

***BioShock* and *Portal*: A Discussion of Poetics**

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Poetics, as outlined by Aristotle (350 BCE), serves as a framework for analyzing dramatic and literary works of art. In his treatise, Aristotle defines the basic elements of drama to be plot, character, theme, diction, music, and spectacle. More recently, Janet Murray (1997) posited *The New Poetics*, in her book *Hamlet on the Holodeck*, which updated this framework to include immersion, agency, and transformation. The combined use of these frameworks creates a powerful structure capable of elucidating the parallels and distinctions between literary works. This essay compares 2K's *BioShock* and Valve's *Portal* along the aforementioned dimensions to explore if such a structure is well suited to examine why both of these games achieved critical success.

BioShock is a first-person survival shooter set in an alternate 1960 and the player assumes the role of Jack, a plane crash survivor, who must explore the underwater city of Rapture. The game is one of the highest rated games, scoring 96 out of 100 on Metacritic, a website that collates critic reviews, and 8.0 out of 10 from users ("BioShock PC Review," n.d.). It was lauded for its immersive environment and its implementation of mortality. *Portal* is a first-person puzzle-platform game set in an alternate 2010 and the player assumes the role of Chell, a test subject, who must overcome challenges in the Aperture Laboratory. The game

is also one of the highest rated games, scoring 90 out of 100 on Metacritic and 9.5 out of 10 from users (“Portal PC Review,” n.d.). It was praised for its original gameplay and darkly humorous story. Both games were released in 2007.

According to Aristotle (350 BCE), plot encompasses the mechanics of storytelling as well as the sequence of events through which the characters interact. The plot structure of these games develops along similar lines, despite the differences in genre, playtime, and difficulty. The player enters these worlds and undertakes the exploration of an abandoned space that was contrived by one man realizing his vision. Curiously, that man has already been, or is poised to be, succeeded by a character forged by the conditions of the respective societies.

BioShock's Andrew Ryan is an Objectivist businessman who envisioned Rapture, an underwater metropolis, as a safe haven for those artists and scientists oppressed by their governments or religions. Despite the founding principles, dystopia emerged and class divisions arose. Frank Fontaine began to undermine Ryan's authority through revolution in an attempt to seize control of the city (Tobey, Monacelli, & Levine, 2007).

Portal's Cave Johnson is an entrepreneur and founder of Aperture Science and he pursued scientific progress with fervor. His zeal lured Caroline, his personal assistant, into becoming the personality for a Genetic Lifeform and Disk Operating System affectionately named GLaDOS. GLaDOS is the computer artificial intelligence that tracks and monitors all testing progress within Aperture Laboratories after Cave Johnson dies (Marie, 2010).

The player must slowly adopt aspects of the world to adapt to new challenges presented by their respective environments. Jack starts splicing his DNA with a mystical, gene-altering substance that grants him superhuman abilities such as shooting lightning bolts or fireballs while Chell learns to use the portal gun to navigate the treacherous testing chambers. The audience sympathizes and identifies with the protagonists from their respective worlds because very little is known about the

protagonists other than they are in unfamiliar environments; this feeling of isolation and trying to find oneself is immediately recognizable and identifiable. The protagonist's, and by extension the player's, prime motivation upon starting the game is to first explore the area.

Speaking from a strictly plot perspective, both Chell and Jack have no choice in arriving at their respective environments. Jack survives a plane crash and enters Rapture due to the influence of his mental conditioning. Speaking from a game play perspective, the player is given the illusion of free will to approach the lighthouse entrance to Rapture; the environment is set up so that the player feels drawn further down into lighthouse by subtle lighting and directional cues. In *Portal*, the player is locked in a room with a small radio playing funky music. Then a disembodied, robotic voice welcomes the player but exhibits signs of malfunction which serve to spark curiosity. When a portal opens in front of the player and with no alternative paths to take, the curiosity becomes overwhelming and the player steps through the portal.

BioShock grants the space for the player to grow, develop, and realize their character through a subset of choices, both gameplay oriented and morality oriented. The player goes on a journey to define his or her identity in a world that was so desperate to create one separated from the world above. Jack encounters weapons he can use or plasmids that grant him special powers by changing, or splicing, his DNA (Murdoch, 2007). This symbolizes the manifestations of change that he goes through, just as all the citizens of Rapture did before him. The only aspect that affects the story is the morality choice given to the player which centers on harvesting or freeing the characters known as Little Sisters. Although the choice is binary, it creates a sense of choice.

Portal on the other hand, takes the player on a pre-determined journey through the world with no narrative choices to make. Chell starts in a specifically designed test chamber to highlight

the introduction of portals. GLaDOS informs Chell about the testing procedures to acclimate the player to the game space, and successive trials of heightening intensity are introduced to the player. In fact, there are a few puzzles that the player must complete without their own portal gun to demonstrate an understanding of portal mechanics (Valve, 2007). The only choice available to the player is strictly game play oriented: how to solve each challenge. This is a function of their respective genres since *BioShock* is a survival RPG whereas *Portal* is a first person puzzler.

Aristotle (350 BCE) posits that in the relationship between plot and character, there exists a “third necessary character” that is instrumental in bringing the climax. The “third necessary character” in *BioShock* is Andrew Ryan. He is the architect, visionary, and leader of Rapture and it is he who is established as the enemy from the onset of the game. Frank Fontaine, introducing himself to the player as Atlas, cajoles Jack into believing Andrew Ryan needs to be taken down for Rapture to flourish. Upon meeting Ryan, the player learns the true nature of what is occurring and understands that Atlas, who is now revealed as Fontaine, is the true enemy. During this confrontation, Andrew Ryan forces Jack to physically beat Ryan with a golf club to demonstrate to Jack that he has the ultimate power of choice. Without Ryan and his teaching-by-dying, the set up and reveal of the true villain would not have worked and it is that pivotal meeting which serves as the narrative climax for the story.

In *Portal*, the “third necessary character” is the weighted companion cube, a box with hearts drawn on each face depicted in Figure 1. Although this character never talks or moves or communicates in any way, it is essential to the story and teaches an important part of the game play mechanic for defeating GLaDOS in the end. In a short sequence during one of the levels, GLaDOS gives Chell the companion cube and warns her not to get attached to the cube, and reminds her that the cube cannot speak. The cube literally saves Chell’s life as she holds it to block

incoming energy balls. At the end of the sequence, GLaDOS instructs Chell to incinerate the cube and mocks her throughout the process. The mechanic of taking objects and throwing them into incineration tubes is instrumental during the fight with GLaDOS; the player must take pieces of GLaDOS and throw them into tubes in the same fashion. Similar to Andrew Ryan, the companion cube must die in order to teach Chell how to destroy GLaDOS.

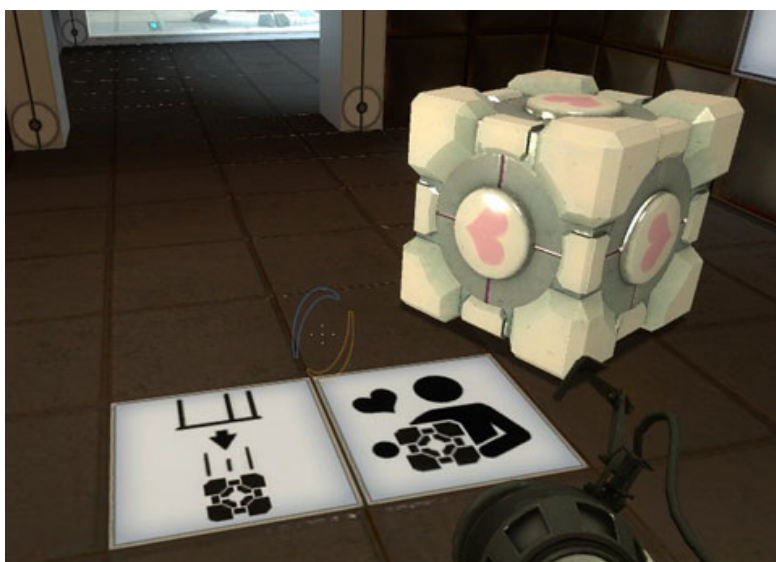


Figure 1. The weighted companion cube, Chell's one friend in *Portal*

Besides the overt conflict between Jack and Andrew Ryan, and then Fontaine, *BioShock* drips with conflict on almost every layer of its narrative. In fact, upon entering the lighthouse, the first thing that comes into view is a statement that clearly lays out a conflict with authority: “No gods or kings. Only Man.” When Jack descends in the bathysphere, an elevator-like contraption, into Rapture, a short video narrated by Andrew Ryan explains the

premise behind Rapture. He defines conflict with politics, with god, and with human civilization, and how he explains his vision to create a sanctuary. This introduction posits a main theme that runs like a thread through everything: the philosophy of Objectivism.

Objectivism holds that reality exists independent of consciousness; people can directly perceive reality and obtain knowledge through that perception. Rand characterized Objectivism to be grounded in reality so that people can determine their own purpose and define their own nature (Rand, 1962). Similarly, Andrew Ryan designed Rapture to embody those principles and his character was directly influenced by Rand's work (Tobey et al, 2007).

There is a common theme that threads both games together by virtue of their environments and the individual who constructed said environments. They involve a sole architect realizing a vision to its logical extreme through the creation of a seemingly pristine but dystopian environment that ultimately drives itself after the original architect is removed. Although he only makes an appearance in *Portal 2*, Cave Johnson is the parallel character to Andrew Ryan. He consistently puts the progress of science above any individual's life and this pursuit is epitomized in his creation of GLaDOS.

Portal's primary conflict exists between Chell and GLaDOS. Indeed, this conflict ties in with the game's central theme of science, robotics, and ethical research. Chell's struggle in the testing chamber represents a logical extreme of unethical testing. The entire Enrichment Center flaunts societal standards of ethical testing and considers death an outcome that does not hinder the progress of the science they are pursuing. Although the game is wrapped in a heavy blanket of sarcasm courtesy of GLaDOS, she continues to serve this theme. Since she sees humans as simply a component of the testing procedure, she epitomizes some of the concerns posited by Isaac Asimov. GLaDOS's testing protocol and erratic behavior directly violates all of

Asimov's Three Laws of Robotics, which he describes from his stories in *I, Robot* (Asimov, 1950).

Aristotle (350 BCE) further identifies that dramatic works include diction, which is how the work speaks to its audience and is conveyed through tone, imagery, and dialog among other elements. The tone of Rapture and Aperture Science's Enrichment Center are poignantly dark and mysterious. This is demonstrated through visual cues such as dissonance between what is expected from the world and what actually is. The main voices in both games serve this tone by leading the player to expect one thing but then surprising them with the reality of the environment. Andrew Ryan speaks in a very lofty tone as if he is continually speaking down to the player. Atlas speaks in a pleading tone yet becomes derisive when he reveals himself as Fontaine, making the twist that much more severe. On the other hand, GLaDOS speaks in a very warm tone initially and transitions to sardonic and sinister tone as the game's message comes into focus. She even becomes frantic as Chell makes her way through the underbelly of the facility, emphasizing her loss of control and simultaneously heightening the player's own sense of mastery.

The imagery in *BioShock* all point to the notion of a better life, which is what Rapture is supposed to embody. This imagery is conveyed through elements such as the advertisements of products that are designed to make life easier, as seen in Figure 2. The imagery is continued through the now desolate house parties in almost every apartment and through the architecture of Rapture since it is a city fully separated from everything that stifles progress (Tobey et al, 2007). However, these are all painfully ironic since the exact products advertised led to the genetic demise of the citizens, the parties threw the inhabitants into a primitive fugue that disconnected them from their identities, and the abandoned buildings threaten the integrity of maintaining a city underwater.



Figure 2. An advertisement for one of the powers available to the player

The imagery in *Portal* relies on the notion that scientific progression will enhance our lives, regardless of the cost. If one is a poor test subject, they simply perish in the test. If one is a good test subject, such as Chell, and completes all the challenge set forth then they are disposed of at the completion of the testing procedure because they have outlived their usefulness. Fortunately for Chell, there is a malfunction which grants her the opportunity to escape. The irony of the environment is divulged here as the player can start to explore the inner workings of the Enrichment Center. It is here that the player begins to see the

larger workings of the laboratory and finds repetitive scrawling notes on the wall, indicating that someone else was here and they have clearly gone mad.

Music plays a fundamental role in both of these worlds to communicate their messages and establish the setting. In *BioShock*, phonograms pervade the world and play music from the 1940s and 1950s, which is consistent with a world that departed from reality in the 1960s. The songs are from a recognizable past and help to ground the world as not so distant from our own as well as concretely define the era (Tobey et al, 2007). The score excellently highlights the rhythm of Rapture as an underwater world set apart from the surface by contempt and hubris. The pacing of the predominantly violin and piano soundtrack subtly hints when the player is free to explore or when they should be on their toes. By using these two instruments in the forefront of the soundtrack, the music creates a classical feel that is flexible enough to portray the wide breadth of emotions necessary to deliver the crucial moments with the impact they need.

Portal relies on a non-lyrical ambient soundtrack which accommodates the eerie feeling of being constantly isolated in testing chambers as a mechanical voice taunts and berates the player. The ambient soundtrack also serves the double purpose of granting the player a contemplative space to perceive the challenge and creatively generate solutions to the problems. In addition to this soundtrack, the credits play the song "Still Alive," written by Jonathan Coulton for the game and sung by GLaDOS, voiced by Ellen McLain. The song became a fan sensation because of its humor and it also provided closure for the game. In an interview, Valve's Kim Swift said that it was their intention for players to leave the game "genuinely happy and with a smile on their face" (Kumar, 2008).

Both soundtracks also share one key element: they communicate the concept that something is not quite right in this world. There's something off about Atlas and his dynamic with the protagonist,

and there is something behind GLaDOS's incessant obsession with testing. Without the music, the beats of the story would carry far less or even no weight.

Spectacle (Aristotle, 350 BCE) embodies the visual and design aspects of the games that encompass the look and feel of the production. The spectacle of *BioShock* is not surprisingly in its detailed environment. Simply put, all aspects of its production contribute meaningfully to the spectacle of Rapture. The first sight of Rapture is seen from the bathysphere, and Rapture is an underwater metropolis complete with skyscrapers, despite their underwater disposition, and tubes that run among the towering structures. The costumes of the enemies are clearly identifiable and reflect the high life of Rapture, drawing the contrast between expectation and reality even deeper. Perhaps the most dramatic of all is the lighting. The game plays intimately with the sensation of light as a comforting presence which makes the absence of it that much more frightening. The use of lightning to lead the player is also prevalent, illustrated in the lighthouse introduction scene which playfully entices the player and leverages their curiosity. The areas just ahead are dark, and only after the player takes the first step into darkness do the lights illuminate where the player has actually entered. This is a motif that continues throughout the game.

Portal's spectacle lies within its primary gameplay mechanic. It bends physics and creates an environment in which those rules of physics make sense. Moreover, there is a childlike sense of curiosity and wonder when playing with portals for the first time and the portal gun is a genuine toy for the player. The portals render the world through them so they can be used as scouting devices to look around corners that are otherwise inaccessible, and objects can even interact with themselves in portals if they are positioned properly (Barnett, Swift, & Wolpaw, 2008). The level design points to potential portal locations and guides players' eyes in specific ways. The walls are colored differently to give depth to the visual space and also serve to let the player know on which surfaces he or she can place portals. Additionally,

the bright red buttons or colored cubes stand out against the austere background of whites and grays.

The greatest spectacle is that both games create a compelling and fully immersive environment. Narratively, these two environments were contrived by one person and intended to be futuristic and sleek, yet both break down in terrible ways. In fact, the inhabitants, or lack thereof, of both worlds are dead in some fashion. In *BioShock* they are metaphysically dead since they have altered their genetic structure beyond recognition and interact in primitive ways. In *Portal*, the humans are physically dead since GLaDOS flooded the Enrichment Center with a deadly neurotoxin.

Both of these games resonate so deeply with me because the worlds are vividly and viscerally real. The society within Rapture clearly sundered long before Jack arrived, yet remnants of what it was still exist through the charred architecture and the audio recordings, to name a few sources. *Portal* presents a machine-controlled environment that is starkly contrasted with the run-down areas behind the scenes. This is communicated visually through the pristine paneling and contrived walk spaces of the testing chambers contrasted with the chipped walls and broken, rusty catwalks behind the scenes. Additionally, the environment gives the player a window to previous inhabitants through the scribbling on the walls and the abandoned research posts that the player can explore. The worlds are strikingly different from each other yet each are grounded in some alternate reality with familiar elements to our existing reality.

As Ken Levine describes in his podcast interview (Tobey et al, 2007), *BioShock* is set in an alternate 1960s and heavily draws on Art Deco for inspiration in its art and architecture because this particular movement represents elegance, functionality, and modernity. Moreover, this familiar artistic and design style helps ground the world of Rapture with familiar shapes, patterns, and colors. The Art Deco designs speak to achieving greatness beyond human capacity and Rapture attempts to be the

quintessence of this unchained ambition and industrialization. Rapture's ruin and unsymmetrically destroyed buildings highlight the dissonance with its founding philosophy and emphasize its dystopian atmosphere.

Janet Murray (1997) expanded on Aristotle's list of dramatic elements to include immersion, agency, and transformation. Immersion is achieved through the setting that surrounds the player through their experience, agency is the power to see results from meaningful choices and actions and transformation is the capacity for a player to not only witness a story, but to interact with it and take part of the story as their own, personal experience.

The creators of *BioShock* crafted an entire universe within Rapture. Although the people are fundamentally changed, the way of life still permeates the area. Wine bottles are strewn about and masquerade masks adorn the table showing the extravagant way of life. Levine (2007) further highlights the audio recordings of Rapture's citizens, which helps construct a human aspect to the world as the player can listen to the struggles of everyday life in Rapture and he or she can discover the citizens' individual stories. Moreover, there are posters and advertisements true to the style of the time that sell products with the gusto and panache expected of 1950s salesmen. Even the short informational videos that orient the player to newly learned plasmids serve the narrative with their overly enthusiastic presentation style.

Portal is set in the Enrichment Center for Aperture Laboratories, though it's commonly referred to as Aperture Science. The events of *Portal* take place somewhere in the year 2010 and although exact dates are not given, the events start about 12 years after the lab was abandoned (Keighley, 2011). The environment is clearly futuristic to represent a cutting edge research facility. The aesthetic seeks to portray a clean and efficient research atmosphere yet the underbelly is rusted and not maintained, depicting a clear dichotomy between what is presented and what is known internally. The machinery still seems functional despite

the lack of a human presence, which seems to grant GLaDOS an almost mystical quality.

Most of the game occurs within specifically designed test chambers. The elements within these chambers all serve this initial narrative from the clean, white tiled walls to the sleek video cameras following the player through each level. Any gameplay factor is explained through the narrative and each aspect continues to serve that narrative. For example, the designers do not want players to carry objects from one level into another so they incorporated a method to destroy any carried objects upon leaving an area (Valve, 2007). The narrative explains this phenomenon as an invention of Aperture Laboratories and names the device the Aperture Science Material Emancipation Grill.

Within these detailed environments, the player must learn to navigate the complex virtual worlds by making continuous choices. *BioShock* grants the player agency with the decision to either harvest or save the Little Sisters. This is the only truly meaningful decision in the game since all other actions are oriented around the gameplay whereas this choice is a clear break from gameplay, further indicated by its own user interface specific to that part of the game. Furthermore, this is the only choice that matters for determining the final ending to the game. Since there are three endings, i.e. save all the Little Sisters, harvest all the Little Sisters, harvest at least one Little Sister, there is a replayable aspect to this component of agency in the game.

Portal gives the player significantly less agency. In fact, the player never makes a choice that can influence the outcome of the experience. However, there are moments that give the illusion of player choice and thus create a small sense of agency. For example, after Chell completes the test, there is a scene which establishes that Chell will be discarded. When the contraption malfunctions, Chell is given the opportunity to escape through a side door. GLaDOS instructs her to remain where she

is and to not run away. Although there is no alternative path and the event is scripted, the player feels the illusion of rebelling against GLaDOS's command.

Additionally, both games heavily employ spatial navigation as their primary mode of player agency. Both environments contain landmarks to help orient the player though the secondary purpose of the landmarks differs between the games. *BioShock* gives the player space to admire the details of the intricate world and appreciate the juxtaposition of the grand Art Deco style of the world with the clear disheveled society that inhabits it. *Portal* uses landmarks such as tall platforms, bodies of water, and observation decks to help the player spatially map the test chamber because the player's sense of up and down constantly shifts.

Alongside agency, both game spaces grant the player freedom to experiment with their abilities. In *BioShock*, the player is encouraged to combine plasmid powers through experimentation with the environment. For example, if an enemy steps into a pool of water, the player can use an electricity bolt and zap the pool to deliver a shocking surprise. To add another layer the player can gently direct enemies to a refreshing pool of water by igniting the enemies' flesh. In *Portal*, the player quickly realizes they can use the portal gun in unintended ways that are eventually woven into puzzle solutions. For instance, the player can shoot one portal on the floor and another right above it on the ceiling. This creates a loop in which the player will fall into the floor portal and exit from the ceiling portal, directly above the floor portal. Eventually, the player achieves terminal velocity and the feeling of certain self-satisfaction from defying physics. If the player shoots another portal, they can launch out of it and maintain all of their momentum.



Figure 3. An infinite loop that allows the player to eventually reach terminal velocity

As a result of the autonomous choices the player can make, both the in-game characters and the player themselves experience a transformation. As Jack delves deeper into the world of Rapture, he changes both figuratively and literally. He learns more of the political subtleties of the world and changes in response to the characters impressing upon him. From a gameplay perspective, the plasmids he uses to modify his DNA literally change his appearance and DNA structure to reflect the sacrifice of losing his humanity to become part of Rapture. Part of Andrew Ryan's goal was to fundamentally change humans to change society. On a deeper level, the grand reveal of the mental conditioning is the crucial turning point for Jack. This awareness is accompanied by gameplay ramifications including a word, to which Jack had previously been conditioned, that Fontaine says in attempt to stop his heart.

This parallels the personal transformation that occurred within players during the game's climax. This is a social commentary about the mission system in games and the readiness for players to take up a cause because of the pretense set forth by the game. "Would you kindly" is a phrase seductively whispered to every

player every time they accept a new goal. This leads to the realization that in the game space it is normal for a non-playable character to simply lay out the rules of a world and instruct the player to achieve an objective. Atlas gives the player no time or space to consider why Jack entered Rapture, evaluate what truly happened, decide for myself what to do, and determine my own involvement in this unfamiliar world. Jack eventually learns he is simply a cog in a larger plot, as seen in Figure 4.



Figure 4. The realization that this phrase was actually a component of Jack's brainwashing

Contrastingly, *Portal* gives very little agency to the player since the experience is fixed from start to finish with no choices available to the player. This results in minimal transformation since the player isn't necessarily enacting their own story or carving their own path. In fact, this mirrors Chell's own lack of transformation. She begins as a test subject and even after defeating GLaDOS, she is pulled back into the laboratory to continue testing in *Portal 2*.

The only character that truly transforms over the course of the *Portal* mythos is GLaDOS. She is responsible for testing and maintenance of the facility but reveals that she has been corrupted and killed everyone with a deadly neurotoxin. In the

final fight, the player rips out her personality cores and she drastically changes each time. Continuing the mythos of GLaDOS into *Portal 2*, she changes even further as she begins to understand who she was prior to becoming GLaDOS. She fully actualizes after this moment and can finally let go of Chell since she can continue her testing with robots. Her character change is the single most significant transformation in the *Portal* mythos.

In conclusion, the combined use of Aristotle's and Janet Murray's work creates a framework that is well suited for analyzing any work of fiction, including games such as 2K's *BioShock* and Valve's *Portal*. Ostensibly, these games are different on the surface; *BioShock* is a dystopian survival-adventure game and *Portal* is a science fiction puzzle game, yet both games succeed in deeply engaging the player. As this analysis demonstrated, the design of both of these games aligns closely with the dimensions of this combined framework which deepens their experiential meaning. Beyond the gameplay, both games provide rich, immersive environments that are set in an alternate version of our familiar world. Moreover, both games have a layered plot and multifaceted characters, namely a principal architect with a clearly defined philosophy and a sinister antagonist that helps the player in an attempt for strict personal gain. Although there is no certainty in this, the successful interaction of these elements may have contributed to the positive reception of these games.

Aristotle's (350 BCE) basic elements of drama include plot, character, theme, diction, music, and spectacle, and Janet Murray (1997) added immersion, agency, and transformation as additional elements of drama. By jointly analyzing two games along these dimensions, one can explore trends between two seemingly different games from separate genres and understand how the games connect on levels that may not be immediately apparent.

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