphasis on the individual. While cybertexts can be ergodic, they do not have to be; the reader takes a more active role in reading an ergodic text than simply clicking on a hyperlink. Ergodic texts do not merely allow the individual to choose how to read them – they force her to interact with the text; each individual experience of an ergodic text will not be the same as the next. Eric Hayot and Edward Wesp argue that in an ergodic text "Reading . . . is an act of ownership as much as it is an act of the imagination; in fact one might say that it is an act of ownership over the imagination" (405). In taking control of the text, the reader takes possession of the text by manipulating it so that he/she encounters it as desired. As Virres points out, "a reader becomes an author" (157). Rather than the author laying a map for the reader's imagination to follow, ergodic texts let the reader chart his/her own path. Hayot and Wesp note that:

Ergodic texts actively encourage the reader to make decisions, and moreover make visible and central that act of decision-making: the active enactment of choice (as opposed to the naturalized "choice" to turn to the next page, or to keep reading left to right) is what makes the ergodic difference stick. (406)

In traditional narrative literature the only choice the reader has if he/she wants to continue the tale is to turn the page (or in the case of film, keep watching). The reader could, theoretically, make the choice to skip pages, but that would result in a break in the narrative causing confusion for the reader. When reading an ergodic text, on the other hand, the reader can choose to skip sections without distorting the narrative.

While Aarseth's ideas of ergodic texts can be seen in some cybertexts, the basic ideas he originally applies to text based games are even more prevalent in current video games. Before the introduction of ergodic texts, readers had more linear novels in which authors created worlds for their readers to visit. A reader of a book, for example, generally follows the exploits of a character without actively participating in the arrangement of the novel. It is true that the imagination is an active participant in reading, but the individual does not orchestrate the presented events¹. Even heavily footnoted texts or those which interweave two narratives (for example, *House of Leaves*, *Kiss of the Spider Woman*, *The Raw Shark Texts*, and *Finnegans Wake*) cannot necessarily be described as ergodic. As Aarseth notes:

a copy of a novel such as *Finnegans Wake* is not ergodic (or only trivially so), since the concretizations will invoke the same sequence of signifiers every time...for even if they should break with narrative tradition (as is the case with *FW*), their anti-narrative ambitions are based on the sequential, closed form of narrativity. (33)

¹ Children's Choose Your Own Adventure books are a notable exception in which the reader does select how events unfold; however, these books are often drafted to have only one or two correct choices of "paths" through the narrative.

In such texts, a reader may have some agency in deciding how to follow the narratives, but he/she will still arrive at the same conclusion. A video game player, on the other hand, often takes a dynamic part in making decisions that affect the path and outcome of the game. Aarseth argues that ergodic texts provide readers with power and choice, leading to a unique individual experience for the mind and body while reading; video games provide this specific experience in a way that a traditional literary text never could. Ergodic texts are dependent on the player. They require participation and engagement; narrative progression and action cannot be achieved without the player.

Video Game Design

While it is clear that games have ergodic components, they are decidedly different from the simpler ergodic texts described by Aarseth. In order to understand the differences, one must consider the design and factors that underlie many video games. As Michelle Dickey asserts in “Engaging by Design,” “Although the primary purpose of games is entertainment, the underlying design employs a variety of strategies and techniques intended to engage players in ‘gameplay’” (67). One of the primary goals of video games is to entertain the consumer, but there are a lot of tactics that game developers must employ to achieve that end. Dickey goes on to explain:

Strategies of design that lead to engagement may differ depending on the game genre, but may include role playing, narrative arcs, challenges, and interactive choices within the game, as well as interaction with other players. Depending on the genre and individual game, players may be

required to analyze, synthesize, and use critical thinking skills in order to play and execute moves. (67)

While providing a pleasurable experience for players is the ultimate objective of video games, it is obtained in different ways depending on the game and its genre. Game developers constantly utilize and tweak the many techniques for engagement so that game players are presented with new challenges and different experiences with each game. The variety of options available to game developers ensures that new rules for game play can always be established and incorporated into games to push them beyond simple storytelling.

Although there are numerous methods for developers to construct games, there are general constants across all games. Jenny Levine, in “Why Gaming?,” lays out things that players can generally expect from any game. First, “*There's always an answer. You might be frustrated for a while, you might even never find it, but you know it's there*” (Levine 19). One of the first rules of game design is that there must be a way to complete the challenges; while it may be hard for players to understand and overcome challenges in a game, there is always some sort of solution; To illustrate this point, Aarseth explains a challenge in *Doom*:

At a certain place [in *Doom*], the player emerges ... looking out over a lower area filled with gnawing, slashing, lethal pink monsters... the player may attempt to run around the monsters, or to gun them down, but the monsters are too many, so it will not work either way. Perhaps, the player thinks, I am simply not fast enough, or lucky enough; and he will try and retry ... [this] may lead the player to abandon the game. But there is a solution, which demands a totally different

approach: Near the monsters there is a series of barrels with toxic waste, any one of which...will explode if fired at... killing all the monsters. (38)

Aarseth's example demonstrates that no matter how frustrating a video game challenge may seem to a player, there is always some type of solution. Players can also expect that, "*The world is a logical, human-friendly place. Games are basically fair. Events may be random but not inexplicable*" (19). A game will generally be understandable by all players; one might have to experiment or read a rule manual, but he/she will eventually be able to grasp the game logic. Finally, "*Trial-and-error is almost always the best plan. It's the only way to advance in most games, even if you ultimately break down and buy a strategy guide*" (19). In many games, levels or quests can only be completed by trying a number of different strategies. Gamers are commonly aware of these constants in games, but they also know that no matter what constants exist across games, each game will provide a new and exclusive experience.

Interactivity in Video Games

One of the most cited elements that make games different from more traditional ideas of narrative is the interactivity present in video games. The struggle then becomes how to define interactivity.

More basic forms of interactivity are concerned with physical elements of games; for example, when using a Nintendo Wii or Xbox Kinect the player is required to move his/her body to control the avatar on the screen. In *The Nature of Computer Games: Play as Semiosis*, Myers describes definitions that focus on physical components as "formal," having to do with "observable behaviors associated with stimulus-response pairs" (74).

One definition of formal interactivity, offered by Andrew Mactavish, states that interactivity is “necessary to the performance of technological splendor, a performance that is shared between the player and the game’s designers [...] the gamer is more deeply involved in a *physically* active performance” (45). For Mactavish, interactivity in games results from physical contact with the game components as well as the communication that takes place abstractly with the game’s designers, or the game’s coding. Players physically interact through the controls of the game, but also interact with the game’s designers and coding by making selections that will ultimately decide which quests are accepted or which parts of the game are completed. In this formal definition, the physicality of the interaction takes precedence over any other type of exchange.

Other definitions focus on social aspects of games for players. Myers defines these as “functional definitions” which “reference the value of interactivity within either social contexts or individual experiences” (*Nature of Computer Games* 74). For example, many games contain an online option where players can join campaigns to compete or cooperate with other players also using the game. In his article “Stories for Eye, Ear, and Muscles: Video Games, Media, and Embodied Experiences,” Torben Grodal states that “video games and other types of interactive virtual reality are simulations of basic modes of real-life experiences” (129). Grodal implies that interactivity is created simply by replicating and simulating situations that one could possibly encounter both in and outside of a game. The simulated interaction and decisions a player makes provides her with an individual experience or present multiple players with the chance to collaborate and work collectively.

The formal and functional definitions of interactivity should not be used alone. Rather, some sort of combination of the two is necessary. Chris Crawford, in his article “Interactive Storytelling,” takes the formal definition a step further by having the action of the player affect the game; he claims that “the first-cut answer is simple: the user must be able to make dramatically interesting changes” (263). For a game to be truly interactive, the player’s choices must matter to a degree that alters the game from player to player. Each person who plays an interactive game will have an individual experience. Similarly, David Myers expands the functional definition; he states, “Interactivity...is given a unique function during play” (941). He continues to explain that “interactivity indicates the process by which a human player activates and values those significations motivated by game design and form. Interactivity is therefore to be considered [...] as a functional, interpretive process” (Myers 92). For Myers, interactivity is the process of relating to, interpreting, and analyzing the situations encountered within the game world. However, it could be argued that a player will do these things even in less interactive games; thus, a combination of Myer’s and Crawford’s definitions (or the formal and functional) works best for determining the level of interactivity present in a game. In a truly interactive game, a player will relate to, interpret, and analyze the situations that are encountered as well as make decisions that significantly affect the game. The interactivity present in many video games is often cited as one of the major concepts that separates games from narratives.

The Debate of Narratology & Ludology

A common struggle amongst video game theorists has been the extent to which games employ narrative. Game scholars have often aligned themselves with studying either the narratology or ludology of video games. Narratologists focus on the use of story or narrative in video games while ludologists insist that there is more to video games than playing through a story. Both sides make convincing arguments, but to understand the ludologists, it is first necessary to understand the presence and role of narration in video games.

Narratology is “The study of the structure and function of narrative, esp. (in structuralist and post-structuralist theory) ... the examination and classification of the traditional themes, conventions, and symbols of the narrated story” (OED). A narratologist studying video games would be interested in examining the themes, conventions, and symbols of the narrative found in a given game. Narratologists have as many reasons for studying the stories of games as ludologists have for not studying them. Jan Simons argues, “During the last quarter of a century, narrativity has been a key concept in the humanities ... Narrative became generally considered as the core pattern for cognition, comprehension and explanation and as the most important tool for construing identities and histories.” Since narrative has played such a large role in not only academics but society as a whole, it follows that many scholars would want to study the literary aspects of video games. In “The Gaming Situation,” Markku Eskelinen cites Gerald Prince’s definition of narrative: “the recounting (as product and process, object and act, structure and structuration) of one or more real or fictitious events communicated by one, two or several (more or less overt) narrators to one, two or several (more or less

overt) narratee.” By this definition, narrative is basically the re-telling of real or fictional events. Diane Carr elaborates that “Narrative theory is concerned with the ways in which a narrative text communicates events, settings, characters and perspectives” (32).

Narratologists then concentrate on the ways in which video games impart stories to their players.

While ludologists constantly contest narratology, there is some basic level of narration in many games. Jenny Levine explains:

Even the most violent video game has a narrative, while many fantasy and role-playing titles have very rich, detailed narratives that exist behind the action of the game. Whole worlds are created, characters are created with backstories, and completed tasks lead to a resolution that makes sense for those characters in that world. Even the most basic games have this in common with the most complex ones. (“Why Gaming” 12)

It may not be the dominant factor of a game, but some element of narrative (no matter how small or inconsequential) appears in most video games. Levine continues to argue that, “Although a player [...] is operating in an open-ended experience, one that lets the player dictate what happens next based on his or her actions, there is still a linear progression of tasks – in essence, a story – through which the player must progress to reach the next level or to win the game (“Why Gaming” 12). Many games offer players choices of how to proceed in the game, giving the player a sense of control over the experience, but those choices are guided by the overall narrative. In this way, even minimal dialogue and narrative serve as plot propellants. Schubert explains that narrative used in this manner is useful when “the player is expected to play the role of the

protagonist [...] these stories provide an explanation for why the player is doing what he's doing." The narrative background gives the player a sense of purpose that adds to the overall enjoyment.

Some ludologists argue that in examining the role of narrative in games, narratologists overlook the other elements games have to offer. Narratologists are content to focus on the narrative elements of video games. In "Games have Stories to Tell," Kit Ward-Crixell states, "Storytelling can extend beyond the covers of a book. Many video games have plots as complex and gripping as movies and novels [...] games] turn players into protagonists in overarching plots" (28). Narratology often assumes a player is merely the protagonist in a virtual book. Levine argues that "If playing a video game only were about shooting, racing, or moving around, developers wouldn't bother with these elaborate stories or with creating characters and infusing the characters with pasts" ("Why Gaming" 12). While it is true that playing a video game is not only about "shooting, racing, or moving around," playing a game is also not solely focused on the narrative. The problem becomes that the gamer is not simply idly playing through a story. Gonzalo Frasca points out that readers know "No matter how badly literary theorists remind us of the active role of the reader, that train will hit Anna Karenina and Oedipus will kill his father and sleep with his mother" (227). The actions of game players, however, can alter the course and conclusion of a game. Jesper Juul notes, "playing a game includes the awareness that the game session is just one out of many possible to be had from *this game*" ("Games Telling Stories"). Not only can players affect the outcome of a game, but they can replay the game for a completely different experience even if the narrative remains relatively the same.

While narratology and the study of narrative are not a new idea, ludology is a relatively fresh field for video game scholars. Ludologists hold that there is little place for narratology in video game studies. These researchers insist that the study of video game's structure and rules hold more value for academic scholarship. Janet Murray explains, "According to this view... computer games in particular display a unique formalism which defines them as a discreet experience, a different genre from narrative, drama, poetry... The proper study of games is therefore an analysis of this unique formalism." Ludologists study the formal rules and experience that games provide as a distinct experience, separate from reading a novel. Murray goes on to note that, "by calling attention to the formal properties of games, they have opened up a range of productive questions about the definition of games, the form of games, the boundaries between games and other cultural forms, that can be addressed from many directions" (J. Murray). Inquires that push the boundaries and definitions of video games would not be possible without the addition of ludologists' perspectives.

For ludologists, the focus of a video game should be on the player rather than the "other." Here, "other" is used to denote the separation present between an individual and another (in literature this may be the separation between the reader and characters); video games try to destroy that separation by having the player take on the persona of the protagonist. Aarseth explains that ludologists, "We might say that, unlike literature, games are not about the Other, they are about the Self...games focus on self-mastery and exploration of the external world, not exploration of interpersonal relationships (except for multiplayer games)" (qtd. in Simons). The focuses of video game play are generally

gaining expertise and investigation of the game world; while the extent will vary for each individual, the focus for players is not on narrative elements.

One aspect that defines ludology is its focus on the player and his/her interaction with the game. Jan Simons explains, “According to ludologists, the major difference between games and narratives is that the former address ‘external observers’ who apprehend ‘what has happened,’ whereas the latter require ‘involved players’ who care about ‘what is going to happen’.” In narratology, the focus is on the story and what happens; ludology is concerned with the individual interaction of what will or can happen. The role of agency is an important contention among narratologist and ludologists; with video games, with player has (or at least feel as if he/she has) control over the experience. Narratologists, however, often assume that agency does not exist. As Simons points out:

By watching many players interact with the system, the observer has begun to discern the devices that control the plot in the face of player interaction. This observer will conclude that the player has no true agency, that the player is not able to form any intentions within the dramatic world that actually matter. But the first-time player within the world is experiencing agency.

To the casual observer of a video game, it may appear that the player possesses little to no actual control over decision and the progression of the game, but what ludologists note and are concerned with is that players do experience and have a sense of agency. What is important with “game design is indeed to make the player *believe* she is in control”

(Simons). Rather than focusing on the game itself, ludologists often emphasize the player's experience.

Ludologists hold firm to the idea that video games and stories/narrative exist as two distinct objects. The segregation of the two emanates from Juul's and Aarseth's claim that "the plot of a story cannot be extracted from a game based on that story, while in the inverse translation from game to story the rules of the game get lost" (Simons). When one tries to remove the story and make it something separate from the game, the plot gets confused. Similarly, when one tries to translate game to story (as can be seen in movies based on video games such as *Resident Evil* and *Doom*), the rules and experience of the player vanish.

In protest of narratology, Aarseth writes, "These [narrative] theories were not developed with the digital media in mind, and their original objects are still valid as the focus of their perspectives" (32). Aarseth and other supporters of ludology do not disregard narrative theory completely; they simply hold that it should not be used in video game studies since digital media is distinct from the original objects of narratology (books and other traditional texts). Aarseth continues, "...my assumption is here that new media call for new perspectives and conceptual frameworks; and that we must step back from our theories if we are to see something not already inscribed in them" (32). While older theories may be capable of being applied to video games, new perspectives are necessary for grappling with the concepts presented by digital media.

What many narratologists and ludologists fail to recognize is that video game studies may benefit by combining the two factions. According to Aarseth, "Indeed to the true believer in game essentialism, even the voluptuous Lara Croft is perceived as merely

another game counter, an instrument for engaging with the rules” (qtd. in J. Murray). The view that the characters are mere vehicles for engagement seems to be a bit extreme considering that some elements of narrative can be seen in most games. As Simons proposes, “It does not make much sense to dismiss narratology wholesale and to propose alternatives like ‘simulation’... the boundaries between games and narrative are not very clear-cut, narrative often plays a significant role in games.” Most games do contain some element of story, and, as such, it seems foolish to wholly dismiss the narrative aspects of video games. Therefore, a blend of narratology and ludology is proposed and used for examining *Portal* and *Portal 2* in this research.

Beyond Narrative and Interactivity

Neither narrative nor interactivity can stand alone when studying video games. When narration and interactivity are combined, one can begin to reach an idea of the exclusive experience of video games. As Steven Johnson illuminates, “it’s not *what* you’re thinking about when you’re playing a game, it’s *the way* you’re thinking that matters” (40). Video games do not use narrative to dictate what a player should think about, but rather to make them think in new ways.

While there is a definite move to alter the function of story in games, some tropes of narrative are still employed in numerous video games. On a basic level, many games have a narrative of some sort as their foundation. In some games the narrative elements will be obvious and the main way a player experiences the game, in others the narrative components will be less apparent. However, as Juul highlights, “Narratives may be fundamental to human thought, but this does not mean that everything *should* be

described in narrative terms. And that something can be presented in narrative form does not mean that it *is* narrative” (“Games Telling Stories”). Although many games certainly have narrative elements, they should not necessarily be defined as narratives. Aarseth notes that:

The relationship between the narrative and the ergodic is dialectic, not dichotomic. Narrative structures and elements can be found in ergodic works, and narrative works may contain ergodic features, to the extent that only a single element from one mode is found in a work belonging to the other. A typical example is a narrative work that contains a single forking path, such as Ayn Rand’s *Night of January 16th*, a play with two alternative endings, or an ergodic work...that forces a narrative structure...on its players. (34)

The ergodic and narrative generally interact, rather than compete, with one another in video games; however, the ergodic element generally overpowers that of the narrative in video games.

Game developers have taken the basic ideas of narrative and altered them to serve their own designs. While video games may have roots in narrative, they are moving away from them. As Tong and Tan comment, “narrative continuity and coherence becomes secondary and subordinated to the simulation of an immersive virtual environment [...] Games might, at times, incorporate engaging storylines but even these are often fragmented [...] Any form of narrative that is interwoven into the game becomes subordinated to the linear logic of the game sequence” (99). While games use narrative, it can often go unnoticed by players. Narrative becomes secondary to the logic and mastery of skills needed to work through objectives.

While video games contain narrative elements, the focus on them is diminished in comparison to the other possibilities the games offer. Mactavish supplies an explanation for the reduction of narrative features; he says that “when all meaning is reduced to language, there is very little room left to imagine a phenomenology of sensual experience that can account for the intensely visual and auditory performances that characterize even the most strongly narrative of today’s media-rich computer games” (36). Games are no longer based on and reliant upon text because the visual and auditory experience of game playing has just as much to offer players; with the expansion of technology, games have been able to advance by offering users options beyond narrative. Mactavish goes on to clarify:

this does not mean that internal narrative is not important to computer games, but it does suggest that it is not the only or even the central element of computer gaming pleasure. The more fascinating story for many dedicated gamers is the story of gaming technology itself, a story in which players participate through their own performance of the game’s technology. (46)

More important than narrative and storyline, for many players is the interaction with technology. Players take pleasure not only in conquering the levels and skills needed to complete a game but also in mastering the technology itself. It is suggested that one cannot fully appreciate or understand game play without an understanding of how to use and manipulate the medium.

An often cited difference between traditional narratives and games is the ability for players to participate in modifying the narrative. On a basic level, players are able to modify many computer games by simply changing or adding to the code of a game:

“some have even gone so far as allowing gamers to create their own levels, characters and inventories for the games” (Bryce & Rutter 75). Frasca explains that “traditional narrative media lacks the ‘feature’ of allowing modifications to the stories, even if expectations [of alteration] happen in oral storytelling and dramatic performances” (227). There is often little to no opportunity for someone reading a novel or watching a movie or performance to modify the text. A game, on the contrary, requires a player to replay and modify: “games are not isolated experiences: we recognize them as games because we know we can always start over. Certainly, you could play a game through only once, but the knowledge and interpretation of simulations requires repetition” (Frasca 227). A reader, for example, can arguably read a book through once and fully understand what is presented²; a gamer, however, would have to play a game more than once (frequently several times) to uncover everything the game has to offer.

A central concept in many video games is the potential for the player to make choices. A player can often decide to be a ‘good’ or ‘bad’ character, can frequently choose between weapons, and sometimes the player is even given the choice of varying paths to take and parts of the game to explore. Michelle Dickey elaborates: “Players continually make choices as to who to be, where to move, what to do, and how to allocate resources. These choices—hooks—both personalize the experience and affect the gameplay” (77). These “hooks” as Dickey terms them, allow players to have unique experiences every time they play. Choice is additionally cited as helping to distinguish game narratives from more traditional stories.

² It is understood that more complex books cannot be thoroughly understood upon a first reading; the example here refers to more traditional books with narrative structures that are easily deciphered.

In more linear narratives, such as novels or movies, a person must read the text from beginning to finish without skipping parts, otherwise confusion ensues; game players, on the other hand, can choose to skip portions of the game without the risk of misunderstanding. Eskelinen explains the difference:

In literature, theatre and film everything matters or is conventionally supposed to matter equally - if you've seen 90% of the presentation that's not enough, you have to see or read it all [...] In contrast, in computer games you either can't or don't have to encounter every possible combinatory event and existent the game contains, as these differ in their ergodic importance.

Eskelinen notes the important difference between traditional narrative and video games. Many movie goers, for example, will refuse to get up in the middle of a first viewing of movie for fear of missing an integral part, whereas game players will often elect to skip side quests in a game with no consequences of losing track of what is going on. More traditional forms of narrative do regularly have replay or re-read value, but the story will remain the same no matter how many times it is watched or read. Replaying a video game, however, can yield a different experience every time. Juul notes that “Even if we were to *play* only a single game session of a hypothetical game and end up performing exactly the same sequence of events that constitute *Hamlet*, we would not have had the same experience as if we had *watched* Hamlet performed” (“Games Telling Stories”). Even if there was no possibility for change in replaying a video game, the mere act of playing, rather than watching creates an unrepeatable experience.

Games, novels, and films are often developed with the consumer in mind, but games are more intimately about the player than books are about the reader. While

reading, one experiences the life of someone else; playing a game involves personal experience through an avatar. Aarseth argues, “Games focus on self-mastery and exploration of the external world, not exploration of interpersonal relationships.” A sense of accomplishment is achieved from playing games; they have more focus on deduction, logic, and skill development than novels. When reading a novel one experiences another life, when playing a game one lives another life, thus allowing for real life skill mastery.

Another difference between traditional narratives and video games is that of unreliability. In novels and films it is often acceptable and even desirable to have an unreliable narrator. This trope allows readers the experience of interpretation and can allow for an element of surprise. Having unreliable narration in a game, however, would be unwise. As Eskelinen points out,

One might think of unreliable maps giving false and incorrect information about the location of the player or of the objects he's seeking - that's something almost every writer would like to do, and almost every player and game designer to avoid - the explanation for this difference in taste lies perhaps in the ergodic (pseudo) physicality of the game.

Players might be misguided by other characters in the game, but it is not likely that the maps and locations provided in the game would be obscured. Writers rely on unreliability to keep readers involved in the narrative; game developers, conversely, do not need to confuse the player because there are other ways to keep her involved.

While some of the basic foundations of narratives remain intact, gamers appropriate narrative in different ways than traditional linear narratives. In an analysis of the game *Baldur's Gate*, Diane Carr remarks that the game

is full of characters that spin tales, libraries scattered with readable book, cut scenes that relate dreams and memories, and scrolls telling of things that have ‘come to pass’ [...] *Baldur’s Gate* insists on storytelling – but it also incorporates things that have little to do with traditional narrative.

(30)

While Carr focuses on a specific game, her ideas can be applied to many. Many games incorporate narrative to the extent the *Baldur’s Gate* does, but it is important to be aware of the fact that there is much more going on than the mere telling of a story.

Ultimately, the narrative elements in games are unique; what is accomplished in video games could not be accomplished with a more linear narrative text. As Henry Jenkins notes, “the experience of playing games can never be simply reduced to the experience of a story.” The reliance on narrative elements to describe games feasibly stems from narrative being so engrained in current culture and ideals; Frasca argues, “this problem might be because we are so used to seeing the world through narrative lenses that it is hard for us to imagine an alternative” (224). However, games do offer an alternative; they use narration as a foundation, but it is altered to serve different purposes.

While countless video games possess narrative groundwork, they move away from the traditional ideas of linear narrative by altering its intention and creating a distinctive experience. Narrative often gets pushed aside in favor of other elements, but it does still exist in some form in video games. Schubert points out “nearly all games have some level of storytelling in them. What is more fascinating [...] is how wildly different the usage of it can be.” While current games have basic story features in common with their traditional narrative predecessors, their differences are far more intriguing. Video

games retain the distinctive quality of involving the player as a physical person. A person playing a video game is not merely interacting with a linear narrative; he/she is creating, developing, and altering an exclusive encounter.

Implications of Aporia

The discussion surrounding aporia is diverse, yet not all of it is relevant to this discussion; therefore, this section will give a brief background noting its history and significance in game studies³. The word aporia originates from Greek where it is composed of the roots *a* and *poros*, which translate to *without passage* (OED). For this translation, a state of aporia is encountered in situations that seemingly have no solution or no way to move forward. Similarly, in Latin aporia is a state of being at a loss (OED). The word's original definitions suggest that a moment of aporia in a video game will be created by presenting players with an initially baffling impasse.

Many disciplines draw their own translation and use of aporia. The term is often seen in rhetoric where it means “the expression of a simulated or real doubt, as about where to begin or what to do or say” (OED). While the rhetorical definition mainly applies to real world situations, it can be employed for several instances in the *Portal* games; most notably the start of the first game in which players begin with no information of where they are or what the goal is. Used this way, aporia is extremely limiting. Players do experience this type of doubt about where to begin, but the aporia that is used throughout both games requires a more detailed explanation.

³ It is noted that a broader post-structural theory of aporia (most notably, Derrida's use of the term) exists; however, while the discussion touches on the theory, it is largely beyond the scope of this argument where it is most relevant to understand how the term applies in video game studies.

Because of its many forms and definitions, aporia is utilized in narrative as well as games; while narratives do use aporia, they do so in a different way than video games. Aarseth highlights the difference: “In narratives, aporias are usually informal structures, semantic gaps that hinder the interpretation of the work” (“Aporia” 38). In a narrative text, aporia works as a device that challenges readers to understand the work. In video games, on the other hand, “the aporias are formal figures, localizable ‘roadblocks’ that must be overcome by some unknown combination of actions” (Aarseth “Aporia” 38). The aporia found in video games demands action from the player; it forces players to analyze the situation and derive a solution. Aarseth goes on to explain that “when an aporia is overcome [in a video game], it is replaced by an epiphany: a sudden, often unexpected solution to the impasse in the event space” (“Aporia” 38). It is these epiphanies that set the aporia of narratives and games apart. Epiphanies may occur in narratives, but they are not essential; one could simply skip these moments in a narrative text. In *Portal* and *Portal 2*, however, progression cannot take place without them; the aporia and resulting epiphanies are necessary to move forward in *Portal* and *Portal 2*.

Aporia can be further defined as a “puzzlement occasioned by the raising of philosophical objections without any proffered solutions” (OED). Here, aporia is a state of confusion created by the absence of apparent solutions to a situation. It is these circumstances coupled with the idea of epiphanies that most accurately define aporia for video game studies and that appear in *Portal* and *Portal 2*. Players constantly encounter frustrating puzzles that seem to have no answer. In the two games, aporia is used to block players from using the normal discernments of narrative and rules; the aporia creates situations where players are forced to take initiative to determine what is

significant and ascertain how to use the means available to them in order to move forward.

Key Issues & Overview

This study draws from previous video game studies, new media studies, and literary studies. The focus will be on a combination of narratology and ludology in which the narrative elements will be examined alongside the rules that define game play for players as well as how aporia allows players to transcend both constructs in *Portal* and *Portal 2*.

The original *Portal* was first distributed by Valve in 2007 as part of a special edition release of five games in one known as *The Orange Box* (also included in the release were *Half-Life 2*, *Half-Life 2: Episode 1*, *Half-Life 2: Episode 2*, and *Team Fortress*); the game is available for Xbox 360, PlayStation 3, and PC. The official *Portal* website describes the game as “a hybrid of [first-person shooter] style and a new genre of spatial brain teasers, offer[ing] hours of totally unique gameplay [...] players must solve physical puzzles and challenges by opening portals, maneuvering objects, and moving themselves through space in ways that used to be impossible” (*Portal*). The game makes innovative use of the first-person shooter style by giving players a gun that is not used to kill people; rather, players must use the gun to create portals needed to solve the puzzles and make creative use of physics. In the Game Developers Choice Awards in 2008, *Portal* won Game of the Year, Best Game Design, and the Innovation Award. Additionally, IGN named *Portal* the Best Puzzle Game for PC and Xbox 360 and Most Innovative Design for PC. Similar awards were also bestowed by *GamePro*, *Official X-*

Box Magazine, *GameSpot*, *Eurogamer*, *GamesRadar*, *Wired*, *Joystiq*, and others. After its release, *Portal* quickly gained a cult following and Valve issued the game by itself for PC users.

After the astounding success of *Portal*, Valve developed *Portal 2*, which was released as a single game in April 2011 for Xbox 360, PlayStation 3, and PC. The second game “draws from the award-winning formula of innovative gameplay, story, and music that earned the original *Portal* over 70 industry accolades and created a cult following” (“*Portal 2*”). While expanding the groundbreaking single player mode introduced in the first game, *Portal 2* also includes a co-op mode (cooperative, two player mode) featuring “its own entirely separate campaign with a unique story, test chambers, and two new player characters” (“*Portal 2*”). Based on the success of the first game, *Portal 2* was well received and quickly gained recognition ranking number one or two in lists of 2011’s best games from notable online game magazines and popular news websites such as *c-net*, *Complex Magazine*, *Kotaku*, *E! Online*, *NPR*, *Time Magazine*, *Associated Press*, and countless others. Both games have achieved international success and are available with full audio in English, French, German, Spanish, and Russian and offer subtitles in 17 other languages. The games are rated for players ten or older, but are enjoyed by young players along with those well into adulthood.

When studying video games it is important to not only research and observe the object being studied, but it is also prudent to play the game that is the focus of the study. As Aarseth decrees:

unlike studies of films and literature, what takes place on the screen [in video games] is only partly representative of what the player experiences.

The other, perhaps more important part is the mental interpretation and exploration of the rules, which of course is invisible to the non-informed non-player. (3)

When studying more traditional forms of narrative, one generally assumes the role of observer. When conducting a study of video games, however, it is important that the researcher also assume the role of active participant. Because the most knowledge of a video game can be gained from actually playing, both *Portal* and *Portal 2* were played through the narrative mode as well as experienced in the other modes offered (bonus maps in *Portal* and “co-op” mode in *Portal 2*). By playing and experiencing the games first hand, the researcher will gain a better understanding of the rules and narrative as well as the mental demands made of the player.

Four types of game players have been identified by Steven Malliet: *socializers*, *killers*, *achievers*, and *explorers*. It is suggested by some critics that “ideally, a researcher should play a game several times, each time taking another of these roles, and study what happens in the game as a function of the role that is chosen” (Malliet). While playing a game several times, each time assuming a different role, makes sense, simply keeping the different types in mind while playing should be sufficient for this project.

Portal and *Portal 2* offer something for each type of player. For the *socializers*, “whose main enjoyment is the social contact made possible in games,” the second game contains a “co-op” (cooperative) mode in which two players can play together (Malliet). For *killers*, “who enjoy hunting down other game characters,” when playing the game, the player is on a constant mission to hunt and destroy GLaDOS (a tyrannical overlord robot who appears in the form of a god-like voice over for the majority of the first game

and as a potato in most of the second) as well as turrets and other obstacles (Malliet). For the *achievers*, “who love competing with one another,” different achievements can be accomplished, unlocked, and displayed for others to envy (Malliet). Finally, the *explorers*, “who enjoy discovering different aspects of the virtual game world,” can enjoy discovering new levels and alternate methods of defeating them (Malliet). All of these types of players are kept in mind while playing the games to ensure that no concept or element is overlooked.

While this study relies largely on playing and experiencing the game first-hand for analysis, it is also necessary to draw on knowledge of literary theory for managing the aspect of narrative. To this end, post-structural theory is drawn on to understand the phenomenon of the reader/player as author. More importantly, post-modern cybertextual theory is drawn on to understand the roots of narrative in games and to explain the ergodic nature of those narratives.

This chapter has presented an overview of narratology and ludology as well as a brief history of video game studies as it relates to the research. Chapter two focuses on the use of narrative alongside specific rules in *Portal* and *Portal 2*. The use of narrative elements, such as themes, characters, plot, and symbolism are explored towards the purpose of deciphering if these elements could stand alone outside the game or if they are truly necessary elements of the video games. The phenomenon of role-playing in *Portal* and *Portal 2* will be investigated with the intent to note the differences between passive interactions with traditional text based media and active interactions with video games.

Chapter three will transition to examine the specific use of aporia in both *Portal* and *Portal 2*. This chapter emphasizes the elements that lend *Portal* and *Portal 2* to being

more than simple puzzle solving games. The use of routinely inspiring doubt in the player is explored; towards this end, the roles of GLaDOS, Wheatley, and Cave Johnson are scrutinized as significant secondary characters.

Chapter four concludes by a reexamination of how *Portal* and *Portal 2* are innovative games that provide a merging of traditional narrative techniques with revolutionary game rules and formalism for video game players.

II. AMALGAMATION OF NARRATIVE AND RULES

“At the Enrichment Center we promise never to value your safety above your unique ideas and creativity. However, do not destroy Vital Testing Apparatuses.”

- *GLaDOS*

Narratologists and Ludologists may disagree on what parts of games to study, but in the case of *Portal* and *Portal 2* narrative and rules are equally important. The opening quote demonstrates the fusion of narrative and rules in the games; the “unique ideas and creativity” pertain to the narrative in creating the distinctive world of the games, while the command to “not destroy Vital Testing Apparatuses” connects to the rules players must follow within the game (*Portal*). Narratives often focus on a series of events connected by the activities of a specific character. While video games similarly often focus on one individual, they differ from stories in that they focus on the player rather than the character. When playing a game, one often takes on the persona of the main character, so rather than taking a god-like perspective over the action, as in many stories, the player experiences the action first hand. Aarseth notes that while playing *Laura Croft*, “I don’t even see her body, but see through it and past it” (Simons). *Portal* and *Portal 2* put the player in the role of the main character, Chell, and use narrative devices to add dimension and action to the game experience, but they are not strictly stories.

Portal & Portal 2 Narrative

Narrative cannot exist without at least one protagonist and one antagonist. As Damion Schubert notes, “the characters navigating the narrative are at least as important, if not more important than the twists and turns of the story itself.” Each character in the *Portal* universe is endowed with a unique personality and purpose that enhances the narrative as well as gameplay.

In both *Portal* and *Portal 2*, the player takes on the role of the protagonist, Chell. She is an Aperture Laboratories test subject being forced to solve a series of puzzles presumably designed to further the understanding of science (exactly how the puzzles and tests help science remains unclear throughout both games). While the antagonists and minor characters in both games often have a lot to say, Chell remains silent. Unlike other popular RPGs, the player is never given dialogue options for interacting with other constructs of the game; instead, the player is forced to remain mute as GLaDOS (the main antagonist in both *Portal* and *Portal 2*) and Wheatley (a second antagonist in *Portal 2*) bombard her with conversation and taunts. While it is not immediately apparent in *Portal* that Chell will never speak, Wheatley is quick to ensure the player is aware of it in *Portal 2*:

Do you understand what I'm saying? Just tell me 'Yes'... Okay. What you're doing there is jumping. You just... you just jumped. But never mind. Say 'Apple'. 'Aaaapple.' [...] Simple word. 'Apple'. [...]Ay. Double Pee-Ell-Ee. Just say 'Apple'. Easy word, isn't it? 'Apple'. [...] Okay, you know what? That's close enough. Just hold tight. (*Portal 2*)

Throughout the entire exchange the player is never given dialogue options, and Wheatley eventually gives up on getting Chell to speak and leads her on. Chell's silence serves not only as also as a clever way to infuriate GLaDOS and Wheatley, but also as blank slate for the player to adopt pushing her towards immersion in the game.

The main antagonist in both games is GLaDOS⁴, an artificial intelligence infused robot that controls Aperture Laboratories. In *Portal*, GLaDOS designs and monitors the tests that Chell undergoes. Rather than serving as a motivating or guiding force for players struggling through her difficult puzzles, GLaDOS provides misleading information and tosses a variety of seemingly endless insults at Chell. In *Portal 2* GLaDOS is reawakened and begins to assume the same role of power until she is thwarted by Wheatley and forced to partner with Chell in the hope of regaining control.

Wheatley, the second antagonist, first appears in the beginning of *Portal 2* as a potential friend to Chell. Upon first meeting him, Wheatley seems to be a good natured albeit confused robot who simply wants to help Chell escape. However, his true deceitful nature is revealed when he convinces Chell to put him in GLaDOS's body; what he actually desires is to oust GLaDOS and take over Aperture for himself. Wheatley's deception creates a moment of aporia in the game; the player must determine wheatear she will ever trust Wheatley again. It is a defining moment for the narrative, but it also serves as a breaking point where the rules of the game must change.

⁴ The name GLaDOS stands for Generic Lifeform and Disk Operation System. It also serves as a play on words; while GLaDOS spends much of the games insulting the player, she generally has a sadistically cheerful attitude about torturing Chell.

After Wheatley takes over management, players learn that GLaDOS has not always run Aperture; Chell stumbles into test chambers from the 70s which contain voice recordings and portraits of the laboratory's founder: Cave Johnson. Cave founded Aperture with the goal of scientific testing and discovery. No experiment is too outlandish for him to try; turning blood into gasoline, creating an accidental army of "Mantis-men," and ingesting moon-rock are just a few of the experiments he performed on test subjects as well as himself before turning over the company to his assistant, Caroline, at his demise.

As Chell progresses through the test chambers in both games, she encounters a few constructs that act as minor characters within the narrative aspects of *Portal* and *Portal 2*. The only ones who speak are the turrets and defective turrets (introduced in *Portal 2*) designed to shoot at anything that moves within their field of vision. Where GLaDOS, Wheatley, and Cave Johnson seemingly speak directly to the character, the turrets often appear as if they are chattering to no one in particular or to each other simply because they can. They express things like "searching," "who's there?," "don't shoot," "illegal operation" (when picked up), and "no hard feelings" (when broken by Chell or other turrets); the defective turrets in *Portal 2* are somewhat more personable saying things like "Hi there!," "Yeah! Non-lethal as ever," "All right, if anyone asks, I killed you," "Hey, give 'em hell, sweetheart!," and "Did I hit it? I hit it, didn't I?" (none of the defective turrets have bullets). The functional turrets act as obstacles creating action for Chell, while the defective turrets often seem more like comic relief in the narrative. While the turrets do not create specific moments of aporia on their own, they add to the

interactive experience by serving both as distractions at times and as tools for progression at others.

In contrast to the speaking turrets, the companion cube, an immobile, silent, and most likely inanimate object, is also presented as a minor character in the narrative of the games. The companion cube is gray with a pink heart in the center of each side. While the cube appears inanimate and never actually speaks, GLaDOS suggests that it could: "The Enrichment Center reminds you that the Weighted Companion Cube cannot speak. In the event that the Weighted Companion Cube does speak, the Enrichment Center urges you to disregard its advice" (*Portal*). The cube is introduced to accompany Chell through test chamber seventeen in *Portal*: "This Weighted Companion Cube will accompany you through the test chamber. Please take care of it." However, after the cube has supposedly served its purpose, GLaDOS forces Chell to incinerate the one potential supporter she could have had. The companion cube is not featured prominently in *Portal 2*, but does make a cameo appearance at the end apparently having somehow escaped the incinerator despite being inanimate. The companion cube's escape may seem a minor plot point in the second game, but it can actually serve as a device to spark curiosity and thus activity for the player who may want to go back and search for clues as to how the cube survived.

In any narrative, the characters populate a plot which is formed around them. Action and progression in a narrative are shaped through the plot. The plot aspects in *Portal* and *Portal 2* are shaped through a few key events. Both games exist in the same universe, but the plot does not develop strictly linearly from *Portal* to *Portal 2*. Instead, *Portal 2* adds a new storyline as well as builds on the universe *Portal* created through the addition of a backstory addressing the development of Aperture Laboratories.

The basis of *Portal* and *Portal 2*'s plot is structured around a failed "Bring your Daughter to Work Day." It is implied in both games that the daughters brought to work ended up as test subjects for Aperture, and this is presumably what happened to Chell. In *Portal* test subjects are reminded by GLaDOS that "the Aperture Science 'Bring your daughter to work' day is the perfect time to have her tested." In the second game, Wheatley furthers the suspicion by explaining: "Bring your daughter to work day. That did not end well" (*Portal 2*). *Portal 2* reveals that the girls participated in a type of science fair where everyone created potato batteries (foreshadowing GLaDOS's fate) except for one divergent girl who created a volcano; it is assumed that due to lack of willing participants, the girls were then forced to test.

The major storyline for both games focuses on the testing. Although it is never revealed what exactly Chell is testing for, she must solve the various puzzles "for science." Aperture Laboratories is devoted to science and thus to testing its volunteers, employees, and kidnapped victims; when in charge, both GLaDOS and Wheatley have a compulsive need to test. As discovered in the backstory in *Portal 2*, the laboratory was started in the 1970s. The lab originally brought in test subjects that were mentally or physically superior humans (Olympians, astronauts, war heroes etc.); then, presumably when these types of people were unavailable, the company began to take people off the streets, "relax [...] in the waiting room, which is a damn sight more comfortable than the park benches most of you were sleeping on when we found you," then mandated testing for employees, "Since making test participation mandatory for all employees, the quality of our test subjects has risen dramatically," and finally Aperture seemingly abducted the daughters of employees at "Bring your Daughter to Work Day" (Cave Johnson, *Portal 2*).

Those devoted to Aperture will do anything to ensure testing continues for science. It is this devotion that compels GLaDOS and Wheatley to burden Chell with tests throughout both games.

In narratives the plot is often structured around the goals characters are trying to achieve; correspondingly, videogames generally provide players with a goal or objective to compete. While the goal of *Portal* first appears to be solving the puzzles in the test chambers, GLaDOS's taunts and attitude towards the player eventually reveal that she needs to be destroyed so she cannot obtain and essentially torture more test subjects. Simmons argues that, "How a particular game will end may be unknown to the players but for most games it is quite clear in advance which outcomes are possible and which are not" (Simons). Through their use of aporia, *Portal* and *Portal 2* defy the idea that players need to be aware of the outcome from the onset. In *Portal*, the goal of destroying GLaDOS does not become clear until towards the end when she begins overtly trying to kill Chell; before that point, it is not even clear that GLaDOS is a physical entity that can be killed. In *Portal 2*, the original objective seems to be to escape from the destroyed facility, but it quickly transforms into having to destroy GLaDOS again, then takes another turn to destroy Wheatley, and finally the goal becomes to put GLaDOS back in charge (a possibility that players of the first game would hardly dream of). Aporia is used to keep players immersed and active in the game by constantly challenging their notions of how the rules and narrative should act.

In addition to the characters, plot, and goal of a narrative, Narratologists also often discuss the symbolism found in or created by the narrative. Since *Portal* and *Portal*

2 make use of these narrative elements, the games contain a few linking themes. The major themes they draw on are abandonment, self-reliance, and problem solving.

In *Portal*, Chell is in an abandoned environment; other than a disembodied computerized voice and a few murderous turrets, she seems to be the only living thing in the Aperture facility. Abandonment is a constant theme throughout both games. In *Portal*, the sense of abandonment is not only perpetuated through the absence of other life, but also by the companion cube; in test chambers void of humanity, the only 'friend' available to the player is an inanimate object. As if that is not enough of a reminder of solitude, the destruction of the companion cube leaves Chell completely alone. In the beginning of *Portal 2*, a companion (Wheatley) appears for Chell, but he constantly has to hide from GLaDOS or go ahead alone to check they are going the right way. As Chell struggles through the first several test chambers, GLaDOS constantly reminds her that she is alone by commenting on how she was adopted and that “the birth parents [...] do not love you” (*Portal 2*). After enduring GLaDOS’s taunts, Wheatley’s betrayal only serves to reinforce the feeling of abandonment.

The abandoned environment in the games also instills a sense of self-reliance. Once Chell understands that she is completely isolated, she comprehends that the only person she can depend on is herself. The misleading information and insults from GLaDOS in *Portal* enforce the quality. In *Portal 2* GLaDOS becomes a type of companion for Chell, but her frequent need to power down and ever present insults do not do much to create a feeling of camaraderie. As previously stated, the reliance on Wheatley is misplaced and enforces the theme of self-reliance. In both games, the tests themselves also add to the narrative theme of self-reliance because either misleading or

no guidance is provided on how to solve them leaving the player to determine what is useful and how to move forward.

The tests lead to the final major theme: problem solving. In order to succeed in the game, players must be able to “think with portals” in order to progress. The problem solving theme in both games, however, is more a theme of videogames than narratives. As Matthew Murrery notes, “*Portal* was noteworthy for its [...] creativity in blending the previously incompatible brain-teasing-puzzle-game and first-person-shooter genres.” While other video games include the aspect of problem-solving, *Portal* and *Portal 2* adapt and transform the element. Mallite refers to Bartle who “identifies four basic types of game players: socializers, whose main enjoyment is the social contact made possible in games; *killers*, who enjoy hunting down other game characters; *achievers*, who love competing against one another; and *explorers*, who enjoy discovering different aspects of the virtual game world.” *Portal* and *Portal 2* try to appeal to and blend all four types of players with their puzzles. The killers get to destroy turrets, GLaDOS, and Wheatley; achievers can unlock various achievements to display to others; explores can find new elements and unlock hidden levels and content; and socializers can join with other players in *Portal 2*'s co-op mode to take on new challenges after defeating Wheatley. *Portal* and *Portal 2* present players with not only new types of puzzles, but also innovative ways of solving them. To play successfully, solve the tests, and progress, players must understand how the portals and other testing materials work within the game space. The narrative aspects of *Portal* and *Portal 2* interact with the rules and aporia in the game to produce an experience distinct from that created with traditional narrative for players.

Portal & Portal 2 Game Rules

One of the most apparent differences between strict narrative and videogames are the rules required to traverse a game. As Juul points out, “The interaction between game rules and game fiction is one of the most important features of video games [...] To play a video game is therefore to interact with real rules while imagining a fictional world and a video game is a set of rules functioning as a fictional world” (*Half Real* 1). While most, if not all, videogames incorporate a fictional world, the player does not simply observe it. Game developers generate rules for the fictional worlds that serve to aid players in navigating the space. Thus, when playing a game, the player is presented with a fictional world but must use the rules to interact with it. In a traditional narrative, the player can only observe the fictional world. Juul explains the necessity for rules in videogames:

Since play is mainly assumed to be a free-form activity devoid of constraints, it appears illogical that we would choose to limit our options by playing games with fixed rules. Why be limited when we can be free? The answer [...] games provide context for actions: moving an avatar is more meaningful in a game environment than in empty space; [...] the rules of a game add meaning and enable actions by setting up differences between performance and events. (*Half Real* 19)

Rules are necessary because they arrange the game space. Without rules, players could do virtually anything and nothing at the same time. Where the narrative aspects of a game may provide reason for action, the rules provide the framework and space where the action takes place.

The rules of a game aid in creating an exclusive experience for players. *Portal* and *Portal 2*'s rules are of particular interest because "The game is designed to change the way players approach, manipulate, and surmise the possibilities in a given environment" (Orange Box). *Portal* and *Portal 2* are innovative in that their rules were made to specifically challenge the way players think. Even the title of games' website, "Think with Portals," suggests that players will be required play as well as think in an alternative way for success in these games.

Beyond the obvious structural rules (players cannot walk through solid walls or survive laser blasts), the first rules players must learn in *Portal* involve how to operate and utilize the portal gun. For the first couple chambers, the player's gun simply fires blue portals that connect to preexisting orange ones. Once the dual portal gun is obtained, the player can fire both blue and orange portals thus creating his/her own pathways. The player must experiment with the gun to fully understand its functions and limitations. One of the lessons acquired is that portals may only be placed on specific surfaces, which serves to add complication to the game when such surfaces are not readily apparent. Secondly, the player discovers the physics involved in traveling between portals. If a portal is placed on a lower platform and the player jumps into it from above, he/she will emerge from the other portal at the same accelerated rate. As GLaDOS points out: "You appear to understand how a portal affects forward momentum, or to be more precise, how it does not [...] in layman's terms: Speedy-thing goes in, Speedy-thing comes out" (*Portal*). This rule can be used to launch oneself across caverns and rooms to avoid the death-trapped areas of the floor. Players need to understand the vital rules of the portal gun and portal physics not just to solve the puzzles, but also to fully interact with the

game and the game world. Grasping the scope of the rules leads to a more thorough awareness of the game world which enables players to interact with the different options and discover aspects of the game that would otherwise remain hidden when faced with moments of aporia.

The other useful objects in both games are the cubes. Cubes are needed mostly to hold open doors in the games. In the first level, the player learns that standing on one of the large red buttons will generally open a door, but as soon as the player steps off, the door will close again. The solution to this dilemma: large cubes that remain on the button leaving the player free to move past the door. The cubes can also be used to block lasers or the “High-Energy Pellets.” As players progress, they discover that cubes have multitudes of uses and can be used not only to solve puzzles, but also that some cubes may even be used against players in the development of aporia.

While *Portal* requires players to solve the puzzles with only the use of the portal gun and cubes, *Portal 2* incorporates new rules and substances for players to think with. Murray notes, “*Portal 2* extends the range of possibilities with new tricks, techniques, tools, and obstacles that will force you to keep learning” (M. Murray). In addition to the dual portal gun and cubes, players of the second game must learn how to use “Aerial Faith Plates,” “Repulsion Gels,” “Hard Light Bridges,” and “Discouragement Redirection Cubes.” While it may seem like there are a lot of rules and objects for players to remember how to use, each enhances game play as well as aids the players in overcoming aporia.

The aerial faith plates launch anything placed on them into the air and across chambers. GLaDOS points out that they were “part of an initiative to investigate how

well test subjects could solve problems when they were catapulted into space. Results were highly informative: They could not” (*Portal 2*). Despite the supposed failure of previous test subjects, players must learn how to effectively use the plates to launch not only cubes but also themselves across distances in several chambers. The aerial faith plates lend to the aporia because players can never be entirely positive about where something or someone placed on an aerial faith plate will end up. As their name aptly implies, a little faith is required when stepping on one of the plates; faith, however, is hard to come by in the games that are riddled with doubt and deceit.

Discouragement Redirection Cubes are hollow cubes with clear glass circles on each side. They are used, as the name suggests, to redirect “Thermal Discouragement Beams” (lasers). In placing these cubes tactically to redirect the beams, players can avoid being disintegrated as well as activate plates and other useful elements of the chambers. Players can also use Hard Light Bridges to move across chamber freely and avoid death. The bridges are particularly useful to players because they can be walked on; they can also be directed through portals and over hazardous areas. The bridges can additionally be used as shields when turned upright to block turret fire. The translucent design of the bridges mimicking beams of light allows the player to see through them; while serving as a graphically stunning, the feature also acts as an agent of aporia leading players to question if they actually can walk on and deflect bullets with mere light.

Finally, the Repulsion Gels are one of the more useful of the new additions to *Portal 2*. There are three types of gels: blue, orange, and white. The player first encounters the blue gel, which has a bounce effect. When the player jumps on the blue gel he/she will bounce on the spot allowing platforms to be reached that are not

accessible with mere jumping. The physics of the blue gel can also be combined with the physics of the portals to create additional momentum. The next gel the player runs into is the orange gel; this gel speeds up the player's movement, so for example, if it is run on, the player will run twice as fast. The orange gel can also be used in conjunction with the portals to create momentum. It can additionally be operated in conjunction with the blue gel to bound across rooms and onto awkwardly placed platforms. The final, and potentially most useful, gel is white. This gel turns any surface it touches into a portal acceptor. As players of the first game know, there are several surfaces that portals cannot be placed on; proper manipulation of the white gel, however, solves this problem. Players can use strategically placed portals with white gel flowing out of broken pipes to create portal surfaces in more desirable places. The different gels open up more options for players while also creating more doubt and confusion. Even once players understand the rules for the gels (and what rules the gels allow players to break), they are left wondering how the gels can be used against them, thus enhancing instances of aporia and furthering the player's interaction.

Once a player has mastered the basic rules behind the portal gun, various cubes, gels, plates, and bridges, he/she should be able to successfully navigate through the chambers. The rules of *Portal* and *Portal 2* challenge players to think beyond the general 'defeat the villain' mentality. Players find themselves subject to the experiments of Aperture that force them to expand their problem solving abilities. There is a way out of every chamber in both games, and if a potential solution is not readily apparent because of aporia, the player is simply not thinking with portals.

While the narrative elements of a game may be interesting and serve to structure the game, the rules are dominant in that progression of the narrative, and thus the game, cannot take place without them. If a player does not master the use of the portal gun, or the other rules and objects, he/she cannot hope to successfully complete the game. As Juul acknowledges, “Video games are rules and fiction,” and he warns, “It is important to understand that the gameplay is not the rules themselves, the game tree, or the game’s fiction, but the way the game is actually played” (*Half Real* 12, 83). The rules of games are what allow them to move beyond narrative, but the rules and narrative together create the gameplay individuals encounter. *Portal* and *Portal 2* combine narrative with incomparable rules and the use of aporia to create an innovative, immersive experience for players.

Collision of Rules and Narrative

It is within examining the mechanics and rules of the game that it becomes hard to argue that *Portal* and *Portal 2* are strictly narratives. An important distinction between traditional narrative and videogames is the ability of the individual to take on the persona of the protagonist and affect the progression of the game. When playing a videogame a person should ideally identify with and become the avatar on the screen. First-person games, like *Portal* and *Portal 2*, lend to this ideal because the avatar of the player is rarely seen. Simons quotes Aarseth in describing playing *Lara Croft*: “the polygonal significance of Lara Croft’s physique goes beyond the gameplay.” Aarseth takes on the role of Croft while playing; rather than watching the characters in a traditional narrative, players become the characters in videogames.

A general passivity is often found in non-interactive text-based narratives. Engaging with strictly narrative media generally requires little to no activity on behalf of the individual. Ryan points out, “Whereas ludic immersion presupposes a physically active participant, narrative immersion is an engagement of the imagination in the construction and contemplation of a storyworld that relies on purely mental activity” (“Playable Stories” 53-54). An individual experiencing a traditional narrative is generally passive, using only the words presented to her to conjure up mental images; an individual playing a videogame, on the other hand, must take an active role in progressing the action of the narrative and game. *Portal* and *Portal 2* require the player to actively engage with the game through the mental exertion required to solve the chambers and advance in the game, and also through the physical power the player exerts over not just the controller (or keyboard and mouse if playing on a PC) but also the physical manipulation of where to go, what to look at, and what to do in the game.

In contrast to the docility found in interaction with traditional narratives, playing a videogame requires mental as well as physical activity. Juul states, “It is also an oft-repeated but problematic point that game sessions are experienced linearly, just like narratives. [...] this idea ignores the player's experience of being an active participant - this experience is so strong that most people will involuntarily change bodily position when encountering interactivity, from the lean backward position of narratives to the lean forward position of games” (“Games telling Stories”). The change in bodily position noted here, while not actually required by the game, is often seen in players of *Portal* and *Portal 2* who lean towards their screens in attempts to solve puzzles and locate areas of interest. *Portal 2* defies the notion of narrative linearity; while progressing forward in the

game, the player is taken to old test chambers, effectively traveling backwards in the narrative to discover Aperture's founder. Additionally, the player is constantly active mentally by thinking through solutions to puzzles, and she/he is active physically by adapting the "lean forward position" in necessary movement to control the character and thus the game.

The activity required by videogames aids in the interactive experience they provide. Interactivity is often cited as one of the most significant distinctions between traditional narratives and videogames. Ernest Adams comments that "interactivity is almost the opposite of narrative; narrative flows under the direction of the author, while interactivity depends on the player for motive power" (Jenkins). Text-based narrative relies on the author for direction and completion; the individual has a passive role. Videogames, on the other hand, have developers that set up the basic structure of the game, but it is the player who directs the action and completes the experience. Juul notes, "The player can solve problems the way they want to solve them rather than in the way the game designers planned" (*Half Real* 77). While there are solutions to each puzzle put in place by the game designers, there are usually also alternative resolutions. Thus, the player is given a sense of freedom to explore and experiment within the game world, and the action results from the player's decisions. As Murray describes, "There's nothing like that "ah-ha" moment you feel when you unlock the final piece to a particularly maddening puzzle, and watch in glowing satisfaction as your plan clicks completely into place" (M. Murray). *Portal* and *Portal 2* give players the sense that they are in control; since the solution to many of the puzzles is not readily apparent, players must experiment and investigate the area for an appropriate resolution. The activity on behalf of the player

and the epiphany of breaking through the aporia provide a sense of agency that is not possible in most text-based narratives.

Because they evoke interactivity, games focus more on the self or individual whereas text-based media focus on the other or the characters. In adopting the persona of Chell in *Portal* and *Portal 2*, the player is able to immerse herself more fully into the game than would be possible with a non-interactive text. Aarseth explains, “We might say that, unlike literature, games are not about the Other, they are about the Self[;] games focus on self-mastery and exploration of the external world, not exploration of interpersonal relationships (except for multiplayer games)” (Simmons). Where a traditional narrative focuses on the protagonist, videogames place focus on the player who often inhabits the role of the protagonist. Simmons points out that, “The trick of the trade of game design is indeed to make the player *believe* she is in control.” In both *Portal* games, the player feels in control of her/his actions. In playing through the various test chambers, aporia constantly forces players off what seems to be ‘the main path’ to find alternative routes of escape, thus creating the feeling of control for the player.

Not only do games provide interactivity allowing players to control the progression of the game, they also generally possess replay appeal. Frasca addresses this feature of videogames:

In such media, it is always possible for an audience to go through several iterations of a story. In a game, going through several sessions is not only a possibility but a requirement of the medium. Games are not isolated experiences: we recognize them as games because we know we can always start over. Certainty, you could play a game through only once, but

the knowledge and interpretation of simulations requires repetition.

(Frasca 227)

No matter how many times a text-based narrative is read it will remain the same.

Videogames, however, can be replayed resulting in a different experience each time.

Simplistically, players may die in attempts to solve difficult puzzles and thus be required

to replay for a satisfactory solution; more complexly, video games may also reward

players for replaying after a first completion with things like achievements that can only

be unlocked on a second play and bonus levels that are exposed at the end of the game.

Portal and *Portal 2* offer players replay rewards in the form of achievements, bonus

levels, “Easter-eggs” (hidden secrets within the game), and a co-op experience in *Portal*

2 which is available after defeating Wheatley. Because of these extra elements, an

individual could play the game several times and have a different experience for each

one.

It is hard to argue that no aspect of narrative is present in games, but to what extent narrative is dominant in videogames is debatable. Juul points out, “Realistically, video games are to some degree part of a general storytelling ideology, incorporating at least some elements of popular stories” (*Half Real* 17). Games do incorporate stories to a certain extent, but they integrate mere elements, not everything, that narratives offer.

Diane Carr further explains, “storytelling is part of the game, but the game is not limited to a narrative” (31). *Portal* and *Portal 2* contain narrative, but the narrative is not the main focus of the games. Instead, the narrative aids in player immersion, creating coherence, and game progression.

When playing *Portal* and *Portal 2*, players are aware of the plot that unfolds, but the main focus is on solving the puzzles, defeating GLaDOS, and escaping Aperture.

Simmons argues:

A narrative then, is just one of the possible histories that happens to have actually occurred. A strategy, on the other hand, is a set of histories that might or might not or even could not possibly occur [...] Games not only become ‘stories’ after the fact, but stories can be an important part of the decision making process during the gameplay itself.

A player needs strategy to play a video game, but a narrative is technically unnecessary. If one were reading a book, the narrative would be dominant and the strategy would be the obvious structure of reading (left to right, one word after the other). Conversely, in a videogame the narrative may aid in creating a strategy for the player, but it is not dominant; narrative serves merely as a structure. Kücklich expounds on the idea that narrative is not needed in games, saying “narrative is not an inherent feature of games [...] the actual construction of the narrative is always done by the player by taking the signs on the interface and interpreting them further.” Narrative in videogames is arranged around the player’s actions. *Portal* and *Portal 2* contain narrative structure, but it is the gameplay and use of aporia that sets them apart from traditional ideas of stories.

Ludologists argue that the narrative elements of games can often be jarring and actually detract from the experience of playing the game. Elements such as elaborate introductions and conclusions and lengthy cut scenes, in which the player is forced to watch action take place but is unable to effect it, are often used to develop the plot element of a game. Steven Poole describes such instances: “It is as if you were reading a

novel and being forced by some jocund imp at the end of each chapter to go and win a game of table tennis before being allowed to get back to the story” (Ryan, “Playable Stories” 51). *Portal* and *Portal 2* do not force such a structure on players. Rather than have the game interrupted by narrative (or a narrative that is interrupted by game), in *Portal* and *Portal 2* the narrative is absorbed into the game. There are virtually no cut scenes in either, and the only cinematic elements occur at the beginning and end of each game. Voice overs from GLaDOS, Cave Johnson, and Wheatley do not interrupt game play; rather the player can listen to them and solve the puzzles at the same time. Additionally, players can choose to spend time investigating scribbles on the walls from previous test subjects, old posters, and abandoned offices for more information on Aperture and thus the storyline of the games, or they can ignore these additional elements and merely solve the puzzles. The level of immersion and extent to which the narrative elements are experienced is dependent on the player’s choices in *Portal* and *Portal 2*.

While several narrative elements exist within the two games, Ludologists argue that they cannot be extracted to create a stand-alone story. As Juul argues, “Narratives may be fundamental to human thought, but this does not mean that everything should be described in narrative terms. And that something can be presented in narrative form does not mean that it is narrative” (“Games Telling Stories”). One could retell the general story of *Portal* and *Portal 2*, but the experience of the game will be lost in the translation; similarly, if one were to play the games without the narrative aspects, the player’s involvement would be lacking. The two games provide players with an interesting story, but that story is far more intriguing to play than to read or listen to. While *Portal* and *Portal 2* make ample use of revolutionary rules previously unseen in video game, the

most distinctive element that lends both to be better played than read is their use of aporia.

III. INCORPORATION OF APORIA

“Please note that any appearance of danger is merely a device to enhance your testing experience”

- *GLaDOS*

The epitaph for this chapter establishes the function of aporia in *Portal* and *Portal 2*. The “appearance of danger” leads the player to doubt and question the function of rules and narrative throughout the game which “enhance[s] your testing experience” thereby enriching gameplay and creating an immersive, interactive experience for the individual (*Portal*).

GLaDOS

The combination of rules and narrative in *Portal* and *Portal 2* serve to create fascinating games. While numerous videogames combine rules and narrative to create distinctive experiences for players, *Portal* and *Portal 2*'s use of aporia set them apart. The incorporation of doubt at the release of *Portal* was previously unheard of in video games; video games generally provide players with a map, goal(s), and direction. *Portal* provides none of these, and additionally, it purposefully attempts to disorient and deceive players. Unreliability, while acceptable in text-based narratives, is generally absent from most videogames. Eskelinen points out that, “One might think of unreliable maps giving false and incorrect information about the location of the player or of the objects he's seeking – that's something almost every writer would like to do, and almost every player and game designer to avoid.” While it is necessary in many games for players to

understand their position within the game, *Portal* and *Portal 2* seem to thrive on aporia. Both games throw players into a labyrinth of laboratory test chambers with no maps or guidance. Not only do players have little to no sense of location (players never know if they are traveling up, down, left, or right in the numerous elevators), the protagonists in the games serve as deliberate deceivers constantly confusing and misdirecting players at every turn.

Portal

In *Portal*, the player is first introduced to GLaDOS as a god-like voice that ‘guides’ her through the test chambers. However, it quickly becomes apparent that GLaDOS is more fiend than god. Upon beginning the game and before entering the first test chamber, a message is played:

Hello and again welcome to the Aperture Science Computer-Aided Enrichment Center. We hope your brief detention in the relaxation vault has been a pleasant one. Your specimen has been processed and we are now ready to begin the test proper. Before we start, however, keep in mind that although fun and learning are the primary goals of the enrichment center activities, serious injuries may occur. For your own safety, and the safety of others, please refrain from--. (*Portal*)

This first message already begins to create the atmosphere of bewilderment and doubt. The abrupt end to the warning leaves players questioning what might be lurking ahead to thwart them, and also foreshadows many similar partial messages to come. Since this is the first message heard, players may not immediately expect the lack of information to

persist; however, it is soon discovered that cut off warnings and false information are the norm in *Portal*.

Attentive players may be suspicious of the disembodied voice from the beginning, but for those who are less wary, GLaDOS actually admits to lying in the fifth test chamber of *Portal*. When the fourth test has been solved, players hear the message: “As part of a required test protocol, we will not monitor the next test chamber. You will be entirely on your own. Good luck” (*Portal*). After solving the next puzzle, however, GLaDOS admits, “As part of a required test protocol, our previous statement suggesting that we would not monitor this chamber was an outright fabrication. Good job. As part of a required test protocol, we will stop enhancing the truth in three, two, o--” (*Portal*). Even if a player has been trusting up to this point in the game, the combination of the admitted lie and subsequent broken off count down should serve to make players sufficiently suspicious of any further communication. GLaDOS serves as the driving force for aporia in the first game; her lies and deceit serve to limit the rules and narrative and require players to negotiate the aporia on their own (something that does not happen in previously released games).

After admitting to the lie, GLaDOS constantly attempts to deceive the player with phrases such as, “The Enrichment Center regrets to inform you that this next test is impossible. Make no attempt to solve it,” and “Do not touch the operational end of the device. Do not look directly at the operational end of the device. Do not submerge the device in liquid, even partially. Most importantly, under no circumstances should you--” (*Portal*). Eventually players come to expect GLaDOS’s taunts and misleading

information, but while aporia is initially created through these instances, the distrust is solidified upon being forced to destroy the companion cube.

The companion cube is introduced in *Portal* to act as a buddy and aid to the player in the seventeenth test. At the beginning of test, players are instructed: "This Weighted Companion Cube will accompany you through the test chamber. Please take care of it" (*Portal*). The cube merely appears to be an inorganic object, but GLaDOS's comments suggest the player might think otherwise. Throughout the level, players are reminded:

The symptoms most commonly produced by Enrichment Center testing are superstition, perceiving inanimate objects as alive, and hallucinations. The Enrichment Center reminds you that the weighted companion cube will never threaten to stab you and, in fact, cannot speak ... In the event that the Weighted Companion Cube does speak, the Enrichment Center urges you to disregard its advice. (*Portal*)

The name alone proposes personification, and GLaDOS further suggests the potential human qualities of the companion cube by first reminding players that it will not speak and then contradictorily implying that it might in fact do so. Players are aware that outside the game inanimate cubes do not speak, but in a videogame anything can be possible; thus players are left wondering if the cube might actually speak and help them beyond being used as a shield and button weight.

Those who held out hope thought the level for the companion cube to speak are disappointed in the end. The cube serves its purpose of helping the player through the level, but cannot be taken further and must be destroyed. Once the test is concluded

GLaDOS instructs, “You did it! The weighted companion cube certainly brought you good luck. However, it cannot accompany you for the rest of the test and must, unfortunately, be euthanized. Please escort your companion cube to the Aperture Science Emergency Intelligence Incinerator” (*Portal*). For players who formed the suggested bond with the companion cube, destroying it seems an objectionable end. If one waits to place the cube in the incinerator, GLaDOS “encourages” the act: “Rest assured that an independent panel of ethicists has absolved the Enrichment Center, Aperture Science employees, and all test subjects for all moral responsibility for the companion cube euthanizing process” (*Portal*). Although GLaDOS would perceive her words as comforting, the use of the word “euthanize” promotes the personification of the companion cube and may result in the further delay of its destruction. Players who are invested in the cube through immersion in the game and do not want to fling their new friend to a fiery death will likely look for a way to continue without becoming a murderer.

In cases where players try to refuse or find ways around cremating the cube, GLaDOS has a few more “reassuring” pep talks prepared for players: “If it could talk – and the Enrichment Center takes this opportunity to remind you that it cannot – it would tell you to go on without it because it would rather die in a fire than become a burden to you,” and “Although the euthanizing process is remarkably painful, 8 out of 10 Aperture Science engineers believe that the companion cube is most likely incapable of feeling much pain” (*Portal*). Again, GLaDOS’s encouragement merely endows additional human characteristics to the cube. The companion cube is portrayed as a valiant friend and soldier who would die for comrades, and it is also a fellow test subject at the mercy of

Aperture scientists. A moment of aporia is created here. The threshold of narrative is reached because players cannot continue without destroying the cube; additionally, the limits of rules are encountered because destroying the cube is mandated. Players are forced to make a decision that will draw them further into the experience.

Unsurprisingly, many players will feel attachment to the cube, and still delay in destroying it; GLaDOS eventually gets frustrated with the player's obstinacy and gives orders: "Destroy your companion cube or the testing cannot continue," "Place your companion cube in the incinerator," and "Incinerate your companion cube" (*Portal*). Once stubborn players realize that there is no way to get the cube out of chamber seventeen, they place it in the incinerator and are praised: "You euthanized your faithful companion cube more quickly than any test subject on record. Congratulations" (*Portal*). GLaDOS's congratulatory remarks and persistent personification of the cube only serve to further frustrate players (especially those who fruitlessly tried to save the cube). The forced euthanasia of the companion cube solidifies players' distrust and detestation of GLaDOS.

One of GLaDOS's most well-known deceptions is her promise of cake. Beginning in the ninth test GLaDOS begins to allude that the player will receive cake at the end of the tests. When the player reaches the final test, however, GLaDOS reveals that the player will not be able to partake in cake because she is going to be incinerated: "The experiment is nearing its conclusion. The Enrichment Center is required to remind you that you will be baked, and then there will be cake" (*Portal*). As the player is transported towards the furnace all thoughts of cake vanish as survival instincts take over to overcome the aporia. As the player is transported to the incinerator all hope seems lost.

There are no immediate escapes available as the narrative appears to be at an end. However, inventive players can reach an epiphany and overcome the aporia to escape the fiery death. When GLaDOS's barbecue plan is outsmarted, she tries to lure the player back in with the cake: "Okay, the test is over now. You win! Go back to the recovery annex for your cake," and as players move deeper into the bowels of Aperture she taunts "Uh oh. Somebody cut the cake. I told them to wait for you, but they cut it anyway. There is still some left, if you hurry back" (*Portal*). By this time in the game players are savvy to the deceptive nature of GLaDOS and are hopefully not persuaded by the cake. As with the companion cube, GLaDOS gets frustrated with the attempts to thwart her and reveals her plan: "I'm going to kill you, and all the cake is gone" (*Portal*). Since the player has constantly been deceived while making his/her way to GLaDOS, she is unlikely to believe that a cake even existed to begin with. Therefore, when GLaDOS is finally defeated her final words, "There really was a cake," are not trusted. Only the most curious players will entertain the idea to discover the hidden cake on a replay. The use of aporia throughout the game has caused players to doubt everything GLaDOS proposes while drawing them into the experience, perhaps so much as to lead them to question and re-explore.

Portal 2

The deceitful information and abuse the player endures from GLaDOS does not end with *Portal*; the use of aporia persists in *Portal 2*. Players of the first game may think they successfully defeated GLaDOS, but they find themselves deceived when GLaDOS is awakened in *Portal 2*. Once back online, GLaDOS does not alter her mischievous ways,

but rather has developed even more creative insults and new ways to dupe players. Those who played *Portal* prior to *Portal 2* are prepared to be confused and misled by GLaDOS; therefore, comments such as “Federal regulations require me to warn you that this next test chamber... is looking pretty good,” are easily ignored (*Portal 2*). GLaDOS makes no attempts to hide her motives in the second installment, and in fact she even resorts to childish insults: “That jumpsuit you're wearing looks stupid. That's not me talking, it's right here in your file. On other people it looks fine, but right here a scientist has noted that on you it looks stupid” (*Portal 2*). In *Portal 2*, not only must players suffer the disorientating effects of doubt, but they are insulted as well. The insults coupled with misleading information can oppositely result in the determination to destroy GLaDOS permanently. Players of *Portal* will already be used to the utilization of aporia and thus know not to trust anything or anyone in *Portal 2* except their own knowledge (hopefully this extends to not believing GLaDOS’s insults).

GLaDOS’s deceiving nature and ever present insults create hostility towards her in the game, so when she is downgraded to PotatOS (she is cast from her robotic body and her basic operating system is forced to run from a potato battery), players are reluctant to aid her and are even more suspicious of her proposed help. After torturing and developing a deep hatred of Chell, GLaDOS is forced to rely on her. GLaDOS entreats, “So what do you say? You carry me up to him and put me back into my body, and I stop us from blowing up and let you go” (*Portal 2*). At this point, players are rightly leery of the offer, so any hesitation prompts GLaDOS to promise, “No tricks. This potato only generates 1.1 volts of electricity. I literally do not have the energy to lie to you” (*Portal 2*). Despite the reassurance, the mistrust of GLaDOS persists, but players are

forced to bring her along. As she points out, “Even if I am lying, what do you have to lose? You're going to die either way” (*Portal 2*). Having GLaDOS as a companion for a large part of the game does nothing to alleviate the foreboding atmosphere; in fact, it creates more opportunity for occurrences of aporia.

GLaDOS promises to help Chell defeat Wheatley, but she is more of a hitchhiker than companion or partner. Rather than offer any real help or advice, GLaDOS focuses on reminding the player of her impending doom: “We had a lot of fun testing and antagonizing each other, and, yes, sometimes it went too far. But we're off the clock now. It's just us talking. Like regular people. And this is no joke - we are in deep trouble” (*Portal 2*). Despite her feigned concern for Chell, GLaDOS, unsurprisingly, remains most concerned with herself and regaining control of Aperture; thus, she gives the player no reason to trust her. GLaDOS’s self-preservation also leads her to hibernate during tests. By powering herself off under the guise of saving energy, GLaDOS increases the aporia because the player is left without the promised guidance of rules or narrative. While GLaDOS is physically present (unlike her voice over in *Portal*) she is largely inactive during tests, and although she attempts to seem trustworthy, the aporia is heightened when she does not offer the aid she alludes to and the player is left to her own devices.

Being forced to carry GLaDOS around for half the game heightens the aporia because players never know when GLaDOS might wake up or, worse, turn against them. If the thought of her probable treachery was not originally a concern for players, GLaDOS makes them aware of it: “You know, I'm not stupid. I realize you don't want to put me back in charge. You think I'll betray you. And on any other day, you'd be right” (*Portal 2*). Her encouragement that she will not betray the player does nothing to

alleviate the apprehension caused by toting her through the tests. Even though GLaDOS and Chell are “enemies with a common interest: Revenge,” the player is still disinclined to trust her motives (*Portal 2*). Although GLaDOS is humanized to an extent through her new fear of being eaten by birds, “I think I hear the bird! Pick me up!,” it is not enough for players to set aside the previous hours or days of torture and deceit at her hands. Aporia is used to keep player alert and thinking of the multitudes of possibilities of GLaDOS’s intentions as well as the true goal of the game.

GLaDOS creates the majority of aporia in both games, but one of the most deceiving aspects of her is not even known by herself. Players are first introduced to Caroline in the old test chambers of Aperture. At her first appearance, Caroline is Cave Johnson’s eager assistant. In Cave’s recordings she is given little speaking time. Test participants merely hear her agreeing with Cave or giving him reminders when he starts to ramble. Phrases such as, “Yes sir, Mr. Johnson,” “I am,” and “Sir, the testing?” are the only thing players hear Caroline say (*Portal 2*). While the brief utterances of Caroline are limited, Cave Johnson speaks and makes reference to her often. Cave appears to admire and trust Caroline beyond all other Aperture employees; eventually players learn that Cave leaves control of Aperture to her upon his demise: “If I die before you people can pour me into a computer, I want Caroline to run this place... Now she'll argue. She'll say she can't. She's modest like that. But you make her. Hell, put her in my computer.” (*Portal 2*). The appointment of Caroline to head of Aperture Science along with Cave’s artificial intelligence experiments and instance that she be forced into his computer, hint at one of the largest deceptions: GLaDOS is Caroline. A realization that affirms the aporia in *Portal 2*.

Caroline is so hidden in GLaDOS's software, however, that GLaDOS herself is not aware that she was once human. As players travel with GLaDOS through old Aperture tests they hear more about Caroline in Cave's recordings. Eventually GLaDOS begins to have sparks of recognition; in one of her waking moments she hears Cave talking about Caroline, and muses: "Caroline... why do I know this woman? Maybe I killed her? Or... Oh my god... Look, you're... doing a great job. Can you handle things for yourself for a while? I need to think" (*Portal 2*). GLaDOS characteristically goes into hibernation, and the aporia leaves the player contemplating the connection between Cave Johnson, Caroline, and GLaDOS. The fact that GLaDOS actually is Caroline is not definitively revealed until the end of the game when GLaDOS informs players that she has learned where Caroline resides in her.

While the Caroline/GLaDOS synthesis could be argued to be mere information and back-story in the narrative aspects of the game, it actually plays a role in the creation of aporia. GLaDOS's humble beginning as Cave Johnson's secretary reveals that she once possessed feelings and human emotions. Since she never says much in the recordings, the player only has Cave's words to go on, which make Caroline sound committed to him and Aperture, not at all power hungry; GLaDOS was not always the manipulative, evil, demented robot players have come to know her as. It becomes a possibility that Caroline's human traits still reside in GLaDOS somewhere. The player is allowed the idea that Caroline might be brought to the forefront of GLaDOS's operating system in the anticipation of eliminating her murderous tendencies. The scientists who turned Caroline into GLaDOS seemed to have done a good job at over emphasizing the desire to test for science, but inefficiently subdued the more human qualities of Caroline.

Any players duped into believing that GLaDOS could act more like Caroline are proven foolish when GLaDOS easily deletes any remnants of Caroline after Wheatley's defeat: "...taught me an even more valuable lesson: where Caroline lives in my brain. Goodbye Caroline" (*Portal 2*). The aporia culminates when players realize Caroline is gone and there was never any possibility that she could overpower GLaDOS. If GLaDOS can so easily delete Caroline, she could feasibly recapture Chell for another round of tests; even when the game seemingly ends, players have been effectively drawn in and they are left wondering if it is actually the conclusion of the game.

Wheatley

At the start of *Portal 2* a small round robot resembling the alternate cores introduced in *Portal* presents itself to the player as Wheatley. The robot claims to be a friend who is not in favor of GLaDOS's regime and desires to help Chell escape Aperture Laboratories. However, part way through the game, the player is deceived as Wheatley becomes power hungry and perhaps more maniacally obsessed with testing than GLaDOS. While in the first couple chapters of the game it seems as if Chell finally has someone she can rely on, the player is reminded to doubt everything and everyone in the game when Wheatley's betrayal becomes evident. Wheatley's sham adds an additional layer to the aporia in *Portal 2*, reminding players of the unique logic of the games that requires players to rely only on themselves rather than the traditional ideas of narrative and rules.

As with GLaDOS, Wheatley foreshadows his treachery for attentive players. While the player undertakes deciphering GLaDOS's new tests after waking her up,

Wheatley pops in and out to remind the player that he is still present and providing aid as he forges the path ahead. In one attempt at help, he notifies the player, “Oh! I've just had one idea, which is that I could pretend to her that I've captured you, and give you over and she'll kill you, but I could... go on living. What's your view on that?” (*Portal 2*). The player is not actually given a choice, and Wheatley pretends the idea is simply a joke. While Wheatley does not go through with the plan, it does hint that he is not entirely serious about helping Chell escape. Like GLaDOS, Wheatley's first priority is himself; an attentive player may pick up on his cavalier attitude toward her and begin to mistrust Wheatley's true motives. It is not apparent at first that Wheatley is used to create moments aporia in the game, but his deceit quickly enacts it.

Even if Wheatley's motives are called into question early, the player is given no choice but to accept his help in the endeavor to defeat GLaDOS. Upon entering her chamber, it is revealed that the only way to stop GLaDOS is to switch her core with Wheatley's. Wheatley fails to mention this vital information as he and the player move through Aperture in supposed camaraderie. Had the player been privy to this important detail earlier, the mistrust may have been more pronounced. However, since the player does not know, it serves to create heightened aporia in the rest of the game, ensuring that the player will not rely on anything else Wheatley (or any other character) says.

When Wheatley is put in charge of the facility, his true disposition begins to surface. He begins by marveling at his new form: “Whoa-ho-ho! Would you look at this. Not too bad, eh? Giant robot. Massive! It's not just me, right? I'm bloody massive, aren't I?” (*Portal 2*). At first Wheatley sounds genuinely surprised at his new physique and ability, but he soon reveals otherwise: “I knew it was gonna be cool being in charge of

everything, but... wow, this is cool!” (*Portal 2*). It is with this statement that the player realizes Wheatley knew and wanted all along to be placed in GLaDOS’s position. After this shock, the player is presented with another twist: Wheatley was simply using Chell. In admiring his form and power, Wheatley remarks, “Look how small you are down there! I can barely see you! Very tiny and insignificant!” (*Portal 2*). In comprehending the scope of his new power over the whole Aperture facility, Wheatley slips and leaks how he really feels about Chell—she is inconsequential to him. Wheatley no longer needs the player’s help, so he is free to reveal the true devious nature of his character. Wheatley’s coup expands the possibilities for aporia in *Portal 2*; now the player has another antagonist to constantly watch and be suspicious of while proceeding through the game.

Once he exposes himself, Wheatley attempts to claim all credit for GLaDOS’s defeat and his new position. In doing so, he seeks to make Chell the villain. He attempts to chastise her, “Don't think I'm not onto you too, lady. You know what you are? Selfish. I've done nothing but sacrifice to get us here! What have you sacrificed? NOTHING. Zero. All you've done is BOSS ME AROUND. Well, NOW who's the boss? Who's the boss? It's me!” (*Portal 2*). This is the terminus for Wheatley. He fails to understand that that he owes his new power to Chell and that she could probably usurp him of it just as she did GLaDOS; instead, Wheatley decides to make her an adversary. He continues his tirade: “And another thing! You never caught me. I told you I could die falling off that rail. And you didn't catch me. You didn't even try. Oh, it's all becoming clear to me now. Find some dupe to break you out of cryosleep. Give him a sob story about escaping to the surface” (*Portal 2*). While it is impossible for the player to catch Wheatley when he falls

off the rail, many players will have tried to do so; additionally, the player did not convince Wheatley to break her from cryosleep as it would be rather difficult to persuade him to do so while unconscious. Furthermore, no “sob story about escaping to the surface” is ever given to Wheatley because (as Wheatley is well aware) Chell is mute. Wheatley’s words are simply an attempt to make Chell into a villain; as he remarks “finally, a nemesis worthy of my vast intellect” (*Portal 2*). Casting Chell as the villain is merely another step towards creating aporia and enforcing the player’s self-reliance through the rest of the game.

As the player grasps that Wheatley was always lying and that he is a villain, he undertakes some of GLaDOS’s tricks and tries to deceive the player in attempts to make her question and doubt. Wheatley divulges, “You didn't think you were the first, did you? [laughs] No. Fifth. No, I lie: Sixth. Perhaps it's best to leave it to your imagination what happened to the other five...” (*Portal 2*). Wheatley strives to make the player believe that she was not the first one he enlisted to help overthrow GLaDOS and take over Aperture. The player will never know if the statement is true or if Wheatley is simply making it up to infuriate her. Either way, it solidifies the fact that Wheatley was never acting in Chell’s best interests. He always wanted to be put in charge of Aperture, and this leaves the player to doubt and ignore everything he has said to her along the way.

After Wheatley hurls the player into the bowels of Aperture, his new found obsession with testing becomes apparent and leads to further aporia for the player. Once in Wheatley’s tests, he admits to the player: “I HAVE to test. All the time. Or I get this... this ITCH. It must be hardwired into the system or something” (*Portal 2*). Like GLaDOS, Wheatley has a compulsion to perform tests. Because the player became familiar with

GLaDOS's sadistic sense of humor and even more merciless tests, she will understand that it is nearly impossible to predict what types of puzzles will need to be solved. Since he is apparently not as adept at creating tests as GLaDOS, Wheatley starts out easy and even has players solve the same puzzle twice. The combination of GLaDOS's constant reminders that Wheatley is an idiot coupled with the simple first tests creates a false sense of security that all of Wheatley's tests will be solved simply; however, this is not the case. When he is incapable of designing his own torturous chambers, Wheatley discovers some that GLaDOS had set aside in storage: "You're not going to believe this. I found a sealed off wing. Hundreds - HUNDREDS! - of perfectly good test chambers. Just sitting there. Filled with skeletons. Shook them out. Good as new!" (*Portal 2*). Since the player understands that GLaDOS was vastly more adept than Wheatley at creating tests, she will have no idea what to expect in future chambers. Akin to *Portal*, the aporia in *Portal 2* extends to limiting the player's understanding of the test chambers and path needed to succeed.

While he commandeers GLaDOS's chambers, Wheatley does incorporate his own elements into them. Mainly that of monitors hung on the walls so that the player can view him watching the struggle for success. He reminds players, "Aw. Bless your little primate brain. I'm not actually in the room with you. Am I? Technology. It's complicated. Can't hurt the big god face" (*Portal 2*). As Wheatley's patronizing comment suggests, the screens in the chambers merely serve to call attention to the fact that he is watching; however, the player should comprehend that Wheatley could observe the tests without them. In contrast to Wheatley's monitors, in *Portal* GLaDOS uses small unassuming cameras to monitor tests; she appears as nothing more than a god-like voice dictating

tests and deceiving the test-subject. Wheatley actually weakens himself as a god figure by appearing everywhere. While it could be argued that being able to view Wheatley while testing would diminish the aporia, it does not. By this point in the game, players are conditioned to question everything; Wheatley's projection and dialogue could simply be pre-recorded or erected as a way to distract players from what is really going on. The player is being merely distracted by Wheatley and the aporia persists.

When Wheatley is no longer satisfied by the testing, or just merely tired of Chell trying to escape, he decides (as GLaDOS did) to kill her. He announces, "Hello! This is the part where I kill you" (*Portal 2*). Akin to GLaDOS, Wheatley gives up all pretense of mystery and decides to disclose his plan to the player. Fortunately, by this point, the player has been conditioned by the presence of aporia not to trust anything Wheatley says, even if it seems to be truthful. The previous aporia coupled with lack of trust is what enables the player to escape the death trap. While escape from the death trap is possible, the player must return to the area. When this happens, Wheatley appears confused and again resorts to a GLaDOS like attempt at forcing the player to commit suicide:

Oh! You came back! Didn't actually plan... for that. Can't actually reset the death trap. So. Ah. Could you jump into that pit, there? ... You're saying to yourself, why should I jump into the pit? I'll tell you why. Guess who's down there? Your parents! You're not adopted after all! It's your natural parents down there in the pit. ... So jump on down and reunite with mommy and daddy. ... And what else is down there... Tell you what, it's

only a new jumpsuit. A very trendy designer jumpsuit from France. Down there. (*Portal 2*)

Wheatley attempts to adopt some of GLaDOS's ploys. Whether or not he actually believes they will work is unclear, but he is rather insistent on assuring that Chell's parents are alive and even resorts to trying to reverse GLaDOS's previous comments on Chell's "stupid" looking jumpsuit by tempting her with a new one. When the player fails to jump in the pit, Wheatley turns to assuring her that death is imminent, so suicide is the better option: "I just wanted to give you the chance to kill yourself now. Before you get to the lair. Just, you know, jump into the masher there. Less a death trap and more a death option for you" (*Portal 2*). The player, of course, does not give up and commit suicide, so the approaching battle is inevitable; true to the aporia of both games, what remains unclear for the player is how actually to find and defeat Wheatley.

Once the player reaches the lair, Wheatley is extremely confident in success and, like any over confident super-villain, reveals his plan. He explains, "Four part plan is this: One: No portal surfaces. Two: Start the neurotoxin immediately. Three: Bomb-proof shields for me. Leading directly into number Four: Bombs. For throwing at you" (*Portal 2*). It could be argued that in disclosing the plan, Wheatley destroys the aporia; nevertheless, he actually increases it. Even though the player knows exactly how Wheatley plans to kill her, she will initially be unclear on how to stop him. It is likely that a player may actually die and have to attempt a new attack plan because neither the narrative nor the rules provide an indication for how Wheatley can be stopped.

Even the ending of the game creates aporia. While endings are generally expected to be finite, the ending of *Portal 2* raises more questions and doubt than it resolves. Chell

is seemingly released from GLaDOS/Wheatley's lair into a field, Wheatley is stuck in "SPACE!" and GLaDOS is left in control of Aperture. Because of aporia throughout both games, no part of the conclusion of *Portal 2* leaves the player with any sense of finality. The player is left wondering not only if GLaDOS actually let her escape Aperture (the field could be in the facility), but also if Wheatley could somehow return from space. Numerous internet discussion boards have been devoted to the idea, containing everything from mere speculation to mathematical calculations on whether Wheatley could return if the portal on the moon was left open. Then of course, would GLaDOS crush him instantly if he managed to return, or would she possibly attempt to team up with him in another attempt to murder Chell. The player is drawn into the endless possibilities, and the largest element of aporia (at the time of writing) is if a third game will be created.

Cave Johnson

After being thrown into the bowels of Aperture by Wheatley, players discover old sections of the facility. Recordings and pictures of Aperture's founder, Cave Johnson, are strewn throughout the offices and timeworn test chambers. Unlike the taunts and tricks of GLaDOS and the deception of Wheatley, Cave Johnson is seemingly straightforward and appears eager to convey exactly what test subjects are in for (unfortunately, they may have already drunk the water by the time he tells them what's in it). Cave Johnson provides his test subjects with an abundance of information regarding the tests they are to face; although after the deceit and manipulation of GLaDOS and Wheatley, players may be hesitant to trust the outdated recordings.

When first introduced to Cave Johnson, it is surprising to find that he seems to explain exactly what is going on, and, unlike GLaDOS, he actually provides useful warnings for the various tests. Cave's warnings can be found in several of the prototype Aperture chambers: "All these science spheres are made of asbestos, by the way. Keeps out the rats. Let us know if you feel a shortness of breath, a persistent dry cough or your heart stopping. Because that's not part of the test. That's asbestos" (*Portal 2*). Here, Cave provides arguably valuable advice that could help a test subject. Warnings such as this one contrast Cave with those of GLaDOS, who would take delight in test subjects, especially Chell, contracting asbestos poisoning.

Not all of Cave's warnings are simply beneficial, however. For attentive players, useful information other than cautionary advice can be gathered from Cave's recorded warnings. In one case Cave enlightens, "this next test may involve trace amounts of time travel. So, word of advice: If you meet yourself on the testing track, don't make eye contact. Lab boys tell me that'll wipe out time. Entirely. Forward and backward! So do both of yourselves a favor and just let that handsome devil go about his business" (*Portal 2*). The warning here serves two purposes; first, it is a useful caution to participants not to talk to themselves should they meet their doppelganger, and second, it enhances the aporia of the game. While Cave's warnings may appear to be useful, the player does not often encounter the things he forewarns against. In this case, a player may be distracted by keeping an eye out for her time traveling self in the chamber, either out of curiosity or to ensure that they do not come in contact with each other. As one progresses through the chamber, however, it becomes apparent that there is not a time traveling other self to

interact with. The unrequired warnings incite players to question Cave as well as ignore future advice from him.

Cave Johnson seems to provide his test subjects with an overabundance of information about the tests they will face. In some instances he even notifies them about possible side effects: “We're gonna have a superconductor turned up full blast and pointed at you for the duration of this next test. I'll be honest, we're throwing science at the wall here to see what sticks. No idea what it'll do. . . . Best-case scenario, you might get some superpowers. Worst case, some tumors, which we'll cut out” (*Portal 2*). Cave Johnson professes to be exceptionally interested in science and discovery, and he is willing to try just about anything to further the subject. In this quote, it can be seen that he will even attempt random tests without a hypothesis simply to see if anything will happen. It should also be noted that the act of reassuring participants that Aperture will cut out any tumors that form as a result of the test sends the message that Cave appears to care about the participants. However, as the tests go on, it is obvious that while Cave provides an abundance of information, he does not care to help the test subjects as much as he seems to. The original abundance of information provided by Cave seems to destroy the *aporia* at first; when players are given more information than ever before, the element of uncertainty and necessity for self-reliance is taken away. It soon becomes apparent, however, that while Cave offers more information about the tests, there is even more that he is hiding. Cave Johnson's information serves to conceal more than it reveals, and thus the *aporia* in the game is extended.

As with GLaDOS and Wheatley, Cave Johnson's first priority is science and testing. His warnings and advice might seem to come from a place of caring and concern

at first, but it quickly becomes apparent that they are just a means to an end. At times he seemingly articulates exactly what is going on, only to reveal something a few minutes later that was never expected. In one such instance, Cave tells testers, “For this next test, we put nanoparticles in the gel. In layman's terms, that's a billion little gizmos that are gonna travel into your bloodstream and pump experimental genes and RNA molecules and so forth into your tumors” (*Portal 2*). Cave’s advice here seems straightforward, explaining exactly what is going to happen in the test. However, those who might be wondering what will happen if they do not have tumors are in for a surprise. A minute or so later, Cave addresses the idea: “Now, maybe you don't have any tumors. Well, don't worry. If you sat on a folding chair in the lobby and weren't wearing lead underpants, we took care of that too” (*Portal 2*). Here players get a glimpse that Cave may not be as forthcoming as he appears and is probably hiding more than he is sharing. While Cave does tell the test subjects that they have tumors, he waits until after they have been contracted; the test subject is never given any choice or prior notification about receiving tumors. The aporia created by Cave should become apparent to an attentive player at this point; although if they avoided sitting on any chairs, they have one less thing to worry about.

In another similar instance, players are informed that they may inexplicitly begin to bleed gasoline. The blood replacement is yet another side effect of an experiment Cave keeps hidden from the test subject until the opportune moment. He explains, “If you've cut yourself at all in the course of these tests, you might have noticed that your blood is pure gasoline. That's normal. We've been shooting you with an invisible laser that's supposed to turn blood into gasoline, so all that means is, it's working” (*Portal 2*). Again,

Cave waits until he thinks it is necessary or even simply until he feels like it to tell testers what is being done to them; once it is already too late to stop him. Cave might find amusement in notifying the participants exactly what they are in for with specific test chambers, but his first priority (like GLaDOS and Wheatley) is science and the tests. Moments such as this create aporia and force players to disregard Cave's messages in favor of negotiating the tests alone.

At several points in the game Cave discusses his views on science, demonstrates his passion for it, and criticizes those who do not share his views. He can be heard commenting, "Science isn't about WHY. It's about WHY NOT. Why is so much of our science dangerous? Why not marry safe science if you love it so much. In fact, why not invent a special safety door that won't hit you on the butt on the way out, because you are fired" (*Portal 2*). While Cave Johnson makes it a point to inform test subjects about the dangers they will encounter, he does not approve of the naysayers or the fearful. If he is to be believed, nothing is gained or learned from "safe science." The detestation of safety could be reason that GLaDOS and Wheatley go through so much effort to make their tests treacherous. It also contributes to the instances of aporia when Aperture is under GLaDOS's or Wheatley's regime; if the player cannot rely on anything told to her by the antagonists, an extra element of danger is added to further interactivity. Informing test subjects exactly what they are in for diminishes the amount of danger because they will have time to prepare for it; although, as has been pointed out, it does not detract from the construction of aporia since it leads players to be suspicious of what other hazards await.

The idea of providing less information to test participants is addressed several times while in the areas of early Aperture; essentially Cave is being told by his associates

to create aporia for the test subjects. In one instance, Cave Johnson notifies the player that he should not be telling her so much about the tests. He comments: “The lab boys just informed me that I should not have mentioned the control group. They're telling me I oughtta stop making these pre-recorded messages. That gave me an idea: make more pre-recorded messages. I pay the bills here; I can talk about the control group all damn day” (*Portal 2*). Cave relishes in talking to his test subjects about the puzzles and challenges he is making them face. It is interesting that Cave mentions he has been instructed against revealing everything about the experiments to testers. For best results in any scientific experiment, participants should not know if they are in the control group or not because such information could skew the results. Cave, while extremely invested in science and experiments, does not seem to care about the aporia that should exist in scientific trials on humans. Additionally, it can be surmised that this group of “lab boys” are part of the same team that developed GLaDOS; therefore, it would follow that since they did not like Cave’s recordings, they made sure that GLaDOS would not tell future test subjects anything about them, thus creating a reason for the aporia in the first game and the beginning of the second.

Eventually Cave seemingly caves to the “lab boys” and ceases providing warnings and advice to the test subjects and becomes outright evasive about what the tests are for. As the player progresses out of the old Aperture chambers, Cave is heard saying, “Right. Now, you might be asking yourself, 'Cave, just how difficult are these tests? What was in that phone book of a contract I signed? Am I in danger?' Let me answer those questions with a question: Who wants to make sixty dollars? Cash” (*Portal 2*). Cave is downright dodgy in these later chambers. Providing test subjects with

information has not aided his tests (as can be summarized by the decreasing attempts to feign concern and provide information for the test subjects), and he is desperate for individuals to experiment on. Had players previously trusted Cave, they abandon any similar thoughts at hearing this message. The aporia found in *Portal* and the beginning of *Portal 2* begins to take form as Cave makes it apparent that he has been concealing information the whole time.

Eventually Cave Johnson's true nature is completely exposed. He is so invested and interested in science and obtaining test subjects that he frequently makes offers of new opportunities (if participants survive the current testing) and eventually resorts to using anyone he can find to test. At first Cave makes new offers to current test subjects:

If you're interested in an additional sixty dollars, flag down a test associate
... You could walk out of here with a hundred and twenty ... if you let us
take you apart, put some science stuff in you, then put you back together
... So that's a complete reassembly. New vitals. Spit-shine on the old ones.
Plus we're scooping out tumors. Frankly, you oughtta be paying us.

(Portal 2)

By this point, Cave is getting desperate for ways to keep his experiments running. His current test subjects are either not surviving or not particularly willing to be taken apart and reassembled. Unlike GLaDOS, Cave does not seem to have perfected his persuasive personality and aptitude to obscure his intentions. It soon becomes clear that where Cave was once only interested in astronauts, war heroes, and Olympians, he is now willing to take anyone to participate in testing. In his desperation, Cave has seemingly taken people with no particular noted talent: "Thank you - I can't believe I'm thanking these people -

for staggering your way through Aperture Science's propulsion gel testing. You've made some real contributions to society for a change, and for that, humanity is grateful” (*Portal 2*). Cave’s frustration at lack of suitable test subjects has won out, and his disdain for the participants is evident. Cave would conceivably test all of humanity for the benefit of science, even if no one was left to profit from it. Again, the aporia is heightened as players are left to ascertain what the benefit of the testing really is as well as Cave’s and Aperture’s motives; they may even question their own abilities in the game as the player has clearly been selected after the astronauts, war heroes, and Olympians have died off.

Although it may not be apparent at first, as founder of Aperture, the creators of GLaDOS and Wheatley, Cave should be trusted least of any protagonist in the game. His positive attitude and desire to apprise players on tests quickly diminishes, and it is unsurprising that his ideas and passion for unsafe science aided in the development of GLaDOS and Wheatley and their deceptive habits. The treachery is so rampant in *Portal* and *Portal 2* that by the time Cave Johnson is encountered hardly any information can be trusted. Where Cave Johnson first appears to destroy the occurrences of aporia, he is actually the founder of it for both games.

IV. CONCLUSION

“BECAUSE I’M A POTATO”

- GLaDOS

The inscription here is used in *Portal 2* as a finite statement to grab the attention of the player and ensure the awareness of GLaDOS’s new physical medium. Similarly, it is employed here to note the end of the argument that calls attention to the combination of narrative and rules and the distinctive use of aporia in *Portal* and *Portal 2*. As it has been noted, videogames, especially *Portal* and *Portal 2*, should not be studied simply as narrative, nor should their rules be solely examined; instead, the narrative, in conjunction with rules and other exclusive elements, needs to be combined for a full understanding. As Juul rightly advises, “Narratives may be fundamental to human thought, but this does not mean that everything *should* be described in narrative terms. And that something can be presented in narrative form does not mean that it *is* narrative” (“Games Telling Stories”). Simply because a video game appears to be a narrative or have elements of narrative in it, does not mean that it needs to be described or studied as a narrative. *Portal* and *Portal 2* are perfect illustrations of Juul’s comment because the two games abound with narrative elements and storyline, but they are far from traditional narrative. As discussed in chapter two, both games have clear storylines and various narrative elements; however, it would be incorrect to study them as narrative because that would discount the rules, adaptations, and player experience. In examining *Portal* and *Portal 2*

strictly as narrative, one would miss the ways in which the games expand and push past the ideology of traditional narrative.

The narrative aspects of *Portal* and *Portal 2* provide the player with meaning and motive, but it is the combination of rules and aporia that creates the distinct immersive experience for players, which is not possible with narrative alone. It would not be as interesting for one to read or watch the narrative of *Portal* and *Portal 2* to piece them together; the addition of interaction enables a creative experience in which players can explore and delve as much or as little into the game world as they wish. Unconcerned casual players can enjoy the game as a singular interactive experience; whereas more serious and curious players can thoroughly explore each game for clues, go online for further input, create theories, and thus have an interactive wholly individual experience of playing the game. As Juul recommends, “It is the unique parts that we need to study now” (“Games Telling Stories”). Using narrative as an initial or partial viewpoint is useful, but it is important to not discount the other aspects of video games. Studying the exclusive aspects of video games along with their use of narrative is ideal because it provides for a more dimensional, multifaceted account. Aporia cannot be ignored and is noted as the driving force in the creation of immersive environments that challenge players to think and progress through the games in innovative ways.

Findings: the use of Aporia and Moving beyond Narrative

In many video games, players can control the extent to which they immerse themselves; *Portal* and *Portal 2* are no exception. *Portal* and *Portal 2* are riddled with secret easter eggs waiting to be found. From the more obvious scribbles on various walls

to hidden back rooms and cake, determined players can explore Aperture in both games to discover more about the facility and narrative than is presented plainly on a first play through. These secrets do not generally affect game play, and can simply be ignored by players if desired. If sought out, however, they often add to the overall narrative of the games. Players who wish to immerse themselves more fully into the game world can search out these clues and secrets to reveal new narrative elements and further understand what is going on at Aperture.

On the surface, the hidden elements make replay exciting for players, but they also do much more. Aside from replay value, the inclusion of such elements, while adding to the narrative aspects of the game, also detracts from the argument that videogames are akin to more traditional narratives. A novel can be re-read and a film can be re-watched, but the narrative stays the same each time; however, when replaying *Portal* and *Portal 2* the narrative changes and is enhanced with each new discovery. Players can immerse themselves in the world of *Portal* and *Portal 2* to different extents by following the basic storyline of the two games on a first play through, seeking out more information and secrets on a second run, or even further extending the experience through online exploration and forums.

Portal and *Portal 2* expand the limits of video games. They both “give players a gun that is never used to shoot anyone [and ...] require you to wrap your brain around what can be done armed only with a gun that fires doorways” (Hamilton). A general theme of many video games is survival by means of killing (often shooting) any hostile being that enters the screen; however, “if playing a video game only were about shooting, racing, or moving around, developers wouldn't bother with these elaborate stories or with

creating characters and infusing the characters with pasts” (Levine “Why Gaming” 12). *Portal* and *Portal 2* take the concept of shooting and transform it; while the portal gun can be used to destroy enemies (players can send turrets hurling through portals to deactivate them), it is not designed specifically to do so. In both games, the innovative use and rules of a gun is combined with the intricate narrative elements and unrivalled incorporation of aporia to transport players beyond conventional textual interaction and towards an innovative encounter.

The immersion and interaction of the individual coupled with the revolutionary rules and use of aporia in *Portal* and *Portal 2* allow for an innovative gameplay experience. Juul notes that, “video games generally focus on manipulating and moving objects, and less commonly address the complex interactions between humans such as friendships, love, and deceit” (*Half Real* 20). Juul’s observation that video games generally avoid dealing with the intricate details of human relationships is true of most games, but not of *Portal* and *Portal 2*. While the player controls the only living human in both games, all three themes Juul mentions are present in the games. The role and importance of friendship is apparent in *Portal* when the companion cube is introduced and then seemingly destroyed; GLaDOS, Wheatley, and Cave Johnson all promote deceit; and Wheatley (for a short time), the companion cube, and Caroline portray the benefits and pitfalls of love. *Portal* and *Portal 2*’s inclusion of such complex associations set them apart from other games. Part of the reason such interactions are left out of games is the doubt and questioning that come with them. As displayed by the relationship with Wheatley in *Portal 2*, love and friendship can often have disastrous results; such problems are generally best left out of other games, but in *Portal* and *Portal 2* the relationship is

used to add aporia to the game. Similarly, the extent of GLaDOS's deceit is previously unheard of; here, however, it stimulates game play, immersion, and is the backing force of aporia in both games. *Portal* and *Portal 2* incorporate these otherwise untouched elements to set themselves apart and demonstrate that narrative can be transformed in video games.

Not only is narrative transformed in *Portal* and *Portal 2*, but the two games also add elements not seen in previous video games. Aporia is not generally found in video games prior to *Portal*. Video games often provide players with some sense of where they are in the game, thus providing as little doubt as possible. Maps and legends, for instance, are elements often utilized in games so that players are aware of at least the immediate surrounding area and the direction they need to progress in. *Portal* and *Portal 2*, however, do not provide the player with any perception of direction or location within the game. First time players of the game (assuming they have not sought out the information online) will have no idea of where they are going, how to get there, or even how large the entire Aperture facility is. At the very least, in both games, a map of the chambers to be conquered would give players an idea of how far they have advanced, and how much further they have to go until the triumph of completion. While it could be argued that a map is not needed in *Portal* and *Portal 2*, since players can generally only escape each chamber through one exit, the exclusion of such a device serves to increase the aporia of the game. Being kept in suspense and unaware of location information serves not only to develop the aporia but also augments the immersion of the player into the game.

While many video games adapt narrative and rules, it is the aporia of *Portal* and *Portal 2* that set them apart. Levine points out that “Even the most violent video game

has a narrative, while many fantasy and role-playing titles have very rich, detailed narratives that exist behind the action of the game. Whole worlds are created, characters [...] with backstories, and completed tasks lead to a resolution that makes sense for those characters in that world” (“Why Gaming” 12). Levine rightly notes the similar ties with narrative all games share, but her comments on resolution fall short for *Portal* and *Portal 2*. While many players thought *Portal* had a solid conclusion, they found themselves mistaken with the release of *Portal 2*. By the time players complete the second game and combat countless occasions of aporia through various epiphanies, the conclusion of *Portal 2* seems to do anything but “make sense for those characters.” GLaDOS releasing Chell is completely contrary to her previous actions and nature, and players are left questioning if there actually was a resolution. *Portal* and *Portal 2* constantly defy traditional notions of narrative and display its limits by demanding players cast off traditional ideas of narrative and rules through the incorporation of aporia to expand the ideology of videogames.

After the release of *Portal* and *Portal 2*, developers and designers are challenged to work against genre constraints and expectations by thinking of innovative ways to use the game space and provoke players to think outside the traditional mode of “kill everything” or “beat the villain.” For example, the use of the portal gun allows for players to move around the game world like never before; the idea of traversing space in unique ways has been applied to some later games, such as *Mirror’s Edge* (2008) (in which players run across, up, & down buildings, similar to Parkour), but there is still ample room to develop video games. Future game designers will need to challenge the traditional conventions of video games to succeed in keeping player’s interest. Merely

being able to negotiate space in unique ways is not enough; players must be enveloped in new tasks and experiences.

Portal and *Portal 2* are pioneering in game design; their unique mechanics, game space, and demands of players alter how future games will be accepted and developed. Players were, and still are, hard pressed to find a similar game after *Portal's* release (until *Portal 2*), and the internet is filled with forums and message boards devoted to the search. Only in the past few years, leading up to and after the release of *Portal 2*, have games begun to appear that both designers and players dub as “similar” to *Portal*. When searching for games comparable to *Portal* and *Portal 2*, the same few are almost always mentioned: *The Ball* (2010), *Lara Croft & the Guardian of Light* (co-op mode compared to *Portal 2*) (2010), *Quantum Conundrum* (2012), and *Contrast* (not yet released). The reason there are so few comparable games to *Portal* and *Portal 2* is that these games are doing something original that has not been seen before; they represent a transition period for video games. Video games will not transform into an entirely new medium with the transition; instead, while retaining their defining features, video games will adopt new conventions in order to preserve their appeal to players.

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