Environmental Storytelling and *BioShock Infinite*: Moving From Game Design to Game Studies

Lindsay Tarnowetzki

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By: Lindsay Tarnowetzki

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Signed by the final examining committee:

_____ Chair
William Buxton, Communication Studies

_____ Examiner
Elizabeth Miller, Communication Studies

_____ Examiner
Tagny Duff, Communication Studies

_____ Supervisor
Mia Consalvo, Communication Studies

Approved by _____
Chair of Department
Sandra Gabriele, Communication Studies

_____
Dean of Faculty
Brian Lewis

Date _____

Abstract

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Environmental storytelling is an interesting concept for games studies scholars because it unites both narratology and ludology, offering a solution to one of the most contentious arguments in the history of the discipline; one that pitted narrative against gameplay. Despite this, the term itself is not often used in games studies scholarship, even if related themes are being explored, which indicates that this concept and term are more entrenched in game design theory than games studies. I have used Smith and Worch's characteristics of game environments and environmental storytelling to examine how these concepts function within *BioShock Infinite*. I have also expanded upon these definitions in order to propose that there are three different game environments within *BioShock Infinite*: the avatar's physical environment, the avatar's social environment, and the extradiegetic environment. This theoretical work as well as using game studies sources to support my work facilitates a shift in the discussion of environmental storytelling from game design and literature into game studies.

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Chapter 1: Introduction

I have always loved stories; especially the ones about fantastic places. I was one of those kids who read in her every spare minute: at the table, on the couch, on the school bus, in bed. My mum had to make a rule that my brother, my sister, and I could only read at the table during breakfast otherwise we would eat every meal in silence, completely absorbed in separate worlds. My love of stories is what led me to study literature when the time came for me to leave home and go to university. It was at university when I first began to include videogames in my studies. I began to slowly realize that I loved videogames because they told stories too. But games do much more than tell stories; they make you a character in those stories. I knew that games were something special and I wondered, if games tell stories *and* do other things as well, why are they not being studied by more scholars? Why could I not find any humanities courses in my university that use videogames as texts? I decided that I wanted to help legitimate videogames as cultural artifacts deserving of study. Finally after three years, I returned to university and I am beginning to contribute to this small but dynamic field.

I still love stories. Most of us do. Narratives are an essential part of human culture and they reflect that culture. This mutual influence is what makes it important to study the cultural artifacts through which these narratives circulate. Videogames are an example of one of these cultural artifacts. But playing a videogame is different than reading a book: you *read* a book but you *play* a videogame. In order to do games justice, we must study both their narratives and their play. This conclusion is the result of the ludology/narratology debate in game studies which pitted those who studied narrative against those who studied the procedurality, or play, of games. The theory behind ludology and narratology will be examined in section 2.2 of Chapter 2. But today game scholars understand that one concept cannot be separated from the other in our

examination of games. One concept that naturally marries both narrative and play is environmental storytelling. According to Harvey Smith and Matthias Worch, game developers who elaborated upon this concept, environmental storytelling is defined as "the act of staging player-space with environmental properties that can be interpreted as a meaningful whole, furthering the narrative of the game".[1] This is a concept I could support since examining game environments is one of my favourite things to do while playing or watching a game. But I quickly found that there is not a lot of research done using the concept of "environmental storytelling" specifically. Most articles I did find approach the concept of environmental storytelling from the perspective of game development rather than from that of an academic inquiry. Reading what I did find made me see how young this discourse is and how much theoretical work needs to be done to expand on this concept within the field of game studies. This project is an opportunity for me to work on a relatively new concept in the field of game studies, environmental storytelling, and I already had a game in mind. My favourite game franchise, the *BioShock*, series, is one that is very good at integrating story into the environment through music, propaganda posters, graffiti, etc., creating some of my favourite game worlds. I anxiously awaited the release of the newest *BioShock* game, *BioShock Infinite*[2] (2K Games, 2013), anticipating a new environment pregnant with narrative potential.[3]

After working through some ideas these past two years, I am able to combine environmental storytelling and *BSI* in order to deepen our understanding of game environments and narrative. The general question that I want to answer is: In what ways does an analysis of *BSI* contribute to developing the concept of environmental storytelling in videogames? More

[1] Harvey Smith and Matthias Worch, "'What Happened Here?' Environmental Storytelling." Paper presented at the Game Developers Conference, 2010: 16.
[2] Hereafter referred to as *BSI*.
[3] The following paragraphs contain major plot details which may be considered spoilers.

specifically, how can I expand on Smith and Worch's assessment of game environments? Do these environments stand up to the criteria of environmental storytelling offered by Smith and Worch? And most importantly: How does the concept of environmental storytelling change after it is shifted from game development to the academic field of game studies?

It is important to provide here an overview of the narrative of *BSI* in order to create context for my analysis in the following chapters. *BSI* was released in the spring of 2013 and is available for Xbox, Playstation 3, PC, and Mac. *BSI* is the third in the *BioShock* series, but it diverges from *BioShock* and *BioShock 2,* which are both set in the underwater city of Rapture during the sixties, in that it occurs in the floating city of Columbia in 1912. Columbia's ability to float is made possible by the quantum physicist Rosalind Lutece who "was able to indefinitely suspend an atom in midair", a process which is referred to as "quantum levitation" or the "Lutece Field".[4] While investigating the possibility of alternate realities, Rosalind communicates via Morse Code with a male version of herself, Robert Lutece, "by manipulating a pair of quantumly entangled atoms".[5] While these concepts are based on actual quantum physics theory, in our history it is not until the 1930s that they are introduced, making Rosalind Lutece's work anachronistic. The Lutece twins, as they are sometimes called, work in collaboration to create a machine that can open tears in the fabric of universes which allows people and objects to cross from one universe to another.[6] Father Comstock, the primary antagonist in *BSI*, uses this machine extensively to look into other universes, allowing him to make predictions about possible future events in his own universe and also allowing him to fool others into believing he

[4] BioShock Wiki, "Rosalind Lutece," http://bioshock.wikia.com/wiki/Rosalind_Lutece.
[5] "Rosalind Lutece"
[6] Ibid.

had the divine gift of prophecy.[7] He also allows the Fink brothers, the heads of manufacturing and commerce within Columbia, to use the machine to develop technology decades ahead of their own.[8] Comstock's use of this machine affected him physically: aging him prematurely and rendering him sterile, which prompted him to begin searching the other universes for an heir.[9] In 1893, Rosalind brings both Robert and Elizabeth, Comstock's potential heir, into her universe.[10] Because the tear closes prematurely, cutting off part of Elizabeth's finger which remains in her own universe, Elizabeth gains the ability to open tears without the aid of a machine.[11] The Luteces determine that through the use of her powers, and Comstock's brainwashing, Elizabeth would cause the destruction of New York City in 1983.[12] Robert Lutece sees their interference as a mistake and convinces Rosalind to send Elizabeth back to her own universe.[13] Upon learning of their plan, Comstock orders Jeremiah Fink to sabotage the machine, killing the Luteces.[14] But the Lutece twins are not dead, "they were scattered across time and space, able to appear wherever and whenever they wanted".[15] Robert is still dissatisfied with the potential destructive future they have enabled, and the Luteces formulate a plan to undo the damage they have caused by bringing Booker DeWitt to Columbia.[16] The Luteces act as both guides and tricksters, speaking in riddles while leading Booker, and the player, on his journey, the conclusion of which may be redemption for all of them.

[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] Ibid.
[11] Ibid.
[12] Ibid.
[13] Ibid.
[14] Ibid.
[15] Ibid.
[16] Ibid.

The player assumes the role of Booker DeWitt who is deeply in debt and has been given the opportunity to pay off what he owes if he travels to the city of Columbia and retrieves a girl named Elizabeth, who is confined in a huge statue of the angel Columbia in the floating city. Booker differs from the protagonists of *BioShock* and *BioShock 2* in that he has his own defined personality "rather than being a blank and faceless avatar for the player".[17] Booker has a history of extreme violence ranging from his participation in the Wounded Knee Massacre to his involvement with putting down worker strikes as an agent of the Pinkerton National Detective Agency.[18] The root of this violence can be traced to his desire "to avoid being stigmatized by his comrades" after being accused of having Native American heritage by his sergeant during the Civil War.[19] Despite his violent actions, Booker is deeply guilty and regretful of his gruesome deeds during and after the Civil War.[20] This guilt, along with grief over the death of his wife and his dismissal from the Pinkerton National Detective Agency, sent him into a depression, followed by drinking and gambling.[21] He is visited by Robert Lutece who offers to clear his debts if he gives his infant daughter, Anna DeWitt, to Father Comstock.[22] Immediately afterward, Booker regrets his decision and chases Lutece and Comstock but fails to get his daughter back.[23] Twenty years later the Luteces return and they bring Booker through a tear into their universe, but this transition alters his memories causing him to "[confuse] the sale of his daughter twenty years ago with the task at hand".[24] The player enters the game here and must unravel the secrets behind Booker's history together with Booker himself.

[17] BioShock Wiki, "Booker DeWitt," http://bioshock.wikia.com/wiki/Booker_DeWitt.
[18] Ibid.
[19] Ibid.
[20] Ibid.
[21] Ibid.
[22] Ibid.
[23] Ibid.
[24] Ibid.

The city of Columbia is ruled by the theocrat Father Zachary Hale Comstock who is a member of the Founders, a political group that promotes the ultra-nationalism of the city, and related negative ideologies such as militarism and extreme jingoism.[25] The Founders are opposed by the Vox Populi (Latin for *Voice of the People*)[26], an "anarcho-communist resistance group" whose members are the second-class citizens of Columbia who toil to keep the city functioning.[27] The character Elizabeth is important to the Founders because she is seen as Comstock's heir and "central to [the Founders'] ideology is the belief that Elizabeth will lead them to an apocalyptic cleansing of the world below in order to remake it into Columbia's image".[28] Booker DeWitt is seen as a "false shepherd" who will lead Elizabeth, the Lamb, astray and prevent her from fulfilling her destiny.[29] Together Booker and Elizabeth journey through Columbia as they, and the player, discover the dark secrets of the city.

According to the *BioShock* Wiki "the world of *BSI* explores the chaos that results when strong ideals are taken to the extreme". In the game, the philosophical concept of 'American Exceptionalism' is perverted into ultranationalism, religious fanaticism, and social Darwinism" as Comstock's extreme views are not overtly opposed within his totalitarian regime.[30] Columbia is no longer associated with the terrestrial America, but as an incarnation of America that Comstock deems to be its purest form, and one which reviles any foreign influences. Any opposition to the Founders and their policies is seen as anti-American and anti-Christian since politics and religion in Columbia are so inter-twined as to be indistinguishable from each other. This extremism is not out of character for the *BioShock* series since *BioShock* examined the

[25] BioShock Wiki, "The Founders," http://bioshock.wikia.com/wiki/The_Founders.
[26] BioShock Wiki, "Vox Populi," http://bioshock.wikia.com/wiki/Vox_Populi.
[27] "The Founders"
[28] Ibid.
[29] Ibid.
[30] BioShock Wiki, "BioShock Infinite," http://bioshock.wikia.com/wiki/BioShock_Infinite.

objectivist utopia of the underwater city of Rapture and its transformation into a dystopia haunted by insane citizens addicted to genetic upgrades. In *BioShock 2*, on the other hand, Rapture is controlled by Sophia Lamb whose agenda reflects an extreme version of collectivism.

The examination of BSI itself will continue in Chapter 3 but first it is important to examine those theorists and professionals that laid the foundations of game studies and environmental storytelling. Chapter 2 addresses the literature that is the foundation for this inquiry. This encompasses game studies foundational literature as well as theory related specifically to *BioShock* and environmental storytelling. Chapter 3 offers a detailed analysis of *BSI* which includes narrative, ludological, and methodological discussions. The concept of ideology and games is examined in this chapter as well as the distinction between primary and secondary narratives in *BSI*. It is in this chapter that I also outline my own background as a player and as a game studies academic in order to contextualize my subjective experience playing and studying *BSI*. Finally, this chapter examines gameplay items that contribute to narrative creation such as dialogue, menus, and objects to name a few. Chapter 3 offers an introductory analysis and context for the theoretical work that is done on the concept of environmental storytelling in chapter four. Chapter 4 examines the different kinds of environments that are present in *BSI* as well as how environmental storytelling functions within them. It is here that I offer three different types of game environments: the avatar's physical in-game environment, the avatar's social environment, and the extradiegetic environment in order to broaden our understanding of how environmental storytelling functions within different contexts. Chapter 5 contains my concluding remarks as well as several avenues for further research in this area of game studies.

Chapter 2: Literature Review

2.1 Introduction

This chapter is the foundation for the research that follows. The first section of this chapter addresses the Ludology/Narratology debate that has become canon in game studies. Today scholars realize that by isolating these concepts, we limit the extent of our understanding of games. The second section discusses why semiotics is insufficient to explain ergodic media, including videogames. Michael Nitsche's contribution effectively updates Espen Aarseth's discussion of ergodic literature, defined as distinctive from traditional reading by the constructive work required of the reader or player. Section 2.4 addresses how games conveyed narrative before environmental storytelling was integrated into game design and game studies. It is important to note that although this concept was not formulated at this time, designers and scholars were still thinking about environments and narrative; the concept arose out of a need to name what was being discussed. Section 2.5 engages with the literature that directly addresses environmental storytelling as a concept and technique. Section 2.6 outlines why developing a theory of environmental storytelling is important to academia generally and game studies specifically. Section 2.7 addresses the academic literature on the *BioShock* series. Because *BSI* is such a new game, there was an absence of academic literature on this game; however there are some articles that deal with the first game in the series. Section 2.8 discusses the function of ideology within games, situating games as media objects within a particular culture. The final section of this chapter introduces the motif of environmental ruin within games and how it affects narrative and ideology.

2.2 Ludology/Narratology

A study of games must focus on *both* narrative and ludology as looking at just one would give us an incomplete picture of the game. This was the conclusion to the ludology/narratology debate that occurred just before and after the new millennium, which is examined below. This debate has long been resolved but it has established a need to examine games as artifacts containing elements of both stories and play.

2.2.1 Narratology

It needs to be noted that narration in games differs from narration in non-ergodic literature. Instead of telling a story that already happened, videogame narration "occurs at the same time as the generation of the interactive event and is influenced by it…In videogames, interacting and narrating are dependent on each other".[31] This inter-dependence occurs as a result of the game's ergodic characteristics. The player engages in the construction of the game's plot "as a way of comprehension of the interactive situation and as a means for further interaction".[32] Plot and narration are bound up in the interactive construction necessary for player engagement with an ergodic artifact. Because of this, the narrative in games, and other ergodic media, functions very differently than narrative in non-ergodic media.

Janet Murray's book *Hamlet on the Holodeck* focuses on how the expression of narrative is changing now that it is entering the digital and cyber realms. In chapter five, Murray links reader/player agency to immersion and distinguishes digital narrative from traditional narrative forms by claiming: "on the computer we encounter a world that is dynamically altered by our

[31] Michael Nitsche, *Video Game Spaces* (Cambridge, MA: MIT Press, 2008), 55 and 56.
[32] Nitsche, 56.

participation".[33] In privileging traditional narratives, Murray claims "the indeterminate structure of [hypertexts] frustrates our desire for narrational agency" thus separating the hypertext from what she deems as effective narrative.[34] By stating that games are "abstract storytelling", "rituals", and "rehearsals for life", Murray separates games from our everyday lived experience, echoing a strict dogmatic interpretation of the concept of the magic circle introduced by Huizinga and outlined by Salen and Zimmerman.[35] Murray's work seems to be separating games and their narratives into a unique category of their own in the contexts of agency and lived experience, which is narrow view of the function of media objects within Western culture. This approach to game studies is indicative of a certain, inflexible, interpretation of Salen and Zimmerman's concept of the magic circle. Juul and Zimmerman both address this in an attempt to rehabilitate this concept. For Juul the Magic Circle does not represent a concrete boundary but one that is constantly being negotiated by players.[36] Zimmerman clarifies that the concept of the Magic Circle offered in *Rules of Play* "is the relatively simple idea that when a game is being played, new meanings are generated. These meanings mix elements intrinsic to the game and elements outside the game".[37] From these perspectives, the Magic Circle is a tool that can be used to understand games but scholars need to be conscious of the limitations of its use.[38] Although there are some issues with Murray's emphasis on narrative, she does discuss some of the play elements in games such as the pleasures of spatial navigation which she claims "can be

[33] Janet Murray, "Chapter 5: Agency," in *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (Cambridge, MA: MIT Press, 1998), 128.
[34] Murray, 133.
[35] Murray, 143-44.
[36] Jesper Juul, "The Magic Circle and the Puzzle Piece," *Conference Proceedings of the Philosophy of Computer Games 2008*, eds. Stephan Günzel, Michael Liebe, and Dieter Mersche (Potsdam: University Press, 2008), 62, http://opus.kobv.de/ubp/volltexte/2008/2455/pdf/digarec01_03.pdf.
[37] Eric Zimmerman, "Jerked Around By the Magic Circle – Clearing the Air Ten Years Later," *Gamasutra*, February 7, 2012, 4.
[38] Zimmerman, 3.

pleasurable in itself, independent of the content of the spaces".[39] She also discusses how narratives and spatial navigation are integrated in games through different types of maze structures, such as the labyrinth and the postmodern hypertext narrative. Although her emphasis is on the narrative she does claim "But when looked at more closely, games and stories are not necessarily opposed".[40]

2.2.2 Ludology

Espen Aarseth is a theorist who attempted to explain why games are different from other kinds of texts by creating the terms "cybertext" and "ergodic literature".[41] Aarseth's cybertext, is different from a literary text because "the effort and energy demanded by the cybertext of its reader raise the stakes of interpretation to those of intervention".[42] The reader of a cybertext is implicated in the story and has much more agency than a reader of a literary text, just like the player of a videogame. For Aarseth the cybertext "focuses on the mechanical organization of the text, by positing the intricacies of a medium as an integral part of the literary exchange".[43] The cybertext is an example of "ergodic literature" which is a category that is separated from traditional literature because the reader/player does the "work of physical construction that the various concepts of 'reading' do not account for".[44] Essentially, Aarseth creates the category of ergodic literature in order to account for the additional effort and physical construction made by the reader/player. His book is an early attempt to not just treat games as a unique media form, but

[39] Murray, 129.
[40] Murray, 142.
[41] Aarseth expands the use of the words text and literature to describe media artifacts in general and in my discussions of his work I continue to use these terms as he does.
[42] Espen Aarseth, "Introduction: Ergodic Literature," in *Cybertext: Perspectives on Ergodic Literature* (Baltimore: Johns Hopkins University Press, 1997), 4.
[43] Aarseth, "Introduction," 1.
[44] Ibid.

to move away from viewing them as literary. It is interesting that Aarseth is engaging with the question of immersion, as this shows that this is an important concept to both sides of the debate.

Jesper Juul differentiates between narratives in games and other narratives by the function of time and the player's relationship to each narrative world. He claims "you can't have narration and interactivity at the same time" because narration implies that the action has already happened (as in a novel) while interactivity implies that the action is happening in the present (playing a videogame).[45] Juul argues for new theories in the study of games to avoid conceptual exhaustion and to account for what makes games unique from other media artifacts.[46]

While Gonzalo Frasca's work is useful to all games studies scholars, he is clearly ready to defend his position as a ludologist. His core argument is that "unlike traditional media, videogames are not just based on representation but on an alternative semiotical structure known as simulation".[47] Frasca claims that "simulations can express messages in ways that narrative simply cannot, and vice versa".[48] His introduction of the concept of simulation seems to give name to what previous theorists were trying to identify: the characteristic of games that makes them different from other media objects. Simulations differ from narrative because they "are not just made of sequences of events but they also incorporate behavioral rules".[49] Frasca is not trying to oust narrative in favour of simulation: "it is an alternative, not a replacement".[50] Frasca's article is significant because it gives name to a characteristic of games that is unique to them. His examination of the concept of simulation is a significant contribution to game studies

[45] Jesper Juul, "Games Telling Stories? A Brief Note on Games and Narratives," *Game Studies* 1:1 (2001).
[46] Juul.
[47] Gonzalo Frasca, "Simulation versus Narrative: Introduction to Ludology," in *Video/Game/Theory*, eds Mark J.P. Wolf and Bernard Perron, (Routledge, 2003), n pag.
[48] Ibid.
[49] Ibid.
[50] Ibid.

but he goes further by emphasizing that "simulation is the form of the future" because it assumes that "change is possible".[51] This gives game designers, and players, the ability to not only hypothesize about the future of society and humanity, but to play out those theories in a safe space.[52]

One term that has come out of ludological discussions is functionality. Nitsche offers a clear definition of this concept: "The *functionality* of videogames describes what a player can do in a game and how. It is a product of the rule-based procedurality of digital media, which allows for the dynamic use and change of game data".[53] While a full discussion of procedurality is beyond the scope of this inquiry, it is worth mentioning. The proceduralist "school", as Miguel Sicart calls it, shares certain arguments and views with ludology: "computer games present a technological and cultural exception that deserves to be analyzed through the ontological particularities that make computer games unique".[54] He is making the same argument that began with Aarseth: examine videogames for what they are instead of fitting them into another disciplinary discourse (such as textual or film studies). Proceduralists are "interested in the ways arguments are embedded in the rules of a game, and how the rules are expressed, communicated to, and understood by *a* player". This seems straightforward, but problems arise because proceduralism "often disregards the importance of play and players as activities that have creative, performative properties".[55] Play is not seen as essential to understanding the meaning produced by games, rather the rules themselves create this meaning.[56] It is this disregard for the concept of play and the player that Sicart takes issue with: "Play, however, is personal,

[51] Ibid.
[52] Ibid.
[53] Nitsche, 156. His emphasis.
[54] Miguel Sicart, "Against Procedurality," *Game Studies* 11.3 (2011).
[55] Ibid.
[56] Ibid.

individual, and communitarian, played with others, for others, in an intensely, deeply *personal* way".[57] It is the subjectivity and the personal context of the player that proceduralists seem to disregard and by omitting this, scholars are only examining one side of games. Isolating one aspect of a concept is acceptable if this is recognized as a tool to gain insight that has certain limitations. Even though this theory may be seriously flawed, it has made a major contribution to game studies:

> Proceduralism both justified the cultural validity of computer games providing arguments for the exceptionality argument (computer games as unique, expressive cultural objects), and opened the possibility for a new take on serious games that combined design approaches with a strong humanist discourse.[58]

Although some of the theories put forth by academics may not be rigorous enough or reflexively aware of their own limitations, they may be beneficial to the discipline in other ways, as this discussion of proceduralism has shown.

2.2.3 Toward a Compromise

Celia Pearce opens her article "Theory Wars" by denouncing the classification of researchers into either "ludologists" or "narratologists", suggesting that most would prefer to move freely between them without having their work pigeonholed.[59] She prefers to frame narrative "as an adjective rather than a noun" which introduces questions such as "In what ways are [games] narrative?" instead of "Are games narratives?"[60] By emphasizing that "games truly

[57] Ibid.
[58] Ibid.
[59] Celia Pearce, "Theory Wars: An Argument Against Arguments in the so-called Ludology/Narratology Debate," Paper presented at the Digital Games Research Association Conference, Vancouver, BC, 2005, 1.
[60] Ibid.

are a highly complex and evolving medium", Pearce attempts to move beyond the binary camps of ludology and narratology to a more fluid and freely moving conception of games.[61] Pearce is shifting the focus away from arguing if games are narratives to how they express their narrative elements. She is attempting to move the discourse out of the deadlocked debate of is or is not and into the realm of how. By attempting to move beyond this argument Pearce is calling for theorists to get back to examining games themselves and stop focusing on disproving each other. She is actually asking for a shift in game studies culture rather than academic methodology.

2.3 Semiotics and Ergodic Media

Those who study representation in games often turn to semiotics in order to understand how representation works at a fundamental level. Aarseth articulates the main problem with this in his work on the cybertext: "The various effects produced by cybertextual machines are not easily described by these textological epistemes, if they can be described at all".[62] He elaborates on why this is the case: "The new constructions [ergodic texts] consist of 'interactive dynamic' elements, a fact that renders traditional semiotic models and terminology, which were developed for objects that are mostly static, useless in their present, unmodified form".[63] For Aarseth, it is the interactivity of ergodic literature that needs to be accounted for in any analytical model developed for these types of literature. Despite this, theorists continue to turn to traditional semiotics in their analyses of games which is problematic. Aarseth himself describes the process of engaging with ergodic literature: "During the cybertextual process, the user will have effectuated a semiotic sequence, and this selective movement is a work of physical construction

[61] Pearce, 3.
[62] Aarseth, 24.
[63] Aarseth, 26.

that the various concepts of 'reading' do not account for".[64] But he avoids the problems of relying on semiotics by making a clear distinction between ergodic and non-ergodic literature based on the constructive process in which the player must engage (which is unique to ergodic media). Michael Nitsche clarifies this by explaining that ergodic participation is "any physical input that can be registered by the input devices and has an effect on the videogame world – or more precisely: on the *rule-based space*".[65] He uses this definition to distinguish videogames from non-ergodic media such as books, radio shows, films, or television. Nitsche's definition accounts for the direct intervention of the player in the game and it also takes into account the mediation of the player experience. Nitsche's definition is useful not only because it addresses videogames *specifically* as ergodic media, but because it shifts our focus from semiotics to ludological processes. Because Nitsche has access to the ludological tradition, developed after Aarseth's book on the cybertext, he is able to more firmly integrate ludology into Arseth's arguments.

2.4 Conveying Narrative

Game developers use a variety of techniques to convey narrative within their games. Before environmental storytelling, narrative exposition through dialogue, textual prompts, or cutscenes was emphasized. Although these techniques are still used in contemporary games, they are now often combined with more interactivity and environmental storytelling in order to seamlessly integrate narrative into gameplay to provide a more varied and fluid experience.

The cutscene, also known as the "cinematic/full motion video (FMV)", is a cinematic sequence during which the player relinquishes their agency to become a passive audience

[64] Aarseth, 1.
[65] Nitsche, 32. His emphasis.

member.[66] Ip claims that cutscenes are used for three purposes: "to explain the story or events taking place in the game, initiate a transition in story or gameplay, or show the consequences of a player's actions".[67] Many scholars and players have argued that cutscenes negatively impact the gameplay by interrupting the agency of the player. Kristine Jorgensen argues that "the first-person shooter is perhaps the genre that to the greatest degree emphasizes embodiment, agency, and the sense of being there, and the use of cutscenes where the avatar suddenly regains his autonomy may run the risk of ruining that experience".[68] Since BSI belongs to this genre, this is an important point to consider.

Rune Klevjer argues against the point that Jorgensen is making by claiming that there is a place for cutscenes within Aarseth's ergodic literature. He claims that "even if the player is denied any active input, this does not mean that the ergodic experience and effort is paused".[69] For Klevjer, cutscenes, in combination with the agency of play, help to fulfill the desires of the player: "Yes, we want to be free, to play, to master and to conquer but we also want our actions to be meaningful within a mythical fictional universe."[70] Cutscenes also have functions other than those related to narrative; they can be used to establish a rhythm of "moments of release from intense action", to build up to a moment of action, and as a "reward by entertainment".[71]

[66] Barry Ip, "Narrative Structures in Computer and Video Games: Part 1: Context, Definitions, and Initial Findings," *Games and Culture* 6:2 (2010), 108.
[67] Ibid.
[68] Krisine Jorgensen, "Between the Game System and the Fictional World: A Study of Computer Game Interfaces," *Games and Culture* 7:2 (2012), 158.
[69] Rune Klevjer, "In Defense of Cutscenes," proceedings of Computer Games and Digital Cultures Conference, ed. Frans Mayra (Tampere, Finland: Tampere University Press, 2002), 195.

[70] Ibid, 197.
[71] Ibid.

2.5 Environmental Storytelling

The discourse of environmental storytelling is much less prolific than other discourses in game studies since it is a newer concept. It began with Don Carson, a theme park designer. He advocates the sharing of knowledge between the theme park and game development industries, creating a conversation in the gaming community about designing environments.[72] For Carson, this sharing was important at the time (2000) because gaming technology was increasing in its ability to simulate the non-virtual world. Carson claims that environmental storytelling works by "manipulating an audience's expectations, which they have based on their own experiences of the physical world".[73] Writing for the game industry focused site *Gamasutra*, the bulk of his article deals with techniques that game developers can use to implant narrative elements into their game environments, such as using cause and effect elements. Cause and effect vignettes are "staged areas that lead the game player to come to their own conclusions about a previous event or to suggest a potential danger just up ahead", examples being traces of blood or the aftermath of an explosion.[74] These elements can also be used to depict the passage of time such as if a player returns to an area later in the game to find that it has changed since they first passed through.[75] Another example of cause and effect elements is when players follow traces, such as graffiti or notes, left by other fictional characters, forwarding through the narrative. Carson advocates using familiar reference points to foster a connection between the player and the environment and preventing confusion and alienation. He also suggests using contrasting

[72] Don Carson, "Environmental Storytelling: Creating Immersive 3D Worlds Using Lessons Learned from the Theme Park Industry," Gamasutra, 1 March 2000, http://www.gamasutra.com/view/feature/3186/environmental_storytelling_.php

[73] Carson.
[74] Ibid.

elements and asymmetry in order to create environments that are more accurate representations of the non-virtual world.

The academics who come after Carson continue to discuss and cite his work and he has left a lasting impression on games studies because of this concept. For example, media studies scholar Henry Jenkins next enters the conversation, proposing "an understanding of game designers less as storytellers and more as narrative architects".[76] For Jenkins "environmental storytelling creates the preconditions for an immersive narrative experience".[77] He builds on Carson's tactics for designers by suggesting ways that environmental storytelling operates in games: stories can draw on pre-existing narratives, creating cultural meta-narratives; these narratives are driven by geography; they can create a space for players to enact narrative events; narrative hints may be embedded in the game space or objects; and narratives may be shaped by gameplay instead of being pre-structured, such as through the use of cinematic cutscenes.[78] Jenkins's article establishes a precedent for the use of the phrase "environmental storytelling" in academic discourse as well as the breakdown of its functions and characteristics.

Smith and Worch's Game Developers Conference (GDC) presentation, given six years after Jenkins' piece in 2004, takes up where Jenkins left off by looking in depth at game environments and how environmental storytelling functions, but from the perspective of professional game designers rather than game studies theorists. They offer a working definition of environmental storytelling: "staging player-space with environmental properties that can be

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[75] Ibid.
[76] Henry Jenkins, "Game Design as Narrative Architecture," in *First Person*, eds Pat Harrington and Noah Frup-Waldrop (Cambridge: MIT Press, 2004) http://web.mit.edu/cms/People/henry3/games&narrative.html.
[77] Ibid.
[78] Ibid.

interpreted as a meaningful whole, furthering the narrative of the game".[79] Like Jenkins, they break down the characteristics of environmental storytelling into sections. The first characteristic they outline is that players use the "association of elements" to interpret the environment, which means that players have to make connections between what they see and the context and subtext of the event, image, etc.[80] The second characteristic of environmental storytelling is that it "fundamentally integrates player perception and active problem solving, which builds investment".[81] Although an examination of player investment, or incorporation, is beyond the focus of this thesis, it is necessary to study how environmental storytelling shapes player experience in order to create a more comprehensive understanding of this concept. The third characteristic states that "environmental storytelling invites interpretation of situations and meaning according to players' views and experience".[82] The player must do conceptual "work" to solve problems and make connections between different elements in the game.[83] Finally, environmental storytelling employs a technique called telegraphing. Telegraphing is the process of "weaving gameplay hints into the environment, creating a mini story".[84] It is interesting that some of these characteristics overlap with Jenkins's but specific categories have not been established within the academic or professional discourse. One of the most interesting aspects of Smith's and Worch's presentation is that it creates a space for the player and his or her interpretation within this concept.

[79] Harvey Smith and Matthias Worch, "'What Happened Here?'Environmental Storytelling," lecture given at the Game Developers Conference, San Francisco, CA, March 2010, 16.
[80] Smith and Worch, 17 and 26.

[81] Smith and Worch, 34.
[82] Smith and Worch, 34.
[83] Smith and Worch, 30.
[84] Smith and Worch, 31.

The connections that Smith and Worch make between environment and immersion are interesting and could be used to explain what games do differently compared to other media, such as novels for example. Smith and Worch do ask why environmental storytelling creates more immersion and attempt to answer this question but I believe that more detailed theoretical work needs to be done in this area in order to concretize this term and concept within the discourse.

Moving back to academic work, Clara Fernandez-Vara's paper, "Game Spaces Speak Volumes: Indexical Storytelling" which was presented at the 2011 Digital Games Research Association (DiGRA) conference in Utrecht, engages with a specific subtype of environmental storytelling that she calls "indexical storytelling".[85] She defines this concept as "generating stories through traces, both on the part of the designer and on the player".[86] She formulates this concept based on the semiotic work of Charles Peirce. This article is innovative because, unlike Jenkins and Smith and Worch, it focuses on one specific subtype of environmental storytelling and also introduces the idea that players can influence the environment by leaving traces themselves. One example she uses to illustrate this is the online version of *Demon's Souls*, a multiplayer arena where players can leave messages for others and where blood stains remain as clues for players as to where the action happened. The problem with this is that not all game worlds are amenable to this either because the designers have not created a persistent world (one which does not erase the changes made by players to the environment) or because there are not any other players present to see the traces of former players in the environment.[87] Although interesting, the concept of player traces can only be applied to certain games but when they are

[85] Clara Fernandez-Vara, "Game Spaces Speak Volumes: Indexical Storytelling." Paper presented at the Digital Games Research Association Conference, Utrecht, 2011.
[86] Ibid.
[87] Ibid.

enabled they create an environment of co-creation between designers and players. A fundamental problem with using Fernandez-Vara's article when discussing interactivity and interpretation is that it only deals with these concepts in games that use player traces. BSI does not use player traces which makes it necessary to expand Fernandez-Vara's arguments to include traces that are left by game designers and not just players.

The work of Fernandez-Vara, Jenkins, and Smith and Worch informs the direction I will take in chapter four: theoretically classifying and defining different subtypes and/or characteristics of environmental storytelling in detail while using *BSI* as my main example to outline these characteristics.

2.6 A Theory of Environmental Storytelling

The concept of environmental storytelling is a term that has mainly been used by game developers and others in the game industry, such as Don Carson and Smith and Worch. As a result, this term has not entered the academic discourse very extensively and although academics are discussing narrative and game environments, there is no name for the concept they are discussing. Calleja formulated a theory of incorporation in response to the sloppy use and misuse of the term immersion. The issue with environmental storytelling is related to this in that academic work is being done with narrative and environment but there is no concept that accounts for this work. A concept needs to be formulated that is academically rigorous and also specific enough to be useful for scholarly work. Why is it important to move the concept of environmental storytelling into academia? Integrating environmental storytelling into games studies discourse is important because it will help scholars to focus their work as well as to account for certain characteristics of games that cannot be dealt with otherwise. I will be working

through and also defining the theory of environmental storytelling while referring to the work of those mentioned in section 2.1. I will examine Smith and Worch's characteristics of game environments and environmental storytelling in order to form a base from which to offer a more detailed view of game environments as well as how environmental storytelling functions within them. I will then link this to my interpretation and analysis of *BSI*.

2.7 *BioShock*

There are only three articles that deal solely with the games in the *BioShock* series, specifically the first game. This indicates to me that the *BioShock* series itself is not often examined specifically by scholars and may offer interesting, and unexamined, insights into the concept of environmental storytelling. The *BioShock* games are also well-suited to an examination of environmental storytelling because they are known for having environments rich in meaning and which offer multiple narrative interpretations.

William Gibbons's article examines the use of music in *BioShock* and how it is connected to narrative. It functions as a historical touchstone, reminding players in what time period the story unfolds, which is also applicable to *BSI*.[88] This is especially important for *BSI* which is full of anachronisms such as Rosalind Lutece's understanding of physics or the advanced technology of Columbia. Gibbons also proposes that the music has a narrative function, acting as a "voiceover" that comments on the story without using overt exposition.[89]

[88] William Gibbons, "Wrap Your Troubles in Dreams: Popular Music, Narrative, and Dystopia in BioShock," *Game Studies* 11:3 (2011),.
[89] Ibid.

Although not directly applicable to this research since it deals directly with the first *BioShock* game and its themes, Aldred and Greenspan examine the connection between *BioShock*'s narrative and convergence within the gaming industry. They define convergence as

> a multifaceted heuristic that considers the increasingly concentrated nature of media conglomerate ownership across once-disparate industries, the synergistic flow of content or 'intellectual property' across multiple media platforms, the sharing of talent and technology between media, and the increasingly 'converged' formal and narrative qualities of media content resulting from all of the above.[90]

They link this idea of industry convergence to the concept of free will of the avatar as well as the player him or herself, which is a theme explored in *BioShock*. The question of free will in the game is also a question that affects gamer interaction with the gaming industry. Aldred and Greenspan look at how "BioShock allegorizes the procedures through which gamers are compelled to purchase converged devices despite their planned obsolescence, consume the converged content in the order and fashion desired by media producers, and accept that the choices and agency they are given are illusory at best".[91]

Ryan Lizardi's article addresses the concept of history in the *BioShock* series, claiming that "the *Bioshock* series represents an encouragement of complex historical interpretations as opposed to simplistic accepted histories, despite the fantastical literal content of the games".[92] The *BioShock* games offer players "counterfactual agency", allowing them to actively explore alternatives to accepted, linear histories.[93] Although Lizardi focuses on all three *BioShock* games, his examination of *BSI* is the most pertinent to this thesis since I am examining *BSI* and not all

[90] Aldred and Greenspan, 481.
[91] Aldred and Greenspan, 482.
[92] Ryan Lizardi, "Complex and Alternate Histories," *Game Studies* 14:1 (2014), n.p.
[93] Ibid.

the games in the series. Just like in the first two games, *BSI* does address the concept of agency but it does so by taking it away: it is revealed at the end that, unlike the first two games, ludic choices are inconsequential to the ending of the game.[94] It is this pointed absence that draws attention to the concept itself: "*Infinite*'s narrative is specifically highlighting the counterfactual and indeterminate future of its protagonists".[95] Lizardi argues that although the narrative seems to drop the earlier themes of nationalism, exceptionalism, and racism "the turn away from the specific subjects of this alternate historical text ensures a broader and more universally contemplative stance towards the historical" which is the goal of those who utilize the concept of counterfactual histories.[96] This series' use of the counterfactual to highlight alternative or multi-causal histories encourages players to reflect on and contemplate how we perceive history, the past, and our future. Although the portrayal of history, and alternative histories, is a significant theme to all three games, it is only pertinent to this thesis if it is examined in the context of environmental storytelling. In this context, environmental storytelling is used in a practical way: to contextualize these histories and to orient the player when he or she crosses from one alternative to another (as when Booker and Elizabeth cross through a tear into a new version of Columbia).

2.8 Ideology and Games

The study of any kind of media object is important to a study of ideology because "the study of media products provides an excellent opportunity to analyze how ideological forces operate within society because ideology can only be examined through its material

[94] Ibid.
[95] Ibid.
[96] Ibid.

manifestations".[97] This makes popular culture a site of struggle where "hegemony is produced, reproduced, and transformed".[98] Although this inquiry does not allow for an in-depth analysis of ideology, it is important to consider how ideology functions when examining an object with such prominent ideological themes, such as *BSI*.

2.8.1 Gramsci and Games

Robert Cassar's article is especially pertinent to this inquiry since it examines how games and ideology interact in the context of popular culture.[99] Cassar chooses Gramsci because of his influence on how "contemporary society looks at popular culture" and because his "ideas about the nature of ideology proved a very useful framework for an ideological critique of videogames".[100] Cassar outlines how ideology is integrated within cultural studies, such as through naturalization and inequality.[101] This is useful for my study of *BSI* since a variety of ideologies are present in the narrative, which are reflected in the environments of the game. One of the most interesting points that Gramsci makes, via Cassar, is that "the transfer of ideological notions is a two-way kind of process, where both the dominant and the subordinate classes have an active role to play".[102] This point adds a depth and complexity to my inquiry that goes beyond simple hegemonic control (of capitalist game design companies who control the production of ideology in games and of Comstock who controls the ideology circulating through Columbia) and leads to a mutual struggle that results in the creation of both ideology and culture (within the

[97] Robert Cassar, "Gramsci and Games," *Games and Culture* 8:5 (2013), 332.
[98] Cassar, 346.
[99] Cassar, 330-1.
[100] Cassar, 331.
[101] Cassar, 333.
[102] Cassar, 340.

narrative and within the game industry). For Gramsci and Cassar, "the media is essentially a battleground where ideological warfare is carried out between the various factions".[103]

2.8.2 Bogost and Ideology

While Cassar's article examines ideology and culture in a more general sense, Ian Bogost's article "Videogames and Ideological Frames" connects political rhetoric and games which is particularly interesting when we consider some of the sociological and political commentary within *BSI*. Bogost claims that "as videogames become a part of endorsed political speech, they will become more tightly integrated with existing strategies of political discourse."[104] Although this is an interesting prediction, currently videogames are not considered as important media objects by politicians and mainstream culture which prevents this mutual interaction between politics and games.[105] Bogost claims that games can function rhetorically by reinforcing existing beliefs, contesting the status quo (whether referring to action or belief), and implicating players through their actions in the game.[106] Bogost sees these types of games as offering an opportunity for citizens to become aware of the conceptual systems that inform public discussions and beliefs and to also interrogate these systems.[107] *BSI* can be seen as a highly political game in terms of internal narrative. Although requiring further study, the politics of *BSI*'s narrative may be a reflection of the American political culture experienced by its designers, an example of which being the tension between the Democrats and Republicans concerning The Affordable Care Act (an initiative which defies the ideology of conservative politicians and conservative characters, like Zachary Comstock).

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[103] Cassar, 346.
[104] Ian Bogost, "Videogames and Ideological Frames," *Popular Communication* 4.3 (2006), 168.
[105] Ibid.
[106] Bogost, 173-6.
[107] Bogost, 181.

2.8.3 American Exceptionalism

A conceptual system that is present in *BSI*, and one may argue the game comments upon, is American exceptionalism. An understanding of American exceptionalism is important when analyzing *BSI*, since this is an ideology that is taken to the extreme within the narrative of the game. It is also important to be familiar with exceptionalism in contemporary America because this game was created in the United States and its designers are influenced by this ideology to some degree. In general, American exceptionalism is the phenomenon in which America judges itself with different criteria than it judges others as if viewing itself as a special case. Contributing to this ideology is a cultural attitude that only America has the knowledge, experience, morality, ethics, etc. to judge and make decisions that affect America. Ignatieff claims that "American exceptionalism has at least three separate elements": exemptionalism, double standards, and legal isolationism.[108] These elements can be seen in Comstock's politics and in how he governs Columbia in relation to internal and external issues. This will be examined within the narrative of *BSI* as I attempt to identify how exceptionalist ideology appears within the game environments. Shifts in ideology within the game's narrative can be expressed through changes in the avatar's physical environment. The next section shows how the motif of ruin of the avatar's physical environment can express social and cultural changes within the game's narrative.

2.9 Ruin

Watts's article "Ruin, Gender, and Digital Games" discusses the impact of environmental ruin on narrative and ideology. He identifies one of the main themes of the concept of ruin as

[108] Michael Ignatieff, "Chapter 1. Introduction: American Exceptionalism and Human Rights," in *American Exceptionalism and Human Rights* (Princeton: Princeton University Press, 2005), 3-8.

"the idea that the destruction of *physical* structures is paralleled by, and symbolic of, the destruction of *social* structures, thus associating ruin with liberation and freedom".[109] This is an important theme to not only *BSI,* but as a motif specific to the entire *BioShock* universe. Ruin in *BioShock* is much more complex since it is not only associated with freedom but with dystopian themes as well. The theme of "ruin as subversion" operates within the *BioShock* universe but it is accompanied by the contradictory theme of ruin as a return to the status quo.[110] The theme of ruin is often present in dystopic and post-apocalyptic digital games but within the *BioShock* universe this theme operates with a complexity that goes beyond Watt's analysis.

2.10 Conclusion

This chapter has examined the literature that forms the basis for this thesis in order to contextualize the analysis in chapters three and four. By showing why a focus only on ludology or narratology is insufficient to games studies and why semiotics cannot fully explain how games function, I have provided a historical context for this contemporary inquiry. This is not to say that game studies has all the methodological and theoretical solutions to its past problems, but that the discourse continues adapt to new ideas and concepts. It is important to see this literature as a conversation and one that continues today.

This chapter also establishes a foundation for an analysis of environmental storytelling. This review has attempted to express that although environmental storytelling is a new and interesting technique and concept, it does not in any way replace other ways of conveying narrative, such as the cutscene. Rather, game designers use a variety of techniques to express narrative and to shape player experience.

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[109] Evan Watts, "Ruin, Gender, and Digital Games," *WSQ: Women's Studies Quarterly* 39:3&4 (Fall/Winter 2001), 247.
[110] Watts, 262.

Ideology and how it functions within videogames is also an important concept that is introduced in this chapter and which is discussed further in chapter two. Although ideologies circulate within our culture and are present in all media artifacts, videogames are one of the newest media forms that are used to express ideas. Just as novels, radio, film, television, etc. have been examined in terms of ideology, so too must videogames be analyzed in this context in order to create a clearer picture of contemporary Western culture.

In the next chapter I will focus my analysis of these concepts within the context of *BSI* specifically. In order to fully contextualize my own subjective experience as a player and an academic, I offer an explanation of who I am and how I came to love videogames. Once this is established I move on to a detailed examination of gameplay elements that contribute to shaping the narrative in *BSI*.

Chapter 3: Analyzing BioShock Infinite

3.1 Introduction

I love the *BioShock* series. I love these games because of how they tell their stories. Before *BioShock*, I had never seen a game use its environment so effectively to construct a narrative. However, environmental storytelling goes beyond narrative construction, "inviting interpretation of situations and meanings according to the players' views and experience".[111] Smith and Worch believe that environmental storytelling is compelling because it gives the player an active role, allowing him or her to drive his or her own narrative experience through interpretation based on his or her personal context.[112] This assertion agrees with Aarseth's concept of ergodic literature, and the effort of "intervention" required by the player.[113]

During my research on this topic I have found that environmental storytelling is a technique and a concept that blurs the lines between media analysis and player studies. It is very tempting to open a line of inquiry that requires an examination of player experiences in order to evaluate why and how environmental storytelling is compelling for players. This opens up a conversation about agency and incorporation.[114] My inquiry is focused on the theory of environmental storytelling rather than how it affects players. But this theoretical discussion only takes us part of the way when it comes to a comprehensive understanding of environmental storytelling. It is crucial that academic work on this concept be expanded to include player studies in order to give us a greater understanding of environmental storytelling.

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[111] Harvey Smith and Matthias Worch, "'What Happened Here?'Environmental Storytelling," lecture given at the Game Developers Conference, San Francisco, CA, March 2010, 30.
[112] Smith and Worch, 35.
[113] Espen Aarseth, "Introduction: Ergodic Literature," in *Cybertext: Perspectives on Ergodic Literature* (Baltimore: Johns Hopkins University Press, 1997), 4.
[114] Gordon Calleja, "In-Game: From Immersion to Incorporation" (Cambridge, MA: MIT Press, 2001).

This chapter addresses my analysis, and the methodology of my analysis, of *BSI*. In order to offer my reader some context, I have given a brief overview of the *BioShock* series in section 3.2. This establishes connections between narratives as well as the techniques used by the developers of these games. Section 3.3 discusses the importance of understanding how ideology functions within games, which is especially important for the *BioShock* series whose games express strong ideologies within their narratives. Section 3.4 examines the ludic characteristics that define gameplay. This is important because both narrative and ludic characteristics are necessary in order to categorize a text as a videogame. Section 3.5 addresses the subjectivity of the player. Since I am the player on which this analysis is based, it is important for my readers to understand who I am and how I play. Section 3.6 is focused on methodology and how I conducted my study of *BSI*.

3.2 The BioShock Series[115]

[115] One of the most narratively interesting parts of *BSI* is its ending in which Elizabeth explains the nature of their universe to Booker, which is defined by the *Many-Worlds Interpretation* (MWI) proposed by Hugh Everett III in 1957. Brian Green's book offers insight into the scientific basis for theories of parallel worlds and universes which is accessible for those who have not studied physics. He explains the basis for the Many Worlds Interpretation, which is associated with the concept of the probability wave:

> The idea is that in analyzing the motion of a particle we shouldn't think of it as a rock hurtling from here to there. Instead, we should think of it as a wave *undulating* from here to there. Locations where the wave's values are large, near its peaks and troughs, are locations where the particle is likely to be found. Locations where the wave's values vanish are places where the particle won't be found. As the wave rolls onward, the values evolve, going up in some locations, down in others. And since we're interpreting the undulating values as undulating probabilities, the wave is justly called a probability wave.

Green uses the example of a scientist measuring more than one spiked wave on a tabletop map of New York City, which yields more than one location. The equipment and the scientist do not register multiple, simultaneous locations for the particles, instead "the combined result is a device and a mind registering Strawberry Fields, and a device and a mind registering Grant's Tomb". He explains that:

> To accommodate Everett's suggested outcome, the device and you and everything else must split upon measurement, yielding two devices, two yous, and two everything elses – the only difference between the two being that one device and one you registers Strawberry Fields, while the other

BioShock was developed by Irrational Games, established in 1997, and released in North America August 21, 2007. It is characterized as an "action-adventure, horror-themed first-person shooter" and the narrative is set in the fictional city of Rapture in 1960.[116] Rapture itself is a city built by Andrew Ryan on the bottom of the Atlantic Ocean whose "philosophy, architecture, and society…were strongly inspired by the works of Ayn Rand, especially the novel *Atlas Shrugged*".[117] The player takes control of the protagonist, Jack, who has discovered Rapture after surviving a plane crash. The city is in ruins at the end of a violent civil war and Jack must navigate hazards such as enemy Splicers[118] and Andrew Ryan as he uncovers the story behind the fall of Rapture. His guide is a mysterious man named Atlas who is the enemy of Ryan. *BioShock* received numerous awards including "Best Story" (Gamespot, 2007), "Best Use of Sound" (IGN, 2007), "Game of the Year" (Game Critics' Awards, 2007), and "Best Visual Art" (Game Developers Choice Awards, 2008).[119]

BioShock 2 was developed by 2K Marin, a game studio established in 2007, and released in North America February 9, 2010. Its development team "included several previous members of Irrational Games who worked on *BioShock*".[120] *BioShock 2* is set in Rapture in 1968 and the city is now controlled by Sofia Lamb, a psychiatrist, whose ideology is the polar opposite of Andrew Ryan's, emphasizing "collective effort and the power of the community".[121] The player

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> device and the other you registers Grant's tomb…this implies that we now have two parallel realities, two parallel worlds.

This theory is significant to an examination of the environment in *BSI* since environmental changes are used to orient the player as they pass from one universe, and version of Columbia, to the next.

[116] "BioShock," *BioShock Wiki*, accessed at: http://bioshock.wikia.com/wiki/BioShock.
[117] Ibid.
[118] Described as "degenerated citizens addicted to the genetic material known as ADAM" by the BioShock Wiki.
[119] "Bioshock," *Irrational Games*, accessed at: http://irrationalgames.com/studio/projects/bioshock/.
[120] "2K Marin," *BioShock Wiki*, accessed at: http://bioshock.wikia.com/wiki/2K_Marin
[121] "BioShock 2," *BioShock Wiki*, accessed at: http://bioshock.wikia.com/wiki/BioShock_2

takes control of Subject Delta, the first Big Daddy to be bonded to a little sister, Eleanor Lamb, in 1958. Subject Delta is attacked by Sophia Lamb and gravely injured, lying dormant until he is revived ten years later. He journeys through Rapture to save Eleanor from the fanaticism of her mother and to escape the city. *BioShock 2* was generally well received and had sold 3 million units by the beginning of March 2010.[122]

BioShock Infinite was developed by Irrational Games and 2K Australia and first released by 2KGames March 26, 2013 for the PC, Xbox, and Playstation.[123] *BSI* is set in the floating city of Columbia in 1912. The player takes on the avatar of Booker DeWitt, a former Civil War soldier and Pinkterton man who travels to Columbia to bring back a girl named Elizabeth. Soon Booker and Elizabeth find themselves in the middle of a vicious class war and must unravel the secrets behind Columbia in order to understand their own histories and defeat Zachary Comstock, the city's founder and jingoistic leader.

3.3 Primary and Secondary Narratives

Before discussing the types of narrative in *BSI* I want to clarify the terms I am using. Ip differentiates between story, plot, and narrative by drawing on various theorists including Abbot (2002), Heath (1996), and Cobley (2001).[124] He outlines these definitions in his own words: "the story is the information about an event or sequence of events (typically linear), the plot being the causation and links between events, whereas the narrative is the unique way in which [sic] story is being presented to the audience".[125] There are two types of narratives in *BSI*: the primary

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[122] Chris Remo, "Take-Two: *BioShock* Hit 4M Units, *BioShock 2* Drove Sales," Gamasutra, posted March 2, 2010, accessed at: http://www.gamasutra.com/view/news/118449/TakeTwo_BioShock_Hit_4M_Units_BioShock_2_Drove_Sales.php

[123] "BioShock Infinite," *BioShock Wiki*, accessed at http://bioshock.wikia.com/wiki/BioShock_Infinite

[124] Abbott, H. (2002). The Cambridge introduction to narrative. MA: Cambridge University Press. Heath, M. (1996). Aristotle poetics. London: Penguin Books. Cobley, P. (2001). Narrative. The new critical idiom. New York: Routledge.

[125] Ip, 107.

narrative and the secondary narrratives. The primary narrative is focused on Booker, Elizabeth, Comstock, and Columbia. The secondary narratives can be called "micronarratives" which Jenkins defines as "localized incident[s]" or "short narrative unit[s]".[126] Drawing on Eisenstein, Jenkins explains that "Even games that do not create large-scale plot trajectories may well depend on these micronarratives to shape the player's emotional experience".[127] In *BSI*, micronarratives do serve to shape emotional experience but they also support the primary narrative by creating context. An example of a secondary narrative is one that describes the experiences of those with disabilities in Columbia. An additional example is the narrative of Preston E. Downs and his own journey through Columbia as told through his voxophone recordings. The problem with Jenkins's discussion of micronarratives in terms of games is that he is drawing on the work and theory of film. Some additional work on micronarratives may be necessary to include games studies theory, specifically ludology, to make this concept more applicable to games.

3.4 Ideology

Robert Cassar claims that "ideology in games occurs in both its cinematic and its textual expression as well as throughout the rules and gameplay mechanics", which is significant since it places ideology within both ludic and narrative elements of games.[128] Before entering in an examination of ideology and games, Cassar examines the connection between ideology and culture: "[ideology] constitutes an integral part of how human societies function; in the sense that in every society there are ideas that are embraced by all as if they were part of their constitution".[129] Ideology is an essential part of human culture and the best way to analyze how it

[126] Jenkins, 125.
[127] Ibid.
[128] Robert Cassar, "Gramsci and Games," *Games and Culture* 8:5 (2013), 331.
[129] Cassar, 333.

operates is by examining its "material manifestations": media objects.[130] Media and the realm of popular culture are where ideology is constructed and contested: "media is essentially a battleground where ideological warfare is carried out between the various factions".[131] But any analysis of media objects needs to be conscious of the fact that "access to the means by which ideas are disseminated is the result of power structures and therefore some groups are in a better position to disseminate their ideological beliefs".[132] From Gramsci's perspective "ideology informs or shapes everyday life in the form of unquestioned common sense that in most cases takes the shape of images, concepts, and structures that are imposed on men without them realizing it".[133] So far this discussion portrays the masses as sheep-like victims to powerful and dangerous elites but Gramsci sees this relationship as much more complex: "[he] argues that the transfer of ideological notions is a two-way kind of process, where both the dominant and subordinate classes have an active role to play".[134] It is this reflection of the complexity of cultural reality that sets Gramsci apart from his Marxist contemporaries who "considered people as a mass of dupes incapable of thinking for themselves and at the mercy of those in power".[135] Gramsci's theory of hegemony is influential and important to any examination of ideology because "it [is] based on the idea that power is bound to a particular time frame and context and that no power goes unchallenged" which reflects the complex fluidity of culture.[136] Gramsci's view of hegemony contains a distinct note of hope, articulated by Cassar: "Popular culture artifacts such as videogames have the power to become an empowering device, in the sense that people can make their own culture from the range of commodities granted to them by cultural

[130] Cassar, 332.
[131] Cassar, 346.
[132] Cassar, 333.
[133] Cassar, 337.
[134] Cassar, 340.
[135] Cassar, 338.
[136] Cassar, 345.

industries".[137] Videogames, as a form of ergodic literature, lend themselves nicely to this opportunity for empowerment since "the effort and energy demanded by the cybertext of its reader raise the stakes of interpretation to intervention".[138]

All three games in the *BioShock* series contain narratives that express strong ideologies: Andrew Ryan's extreme objectivism, Sophia Lamb's responding collectivism, and The Founders' American exceptionalism. These ideologies are often expressed through objects of propaganda within the game environments (see Figure 1). It is important for my analysis to understand the ideologies present in *BSI* in order to track how they are constructed through environmental artifacts. American Exceptionalism is especially significant to an analysis of *BSI* since it not only informs the in-game ideology of the Founders, but also informs the cultural landscape of the gaming industry in the United States.

Figure 1: BSI Founder Emblem

[137] Cassar, 347.
[138] Espen Aarseth, "Introduction: Ergodic Literature," in *Cybertext: Perspectives on Ergodic Literature* (Baltimore: Johns Hopkins University Press, 1997), 4.

A brief overview of American Exceptionalism in contemporary America is necessary to my analysis since it will shed light on how ideology functions within the game and the environment in which it was created. It is important to first clarify how Columbia fits into this discussion before entering into it. Columbia was "commissioned by the United States government and founded by Zachary Hale Comstock as a symbol of American political and religious ideals" in 1893 but seceded from the United States in 1902.[139] This secession was caused by conflicting views toward foreign policy during the Boxer Rebellion in which Columbia took a much more aggressive stance against Chinese civilians than did the United States.[140] At this point, Columbia became an independent state: "Comstock now had complete control over the city, transforming it from a floating world fair to a cruel, oppressive, theocratic police state, unbound by U.S. laws and regulations".[141] It is at this point that Columbia's history diverges from that of the United States. Within Columbia the ideologies of American exceptionalism and nationalism are manifested in two different ways: consciously and unconsciously. Ken Levine and his teams purposefully crafted a narrative and a fictional world in which these ideologies are present. This conscious effort is what forms the exceptionalist ideology that is specific to *BSI* and Columbia and which is not the same as contemporary exceptionalism in our non-virtual world. It is rather a more extreme, exaggerated, *fictional* form that is more cultural commentary and parody than an accurate reflection of exceptionalism in the non-virtual world. In a much more subtle and unconscious way, the ideology of contemporary American exceptionalism culturally influences American game designers. Since this ideology is a part of American culture, those who are raised in this culture are influenced to some degree by this ideology even if they do not support it. Unfortunately it is beyond the scope of this inquiry to

[139] "Columbia," *BioShock Wiki*, accessed at http://bioshock.wikia.com/wiki/Columbia.
[140] Ibid.
[141] Ibid.

examine to what degree ideologies subconsciously, on the part of the designers, penetrate games but it is an interesting theory that should be tested in future work. What is more important to this inquiry is how American exceptionalism is consciously created by game designers and what role the environment and its elements play in manifesting this ideology.

Although Michael Ignatieff's article is focused on exceptionalism in terms of human rights, his overview of the concept serves as a clear introduction for this analysis. Ignatieff is primarily concerned with the contradiction of contemporary America's support of international human rights laws and agreements while at the same time exempting itself from being legally bound by these same agreements.[142] In order to understand why this is, Ignatieff looks at the concept of exceptionalism itself. American exceptionalism has three distinct elements: exemptionism, double standards, and legal isolationism.[143]

In terms of exemptionism, "America supports multilateral agreements and regimes, but only if they permit exemptions for American citizens or U.S. practices".[144] The secession of Columbia from the Union is a physical manifestation of exemptionalism; effectively cutting ties with Washington and its laws and regulations, which contradict Comstock's and the Founders' "white supremacism and classism".[145] The religious ideals and ultra-nationalism of the Founders are seen as the legitimate standards by which to judge people and nations. As a result, those who are not white, Christian Americans are viewed as inferior, not simply misguided but a dangerous threat. Although the Founders see themselves as true Americans, other Americans who do not

[142] Michael Ignatieff, "Chapter 1. Introduction: American Exceptionalism and Human Rights," in *American Exceptionalism and Human Rights* (Princeton: Princeton University Press, 2005), 2.

[143] Ignatieff, 3.
[144] Ignatieff, 4.
[145] "The Founders," BioShock Wiki, accessed at: http://bioshock.wikia.com/wiki/The_Founders

share their extreme ideology are considered to be inferior heretics and are included in "the Sodom below".

The U.S. uses double standards when judging itself and others: "[it] judges itself by standards different from those it uses to judge other countries, and judges its friends by standards different from those it uses for its enemies."[146] The result of this attitude is that "the United States criticizes other states for ignoring the reports of UN rights bodies, while refusing to accept criticism of its own domestic rights performance from the same UN bodies".[147] During the Boxer Rebellion, "Columbia fired on Chinese civilians who had taken American hostages".[148] Although Columbia is willing to engage in military action when Americans are threatened by foreigners, it has no issues with buying American slaves and convicts to use for its labour force (see Figure 2).

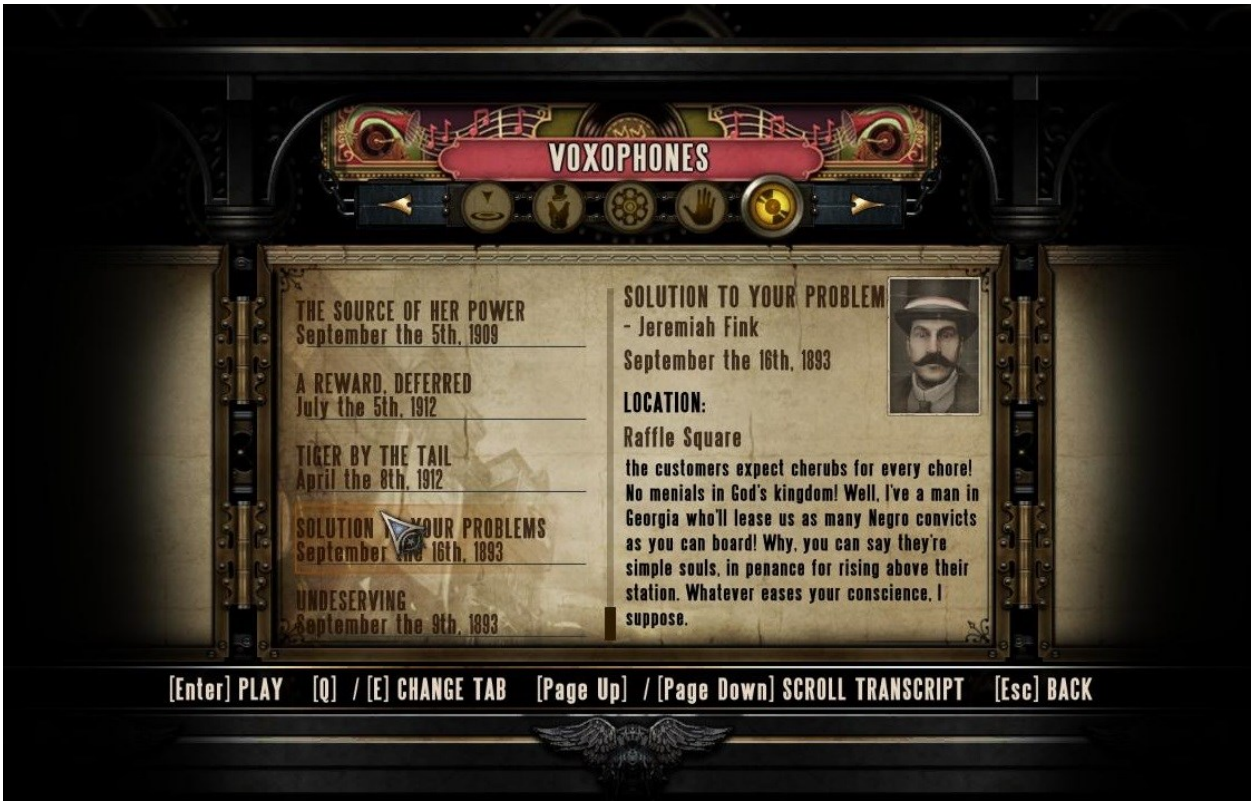

Figure 2: Jeremiah Fink voxophone, "Solution to Your Problem"

[146] Ignatieff, 7.
[147] Ibid.
[148] "Columbia," BioShock Wiki, accessed at: http://bioshock.wikia.com/wiki/Columbia

Legal isolationism describes "the attitude of the U.S. courts towards the rights jurisprudence of other liberal democratic countries" and reflects the "broad popular sentiment that the land of Jefferson and Lincoln has nothing to learn about rights from any other country".[149] Instead of viewing the legal process as fluid and collective, "the trade in legal understanding continues to be mostly one-way, with the U.S. legal tradition teaching others but not learning much itself".[150] This concept is simpler in Columbia, compared to the complex reality of U.S. politics and law. In Columbia, Comstock has created an ideology that views him, his teachings, and his laws as divine which sets them above question and debate. This can also be seen as a purely practical move that serves to maintain his power, by disallowing the questioning of the principles he has cultivated in Columbia.

The section of Ignatieff's article that I find most interesting is the one in which he outlines four explanations that have been offered for why American exceptionalism exists in modern America. The first explanation is a realist one: the U.S. can get away with exemptions to their human rights commitments because their economic and military power allows them to.[151] The problem with this explanation is that "realism alone cannot account for the paradox of American investment in a system that constrains its power".[152] This also applies to Columbia whose military power and mobility is significant enough that the nations below cannot challenge them. Columbia differs from America in that instead of investing in any kind of foreign relations policies, Comstock wants to erase the nation below and cultivated a new one in the image of Columbia. So while the non-virtual United States has a complex relationship to human rights and

[149] Ignatieff, 8.
[150] Ignatieff, 9.
[151] Ignatieff, 12.
[152] Ignatieff, 13.

exceptionalism, Comstock chooses a much more straightforward path. This decision shows that he is not invested in any kind of foreign policy in the way the non-virtual America is today.

The second explanation is a cultural one: "since 1945, American presidents have articulated a strong messianic vision of the American role in promoting rights abroad".[153] Ignatieff claims that America's tendencies are "driven by the missionary conviction that American values have universal significance and application".[154] Joel Dinerstein details the development of the messianic vision of the White Adamic in his article, linking this concept with American imperialism and technology. He claims that in the contemporary U.S. "*technology is the American theology*".[155] Reflected in Comstock's ideology is Dinerstein's claim that the "religion of technology" began with a medieval concept: "the pre-Fallen Adam, immortal and created in the divine likeness, was recoverable through individual piety and work in the 'mechanic arts'".[156] What is important to the development of the contemporary messianic vision of the U.S. is that "in the mid-nineteenth century technology and the Adamic come together at the level of national myth".[157] The concepts of the messianic and the Adamic have become a part of America's national identity. This marriage of religion and technology is exaggerated in Columbia and is more overtly present in the fictional world than in the United States today. Comstock describes this joining of religion and technology and the creation of Columbia in one of his voxophone recordings (see Figure 3).

[153] Ibid.
[154] Ibid.
[155] Joel Dinerstein, "Technology and Its Discontents: On the Verge of the Posthuman," *American Quarterly* 58, 3 (2006): 569. His emphasis.
[156] Dinerstein, 575.
[157] Dinerstein, 577.

Figure 3: Zachary Hale Comstock voxophone, "The Golden Path to Heaven"

The third explanation for American exceptionalism comes from the distinctive organization of American institutions.[158] Because of the organization of U.S. institutions, there has developed a "strong institutional imperative to safeguard prerogatives of judicial interpretation and keep them immune to foreign influence".[159] The organizational structure as well as this imperative, makes it difficult to make changes to U.S. domestic law in order to incorporate international human rights standards.[160] This structure is defined by significant state power over "human rights behavior – like punishment", "[the requirement of a two-thirds majority] for ratification of international treaties, and a history of political stability.[161] In the case of Columbia, institutional organization is a tool which maintains, rather than causes, American

[158] Ignatieff, 16.
[159] Ibid.
[160] Ignatieff, 17.
[161] Ibid.

exceptionalism. Comstock has complete institutional and organizational control of Columbia which allows him to maintain his ideology.

The final explanation for the continued existence of this ideology in contemporary America, is the "historical strength of American conservatism", more specifically, Evangelical conservatism.[162] Even today, "Southern conservatives are bastions of opposition to international law".[163] This combined with the necessity of a two-thirds majority to pass international agreements makes it very difficult to facilitate centralized changes in the U.S. today. The hyperbolic portrayal of ideology within *BSI* highlights the conservativism of Columbia, making it easier for players to identify the fictional political and cultural trends in the game.

Although there is a significant difference between the representation of American exceptionalism of Columbia and the reality of exceptionalism in the U.S. today, there is still a cultural connection between the two. Ken Levine is clear that his reasons for incorporating such strong attitudes into his games reflect his desire for a genuine player experience: "People were men of their times, and this is a game that's set in a time where, if you don't have those elements in the game, it's just dishonest, you know?"[164] The question of how much of a cultural ideology is incorporated into a game, both consciously and subconsciously, by designers goes beyond this inquiry, but it is a question that deserves our attention in future research.

[162] Ignatieff, 18.
[163] Ignatieff, 19.
[164] Lahti, Evan, ""Interview: Ken Levine on American history, Racism in BioShock Infinite: 'I've Always Believed that Gamers were Underestimated," *PC Gamer*, 13 December 2012, accessed at: ttp://www.pcgamer.com/2012/12/13/bioshock-infinite-interview-ken-levine-racism-history/#null

3.5 Subjectivity: Why Games Studies Scholars Need to Play

Aarseth's concept of ergodic refers to the process the player must engage in with this type of literature[165]: "During the cybertextual process, 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".[166] Aarseth claims that he is examining the difference between games and narratives, not games and literature, and this difference is defined by the process of engagement between the player and the text.[167] The process of reading is different from the process of playing because "the reader's pleasure is the pleasure of the voyeur. Safe, but impotent. The cybertext reader, on the other hand, is not safe, and therefore, it can be argued, she is not a reader".[168] This idea of safety is related to the idea that the player has agency to make decisions and interpretations which puts him or her at "the risk of rejection" while the reader is an observer and does not have this agency.[169]

Cassar defines the player's role as "more pragmatic and participatory" than interpretive.[170] Because of this ergodic investment of the player "any search for ideological references in a given videogame might yield astonishingly different results depending on the diversity of players' values and social contexts of play". This variation can also be applied generally to the experience of playing a videogame, and not just to uncovering ideology, since the entire experience requires effort characterized as ergodic.

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[165] Aarseth refers to ergodic media objects as "texts" or "literature" in order to straddle the gap between traditional and ergodic artifacts. I will continue to use his terms in this way but it must be noted that I am not referring to a specific type of media object (such as a book).
[166]Espen Aarseth, "Introduction: Ergodic Literature," in *Cybertext: Perspectives on Ergodic Literature* (Baltimore: Johns Hopkins University Press, 1997), 1.
[167] Aarseth, 4-5.
[168] Aarseth, 4.
[169] Ibid.
[170] Cassar, 332.

3.5.1 Who Am I?[171]

The basis for my analysis rests on my subjective and individual experience as a player of *BSI*, therefore it is necessary to explain who I am to establish my personal context as a player. As a child, I was perfectly happy to read and act out interesting stories rather than play videogames. My brother, on the other hand, has been fascinated with videogames ever since the first time we were exposed to them. For the record, this was at a neighbour's house as young children and we played Duck Hunt and Super Mario Bros. on a Nintendo console. This was our very first experience with videogames and I was so young that I do not remember much other than being interested in this new kind of game. Jonas has been playing, and loving, videogames of all types ever since that day but it took me longer to really become passionate about games. It was not until we were teenagers and I started watching my brother play, that I started to become really interested. I would like to note here that I would consider myself more of an observer-participant than just an observer. While playing and observing together we would discuss strategies,

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[171] I was born in Yorkton, Saskatchewan, the first child of my parents who lived and worked on my father's family farm. Living in rural Saskatchewan, I did not have as much exposure to technology as children living in more urban areas for a couple reasons: the infrastructure for the internet was established in rural areas long after it was established in the cities and there is a strong emphasis on work ethic; specifically blue collar, outdoor work; in the cultural landscape of Saskatchewan.

I am the oldest of three children (I have a younger brother, Jonas, and sister, Robin) of my mother Brenda, who is a teacher, and my father John, who is a former teacher and farmer. My mum is passionate about music and teaching and I credit her with giving us all a firm educational foundation which is reflected in our intellectual pursuits. My father loves building and creating with his hands as well as advising his children. Although many of our conversations sound like they take place between mentor and student, I would not change them up for anything. My mother stayed at home to raise us, only returning to work as a music teacher when I was fourteen, and I remember the time she was at home fondly. My mum's return to the professional world had a huge influence on us all and our home became more chaotic. I felt that I needed to take more responsibility, which wasn't welcomed by my siblings. My adolescence was difficult at times but I understood that my parents were doing their best to provide for us. Even today I am amazed by my parents' resilience, generosity, and endless strength.

I have good relationships with my brother and sister. I have come to realize that we are very much alike. In some ways, they are my best friends. In addition to personality traits and looks, we all share a love of stories, reading, and writing. It's this shared passion that really unites us as family and makes spending time together fun and interesting. Since leaving home both Jonas and Robin have pursued training and careers that involve writing and creation: Jonas is studying Computer Science and English and Robin is a journalist. We shared a wonderful childhood full of music and imagination.

gameplay, and the narrative and I would often ask him to do something in the game and he would generously comply. Whether we recognized it or not at the time, we were co-creating an experience of gameplay and I find this type of collaborative play very rewarding. I also enjoy playing on my own but for different reasons.

When the time came for me to go to university I chose the University of Saskatchewan and I pursued a degree in English. During the last two years of my degree I began to incorporate games into my literature essays. The University of Saskatchewan did not, and still does not, have a cultural or media studies department and the only place to study games is the Computer Science department. As an undergraduate student I did not have access to any games studies courses or scholars and I felt very isolated as someone who was interested in doing academic analysis of videogames. I felt as if the cultural importance of games was being underestimated and no one seemed to care except me. What I did not realize was that there are universities in Canada that do study games and media, like Concordia.

3.6 Playing, Recording, Writing

My very first experience with *BSI* was as an observer, rather than as a player. I watched someone else play the game while I took notes that primarily dealt with the narrative in order to get a clear picture of the game's story. During my first playthrough I noticed a significant difference between watching and playing almost immediately, reflecting: "I was surprised how much I was enjoying the combat. I enjoyed the challenge more than the bloodlust though, lol!".[172] I discovered that I enjoyed engaging with videogames both as an observer as well as a player, but for very different reasons:

> When I'm playing I feel more distracted from the environment because I'm concerned with being flanked by enemies. But there's a strong sense of

[172] This quote is taken from the notes I made during my first playthrough of the game.

> satisfaction and accomplishment…that is absent when I'm watching. When I'm watching, I'm very focused on the narrative and the environment and less so on combat. This narrative focus is also satisfying but in a different way. I want to figure out the narrative puzzle I've been presented with. I try to uncover the nuances and hidden corners of the story and its characters.[173]

I did my first playthrough of *BSI* on Xbox 360 and then switched to PC to take screenshots for this analysis. I found a significant difference between playing on a platform like Xbox and on a PC. The graphics were noticeably better because my Xbox was not hooked up to the TV's HDMI port at the time. I also felt like I had a lot more control in terms of combat on the PC and I believe this was because I was closer to the screen. I have an idiosyncrasy that applies to watching TV as well as playing games: if I am too far away from the screen I feel as if I am missing something, like I have less control because I cannot see every detail clearly enough. At the same time, it is a lot easier to click the wrong button on the keyboard, whereas the Xbox controller does not have any buttons that are not in use while playing. Despite this, I still prefer to play on the PC.

I did two playthroughs on the PC during which I took screenshots and also took notes on narrative and ludic elements as well as reflections on my experiences as a player. I was nearing the end of my first playthrough when I realized that I needed to go back and play again with a different focus. My first playthrough was more general than the second, taking images of everything that might possibly give me a clearer view of how the game functions. I wanted to be comprehensive at this point, taking images of anything that could offer insight into the narrative, gameplay, or player experience. When I went through the game a second time I focused on small details and the stories that

[173] Ibid.

existed in Columbia aside from the main narrative. I also had a few things in mind that I had missed during the first playthrough.

Organizing the screenshots I had taken turned out to be many hours of work that I had not expected. As well as organizing, this gave me the opportunity to consider what I was going to do with some of the images. Although it seems like waste of time for me to do such basic organizational labour, the opposite was actually true: this work gave me an opportunity for my mind to prepare to write. It was during this time that I was making connections between elements in the game and the literature I had studied, allowing me to formulate arguments and establish the structure of this thesis. This organizational work also helped me to organize my data into manageable sections that are reflected in the organization of the *Gameplay* section of this chapter.

It was during this time that I was suffering from crippling writer's block. It came to the point of panic; I thought that I would be unable to complete my work as I had projected in my timeline. It was necessary for me to push myself harder than I have ever had to before in order to continue writing. Once I had conquered this hurdle, I was able (with much relief) to continue my work. Surprisingly enough, it was through writing fiction for my own enjoyment that I was able to push past my mental block and begin writing again. I also began playing another game, *Dishonored*, in my spare time. It seems that Laurel Richardson was onto something: for me, writing is a "dynamic creative

process".[174] As well as using writing as a method of inquiry, I was using play as a method of inquiry.[175]

Before entering into a conversation about the concept of environmental storytelling I found it necessary to offer my readers a view of the gameplay of *BSI*. This is not only useful as a basis for the more theoretical work done in chapters 4 and 5, but it also serves to contextualize my experience as a player and an academic. There is a precedent for the study of play within game studies and I tapped into this conversation in order to lay a foundation for the experience of videogame play before examining gameplay elements in detail.

3.7 Gameplay

According to Roger Caillois, games exist on a continuum between two opposing concepts: *paidia* and *ludus*.[176] He defines paidia as a principle in which "diversion, turbulence, free improvisation, and carefree gaiety is dominant"[177] and it refers to "the spontaneous manifestations of the play instinct: a cat entangled in a ball of wool, a dog sniffing, and an infant laughing at his rattle represent the first identifiable examples of this type of activity".[178] Paidia encompasses the desire which motivates us to play. Ludus, on the other hand, "is complementary to and a refinement of *paidia*, which it disciplines and enriches"[179] by binding paidia "with

[174] Laurel Richardson, "Writing as a Method of Inquiry," in the *Handbook of Qualitative Research*, 1st ed, eds Norman K. Denzin and Yvonna S. Lincoln, (Thousand Oaks: Sage Publications, 1994), 517.
[175] Professor Duff has told me more than once that writing takes time and that it is not a compartmentalized part of life; the process of writing continues even when words are not being put on the page. Now, through my own experience, I understand what she meant.

[176] Roger Caillois, *Man, Play and Games*, trans. Meyer Barash, (Chicago: University of Illinois Press, 2001), 13.
[177] Ibid.
[178] Caillois, 27-28.
[179] Caillois, 29. His emphasis.

arbitrary, imperative, and purposefully tedious conventions", otherwise known as rules.[180] Together, these two principles form the basis for a game. In terms of videogames, "the rule system of a game frames the representational layer with the values dictated by the rules".[181] In other words, "Actions in a game environment are therefore influenced by the ordered realm of *ludus*; the intention of the player is always limited by the conventions of a designed system".[182]

This inquiry, which focuses on the game itself rather than its player, is more interested in the concept of ludus, and how the rules of *BSI* influence its environments and narratives, rather than on paidia. An examination of the environmental and ludic elements of *BSI* is necessary to track how the narrative is being constructed for and by the player. Some elements such as objects, NPC dialogue,[183] and voxophones are environmental and/or narrative elements, while others, such as menus, loading screens, and textual prompts, are ludic elements. These ludic elements do not exist in the environment of Columbia, rather they exist in the interface between the player and the game, creating the mechanics of the game rather than the narrative. All types of elements are inter-connected and contribute to the player's experience of *BSI*. In order to tie ideology and environments together, in Chapter 4 I use my examples to examine the connection between the environmental elements of *BSI* and the various ideologies that appear in Columbia.

3.7.1 Player Interface

BSI has a first person perspective, allowing the player to experience Columbia through Booker's senses. Consalvo and Dutton define the interface as:

> any on-screen information that provides the player with information concerning the life, health, location or status of the character(s), as well as battle or action menus, nested menus that control options such as advancement grids or weapon

[180] Caillois, 13.
[181] Gordon Calleja, *In-Game: From Immersion to Incorporation*, (Cambridge, MA: The MIT Press, 2011), 149.
[182] Calleja, 148. His emphasis.
[183] NPC stands for non-player character.

> selections, or additional screens that give the player more control over manipulating elements of gameplay.[184]

Studying the interface allows researchers to evaluate "information and choices that are offered to the player, as well as the information and choices that are withheld", which offers some insight into developer intent, and perhaps developer bias as well.[185] Although the game's player interface is relatively unobtrusive, there are still bars to indicate the level of Booker's health and salts (which allow the use of special powers) as well as ammo amounts for the two guns Booker is carrying (see Figure 4). The minimalist style of *BSI*'s real time interface may indicate an effort by the developers to maintain the player's focus on real time combat and narrative elements rather than complex strategy and the mechanics of gameplay.

Figure 4. *BSI*'s player interface.

[184] Mia Consalvo and Nathan Dutton, "Game Analysis: Developing a Methodological Toolkit For the Qualitative Study of Games", *Game Studies* 6:1, 2006, n.p.
[185] Ibid.

BSI's player interface also includes several menus including those for: the skyline (a means for traveling through the air), Booker's objectives, Booker's gear (including a menu that pops up when Booker collects new gear), Booker's weapons, Booker's vigors (special attacks), and collected voxophones. When Booker hooks onto the skyline, a menu with instructions on how to use the skyline appears in the lower right corner of the screen (see Figure 5). Any action offered (such as attaching to another skyline) is listed along with the corresponding button to press. Instead of being forced to memorize the actions for each button, new players are free to focus on other elements of the gameplay. This choice minimizes the time and effort necessary to learn how to play. But a player may choose to develop his or her skills by putting in the effort of learning and memorizing the intricacies of playing *BSI*. In this way, *BSI* is a game that welcomes both inexperienced and experienced players.

Figure 5: Skyline menu.

While the skyline menu exists during real time play, the others listed above pause the action of the game to allow the player to use them at his or her leisure. Although the player cannot change weapons or vigors in these menus (see Figure 6), the player can see what upgrades have been applied to each weapon or vigor. There are two gear menus: one for reviewing and changing gear and one that pops up when Booker picks up a new piece of gear (see Figure 7). This second menu allows players to equip new gear as soon as they pick it up without going into the main gear menu. The voxophone menu allows players to review the transcripts for each voxophone he or she has collected. This mechanic is especially useful for researchers since it allows us to easily review the text of each voxophone without having to record or transcribe it (this mechanic was not present in either *BioShock* or *BioShock 2*).

Figure 6: Weapon menu.

Figure 7: New gear menu.

3.7.2 Textual Prompts and Cutscenes

BSI employs four different textual prompts which are used to either give the player instructions, outline Booker's current objective(s) and optional objectives, or to give the player clues about the narrative. Some prompts appear as text on the screen to offer hints or instructions to the player (see Figure 8). These occur in real time and do not interrupt the action of the game. Banners appear on the top of the screen when Booker receives a new objective (see Figure 4). *BSI* uses interaction and dialogue in different ways to prompt the player to continue the narrative. Often the player will be offered a character or object to interact with as a way to progress the primary narrative (see Figure 9). Dialogue is used in a similar way: it outlines objectives (see Figure 10) and explains the narrative (see Figure 11). Cutscenes are used in *BSI* but they are often combined with interactable characters or objects (see Figure 12).

Figure 8: Enemy weapons prompt.

Figure 9: Interacting with Elizabeth.

Figure 10: Booker's dialogue prompt.

Figure 11: Booker's exposition.

Figure 12: Initiating a cutscene.

3.7.3 NPCs and Their Dialogue

NPC dialogue is very important to the construction of both the primary and secondary narratives in *BSI*. Booker learns a lot about Columbia and its population by eavesdropping on conversations. NPC dialogue is ongoing and not always initiated by the player, although sometimes this is case, which creates the sense that these characters continue to exist even when the player is not present. This differs from older games in which dialogue is initiated by the player clicking on an NPC to hear their comments or story. This rich and varied dialogue helps to create a city of people that is not static or one dimensional, but rather one that is complex with conflicting views and attitudes (see Figure 13). This variation helps to create a realistic social environment for the player to explore. Dialogue offers the player a glimpse into the lived experience of the people of Columbia and a perspective different from that of both Booker and

the ruling elite (see Figure 14). Along with propaganda objects, NPC dialogue is one of the primary methods of expressing in-game ideology. Even though those of the Founders and the Vox Populi are the primary ideologies in Columbia there are others such as pacifism and abolitionism (see Figure 15).

Figure 13: Questioning doctrine.

Figure 14: NPC frustration with Columbian life.

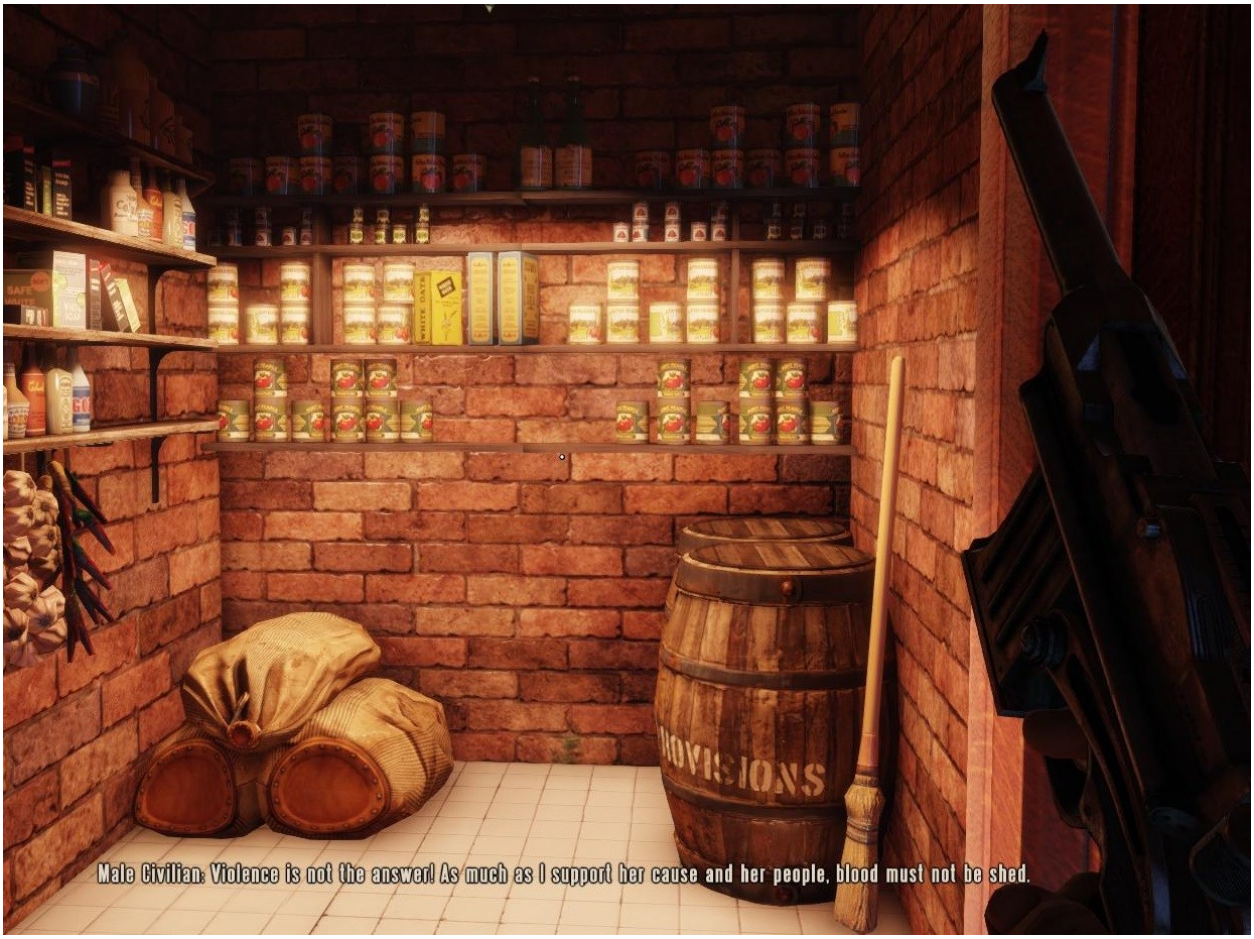

Figure 15: Pacifism and Abolitionism in Columbia

3.7.4 Objects in the Environment

The objects in the environments of Columbia fulfill various functions. Many, such as garbage cans and supply crates, contain objects that Booker can take and use on his journey through Columbia (see Figure 16). Others are not interactive but offer navigational or instructional hints to Booker (see Figure 17). Some exist to create detailed and realistic environments for the player to enjoy (see Figure 18). One of the most prolific types of objects in Columbia is propaganda objects which express a variety of ideologies (see Figure 19). The vast number of interactable and non-interactable objects in *BSI* indicates that the game's creators view objects as important to the experience they are attempting to create. Objects serve many functions in the game which contribute to gameplay *as well as* narrative.

Figure 16: Garbage can and contents.

Figure 17: A navigational hint.

Figure 18: Ty Bradley's locker.

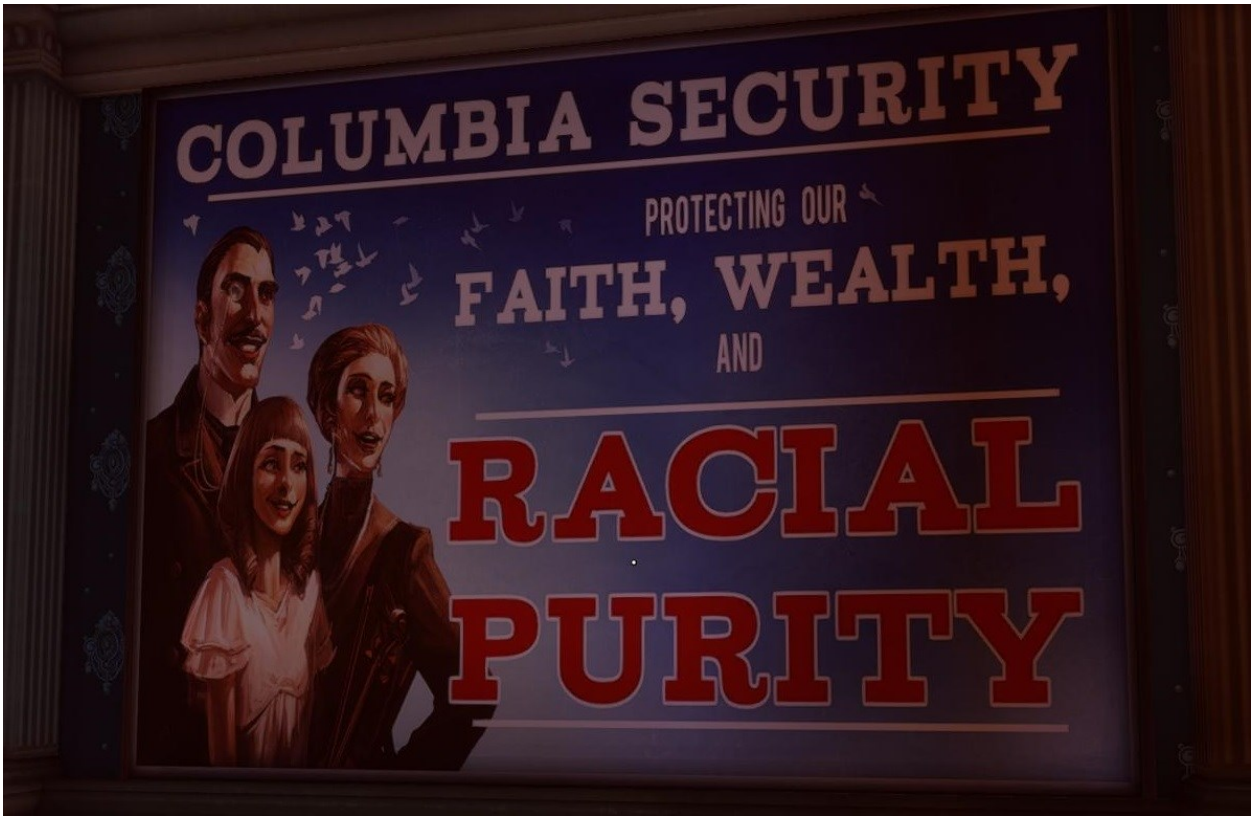

Figure 19: Founder propaganda.

3.7.5 Voxophone Recordings

The voxophone mechanic of *BSI* offers the most insight into the stories of Columbia, especially the secondary narratives. Voxophones operate like portable record players and they sound like they are actually records playing, which lends more authenticity to their status as cultural objects from the era of the 1920s. Placing the voxophone in the environment permits stories to be told without obtrusive explication. Furthermore, the player can choose whether or not he or she wishes to listen to the voxophones, thus determining which narratives contribute to his or her experience of *BSI*. In addition to expressing the lived experience of the citizens of Columbia, voxophones offer the player stories about the opposing ideologies that exist within Columbia. Private Wilbur Sykes does not see the harm in drinking with the Vox Populi on his off hours (see Figure 20) and Preston Downs, who was originally hired by Comstock to kill the Vox

Populi leader Daisy Fitzroy, switches sides to join the Vox Populi after befriending a Native American child (see Figure 21 and 22). There are many others but these examples show that there is a complex fluidity and contestation of ideology in Columbia, which is not obvious if the player does not engage with these environmental objects.

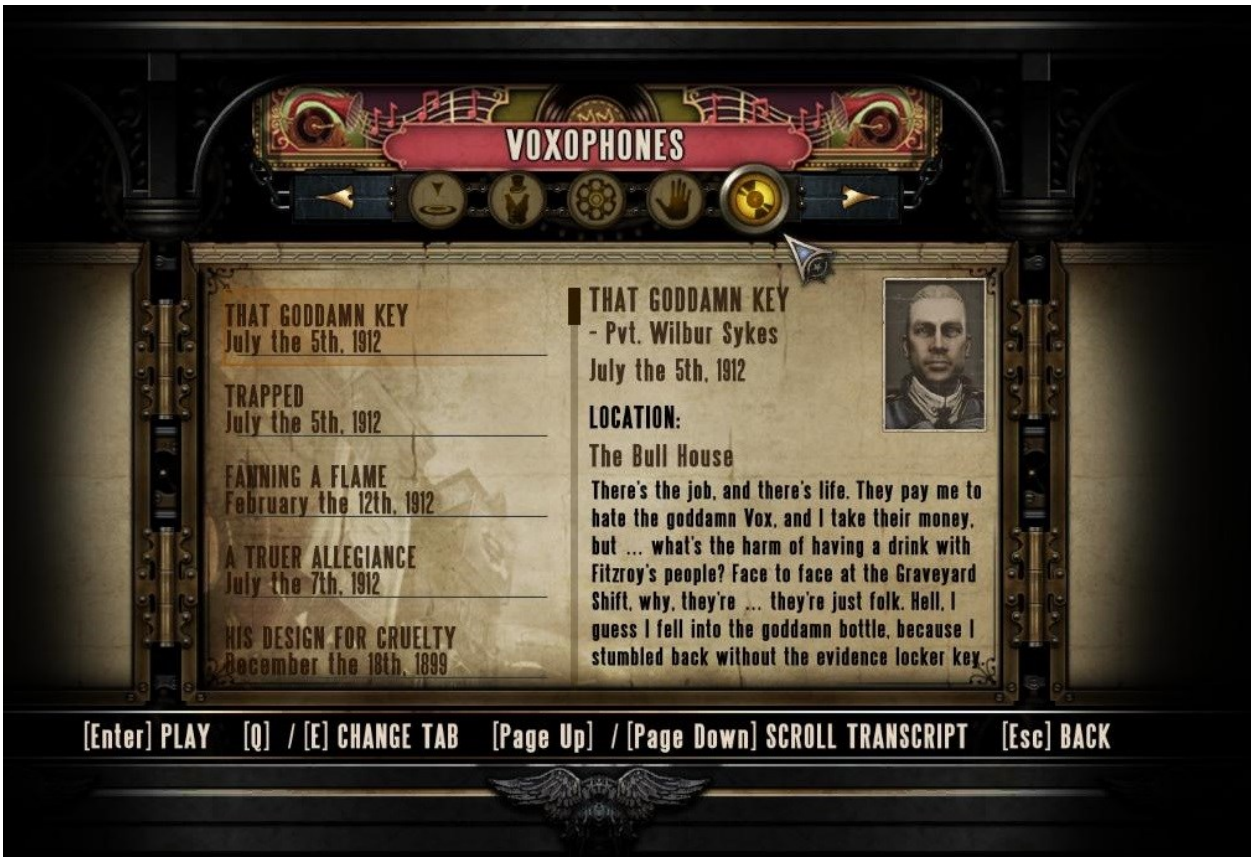

Figure 20: Private Wilbur Sykes voxophone, “That Goddamn Key”

Figure 21: Preston Downs voxophone, "Coming For Comstock", Part 1

Figure 22: Preston Downs voxophone, "Coming For Comstock", Part 2

3.7.6 Music

Just as in the original *BioShock*, *BSI*'s musicscape is comprised of both original and licensed music.[186] Gibbons argues that the inclusion of licensed music in the game "signifies the time period evoked by the game, grounding the action in the mid-century despite the presence of futuristic technology".[187] The licensed music in *BSI* serves the same function, reminding the player that Columbia exists in the 1920s even though it is powered by the advanced physics developed by the Luteces. The licensed music appears in the game environment, rather than as background music outside of the in-game narrative. It is played by radios, performed by NPCs,

[186] William Gibbons, "Wrap Your Troubles In Dreams: Popular Music, Narrative, and Dystopia in Bioshock" *Game Studies* 11.3 (2011).
[187] Ibid.

and is present in the background of the kinetoscope films, among other places.[188] The licensed music exists in the game environment and contributes to the process of environmental storytelling that occurs in the game. The original soundtrack, on the other hand, exists in the environment outside the fictional narrative. It helps to create mood and even cue certain events, such as when the Lutece music signals their appearance (which is important since the Luteces offer hints about the main narrative). The original score helps to create an interesting gameplay experience but it does not directly contribute to narrative development.

The analysis of this chapter offers an outline of my experience as a player of *BSI* as well as an in-depth examination of the elements that influence narrative construction within this game. But this chapter does not answer the questions outlined in the introduction of this thesis, although it lays the groundwork for these answers. The next chapter, chapter 4, shifts to a more focused inquiry that examines game environments and the concept of environmental storytelling. Based on my examination in this chapter and on the work of Smith and Worch, chapter 4 suggests that there are three different types of game environments and that environmental storytelling functions to some degree within each of them.

[188] "BioShock Infinite Licensed Soundtrack", BioShock Wiki. Accessed at: http://bioshock.wikia.com/wiki/BioShock_Infinite_Licensed_Soundtrack

Chapter 4: Environmental Storytelling Theory

4.1 Introduction

As I sit and write this now I am at the beginning of an interesting journey; I am beginning to define and outline a more academic concept of environmental storytelling. I know what my goal is: I want to shift the focus on environmental storytelling from theme park and game design to games studies. Although game studies is a relatively young field, it is now established enough that scholars do not need to wholesale appropriate older theories from other disciplines but can, and should, adapt and construct their own. I do not intend for the work here to produce a complete final product or theory, but to begin a specific conversation about and academic work on the concept of environmental storytelling. In truth this is a discourse that has been going on for over a decade. What seems to be missing in this conversation is a complete and relevant conception of environmental storytelling that can be applied to most 3D game environments. By expanding upon and offering additional categories of game environments, I show that environmental storytelling functions more diversely than it has traditionally be understood. This analysis serves as a starting point for a discussion about the variety of ways that environmental storytelling occurs.

Section 4.2 addresses what functions game environments, in general, perform in order to set up an analysis of the proposed game environments outlined in the discussion in following sections of this chapter. Section 4.3 outlines and examines three game environments: the avatar's physical environment, the avatar's social environment, and the extradiegetic environment that were conceptualized using *BSI* as an example. Sections 4.4, 4.5, and 4.6 examine these environments in detail in order to determine if they meet Smith and Worch's criteria required for any game environment. These criteria are outlined in section 4.2. Section 4.7 examines these

environments in order to determine if they reflect Smith and Worch's characteristics and functions of the concept of environmental storytelling. The final section offers my conclusions as well as future research necessary to help academics and designers understand the concept of environmental storytelling more completely.

4.2 Game Environments

I am relying heavily on Smith and Worch's design-focused approach in my analysis because it offers a clear outline of both the functions of game environments and the characteristics of environmental storytelling and also because environmental storytelling has yet to be systematically addressed by games studies scholars. Although Smith and Worch are approaching this concept from a game design perspective, this analysis should help to re-align this concept into a useful scholarly tool. In order to support this examination of game environments I will be providing examples from *BSI* in order to illustrate Smith and Worch's points.

According to Smith and Worch, a game environment does four things:

1. Constrains and guides player movement through physical properties and ecology.
2. Uses player reference to communicate simulation boundaries and affordance.
3. Reinforces and shapes player identity.
4. Provides narrative context.[189]

Smith and Worch define gameplay ecology as "enemy and item placement" within the game environment.[190] Simulation boundaries define what the player can and cannot do and where the player can and cannot go. In *BSI* the boundaries of Columbia are defined by its edges that are perceived as physical to the avatar. Since this is a floating city these

[189] Harvey Smith and Matthias Worch, "'What Happened Here?'Environmental Storytelling," lecture given at the Game Developers Conference, San Francisco, CA, March 2010, 6.
[190] Smith and Worch, 8.

boundaries are defined by the city itself; falling or jumping off would be considered to be suicide to an avatar. Another example of a simulation boundary in *BSI* is that Booker can only buy items from the vending machines even though there are stores and retailers present on the island. Affordance is defined by Smith and Worch as "familiar visual reference" and it allows the player to interpret the purpose of the area as well as what resources might be available there.[191] In Figure 1 we can see cards scattered over a table, in the middle of which is a knife and a smear of blood. This, coupled with a dead body in the corner of the room, tells us that someone was most likely punished by one of the other players for cheating at cards. This also tells us that the citizens of Shanty Town take cheating very seriously, perhaps because of their poverty. In terms of player identity, Smith and Worch explain that "games ask the player to assume an identity, contextualize this identity within a game environment, which in turn often implies or encourages social norms and behaviors".[192] Booker's history with the Pinkertons and the Civil War establishes him as a man familiar with violence, even against non-combatants. This makes it easier for the player to accept Booker's involvement in the violence in Columbia, which contrasts starkly to the idyllic atmosphere of the city. Booker's history, along with the explosion of violence during and after a public raffle[193] (as evidenced by the actions of Jeremiah Fink and the other NPCs), contributes to an environment in which violence is an acceptable behaviour even in the cheerful sunny Columbia. The player is forced to react with violence when Booker is discovered to be the "False Shepherd" and is threatened with death, or at the very least disfiguration, by the police officers of

[191] Smith and Worch, 9.
[192] Smith and Worch, 11.
[193] Booker and the player realize that the raffle is actually a lottery which decides who gets to throw the first baseball in a public stoning of an interracial couple.

Columbia (see Figure 2). The player is put into a position of being forced to react violently not only by the actions of the NPC but also because Booker's violent reaction to being attacked is scripted and not chosen by the player,[194] who has a clear view of the bloody death of a second officer. Finally, the game environment provides narrative context. It communicates information about the history of a place, the people living there, their living conditions, what may happen next, the function of the place, and the mood.[195] Smith and Worch emphasize that "the world speaks for itself", eliminating the need for obtrusive extradiegetic[196] elements.[197]

Figure 2: Cheating at Cards at the Graveyard Shift Bar

[194] Booker distracts one officer with the baseball and forces him to kill his colleague by smashing the sky-hook he is wearing into the other man's his face.
[195] Smith and Worch, 13.
[196] Fernandez-Vara uses this term on pg 8 of her article and it is explained in section 4.6. Briefly, this term refers to the game elements present outside of the narrative and which are for the player but inaccessible to the avatar such as the images and text in the loading screens.
[197] Ibid.

Figure 2: Violence in Columbia

4.3 Environments in BSI

While playing I identified three different environments in *BSI* that contribute to the process of creation of both primary and secondary narratives: the avatar's physical environment, the avatar's social environment, and the extradiegetic environment. The avatar's physical environment exists in a diegetic space (within the narrative and the fictional world) and is what the player's avatar is meant to perceive as physical within their virtual world. This is primarily the city of Columbia. The avatar's social environment is also diegetic and is the social world within the avatar exists or experiences during the game. In *BSI* the avatar's social environment is the social landscape of Columbia. It is outlined by NPC dialogue and voxophone recordings, giving the player hints about Columbian society that he or she can interpret at a whole, providing narrative context and richness. The extradiegetic environment is that which exists outside the fictional game world but is still a part of gameplay, such as the original

music that the player hears but which does not exist within the narrative (as contrasted to the licensed music played by various phonographs in Columbia).[198] One thing that must be kept in mind is that these environments are not isolated from one another; they constantly overlap and inform each other. In order to examine them in detail, it is necessary to attempt to isolate them but this is done in a temporary theoretical space. This addresses the question of what they are, rather than how they function together. These environments are interrelated, supporting each other and interacting in order to shape both primary and secondary narratives, creating a complex matrix of narrative generation. These three environments will be evaluated based on the four functions of game environments outlined by Smith and Worch above as well as their functions of environmental storytelling, addressed in section 4.7. It must be noted that this evaluation of these environments in the context of Smith and Worch's functions of environmental storytelling is incomplete and will remain so until they are examined in the context of player studies. Evaluating the concepts of interpretation, active problem solving, and incorporation goes beyond a purely theoretical examination of environmental storytelling and thus is beyond the scope of this analysis. The main focus of this analysis will be on to what extent these environments and their constituent elements engage in the process of narrative creation known as environmental storytelling.

4.4 The Avatar's Physical Environment

In *BSI* the avatar's physical environment is primarily Columbia. Elements such as physical objects (both interactable and non-interactable), licensed music, sound effects, and weather exist in the physical environment. Up to this point environmental storytelling has been focused solely on the avatar's physical environment and this is where most, if

[198] Fernandez-Vara.

not all, of the non-verbal, non-textual storytelling happens. This is the environment that Smith and Worch are discussing in their presentation.

4.4.1 Objects

In terms of constraining and guiding player movement, there are elements that guide the player such as Shock Jockey locks on doors and other objects[199] as well as places where the sky-lines need to be cleared of debris in order to be used (see Figure 3). Objects such as Vox Populi ciphers (see Figure 4) and locked chests initiate optional quests which lead to caches of items. The introduction of the sky-hook extends the simulation boundaries to include areas that cannot be reached by foot. But the sky-hook also re-establishes the boundaries: Booker can only hook onto the sky-lines or freight-hooks and not onto other objects such as the awnings on buildings.

[199] These are locks which require the player to use the vigor Shock Jockey in order to open them. Vigors are additional powers that Booker can use, such as Shock Jockey which allows Booker to electrify enemies, and are based on the concept of plasmids used in *BioShock* and *BioShock 2*.

Figure 3: Sky-Line Control

Figure 4: Vox Cipher

There are many examples of affordance in *BSI*, two of which are the pigeon hunter's chair (see Figure 5) and the interrogation items in the basement of the Good Time Club (see Figure 6). The first image tells us a few things: someone was shooting pigeons and keeping the carcasses for some reason (since this was discovered in Soldier's Field which is located in one of the upper class areas of Columbia we can assume that this person was not going to eat them), this person was there for some time since they packed coffee and perhaps a lunch, and they used a shotgun. The second image prepares the player to find the mutilated body of Chen Lin, indicating that this area is used for torture. The bucket and the knives would be enough to tell us this but the fact that there is a lot of blood on the table indicates that someone has been tortured recently, perhaps even

killed. This may offer players with weaker stomachs the opportunity to steel their nerves before discovering the body in the next room. These affordances give the player information about the area they are in and what it is used for: Soldier's Field is a place of leisure where it is acceptable for the upper classes to hunt pigeons and the basement of the Good Time Club is where political and other prisoners are taken to be tortured. The Good Time Club exists on the boundary between the upper and lower classes and this dichotomy is illustrated by the activities in the place itself: entertainment for the upper classes above and torture for lower class dissidents below.

Figure 5: Pigeon Hunter

Figure 6: Interrogation Room in the Basement of the Good Time Club

Instead of the dark and decay of Rapture from *BioShock* and *BioShock 2*[200], Columbia is bright and cheerful. Up until the Raffle, Booker and the player are innocent sight-seers unable to initiate violence, and, in my case, unwilling to do so in such a beautiful and fascinating city. After the Raffle when Columbia shows her teeth, Booker and the player engage in their first battle. When I discovered what the Raffle really was (the citizens of Columbia were going to stone an interracial couple to death with baseballs) I did not feel guilty about engaging in violence in such a bright and sunny environment. It seems that the happy go-lucky mask worn by the city hid the inequality and hatred that fuels its existence. Although beautiful on the outside, Columbia functions because of violence and this is revealed more and more as the player explores the

[200] Although BSI is not a direct sequel to *BioShock 2*, it is most likely that the player is at least familiar with the two previous games.

industrial and lower class parts of the city. This realization, cued by the Raffle, symbolically gives the player permission to engage in violence, removing the guilt of sullying such a beautiful environment with blood. This is an example of one of the ways that the physical environment of *BSI* shapes player identity.

Finally, the avatar's physical environment of *BSI* provides narrative context for the player to interpret. In terms of the primary narrative, the ideological and physical struggle can be seen in the various forms of propaganda and counter-propaganda found in Columbia. The type and amount of propaganda is determined by those who live and work in that particular area of the city. Founder propaganda is found everywhere in Columbia, which is not surprising since they are the governing body of the city. What is interesting is when Founder propaganda is co-opted by opposing groups to express a different ideology (which often happens in areas of the city frequented by those who are perceived as the lower classes such as in the "Coloured" bathroom in Battleship Bay and Shantytown). The Vox Populi as well as Slate's followers[201] often vandalize Founder propaganda objects to express their opposition to Comstock's extremism. In Figure 7 members of the Vox Populi have vandalized a Founder poster changing the portrayal of Comstock from a prophet to a fraud and a liar. In Figure 8 Slate's followers vandalized the statue of the angel Columbia outside of the Hall of Heroes to express their anger over the fact that Comstock has stolen their military history and rewritten it to suit his needs. Graffiti and vandalism are used to show the shifting power struggle between the Founders and the Vox Populi: when the Vox take over Founder neighbourhoods their graffiti spreads to those neighbourhoods to illustrate their claim on Founder territory.

[201] The followers of Cornelius Slate are angry at Comstock for rewriting the history of his involvement in the Civil War (he claims he led the 7th Calvalry) and the Boxer Rebellion (he was not there). He glorifies himself while over shadowing and also taking credit for the deeds of other soldiers such as Slate and other veterans.

In terms of secondary or micro narratives, the story of Preson E. Downs is told almost completely through objects in the environment such as voxophones and objects that leave traces of his activity, such as bear traps. In his first voxophone recording we learn that Downs has been hired by Comstock to hunt down Fitzroy. In Figure 9 we see that she has sent some of her men to kill Downs but he got the better of them. We know that he survived by his voxophone recording but even without it we can figure out that he survived the encounter. The Vox Populi members are dead in pools of blood and Downs has written a message for Fitzroy in blood on the wall and signed it "P".

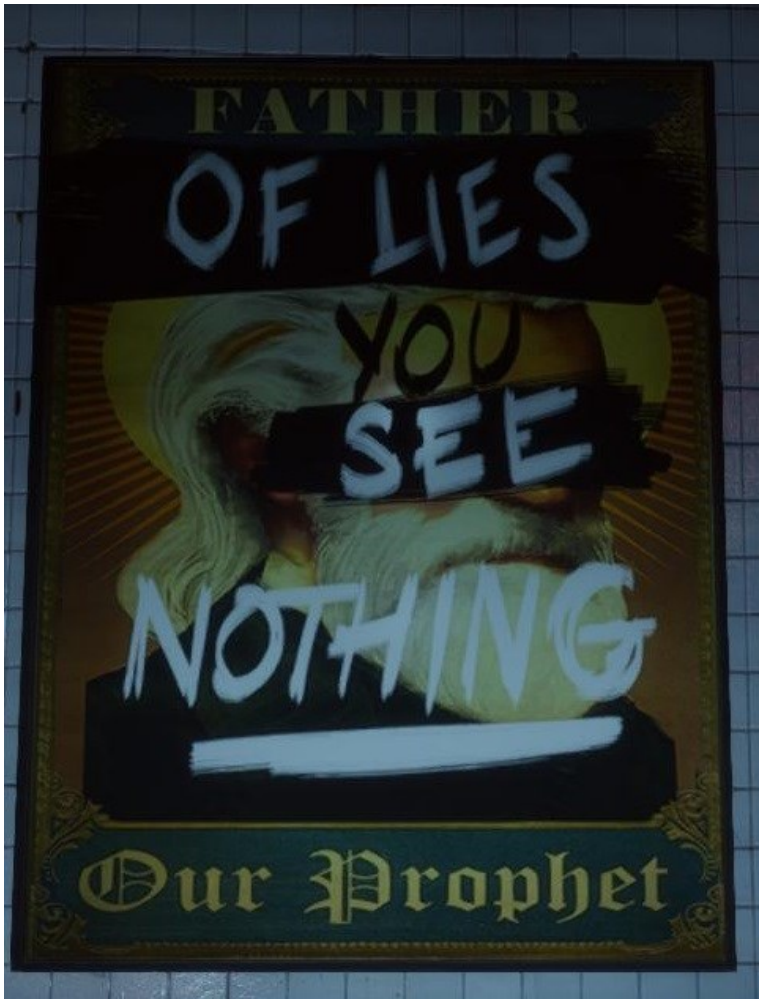

Figure 7: Father of Lies

Figure 8: Hall of Whores

Figure 9: Traces of Preston E. Downs

4.4.2 Weather and Ruin

Certain elements in the avatar's physical environment of *BSI* need to be addressed in terms of how they contribute to the narrative. Weather in *BSI* serves the gothic function of creating the mood and also expressing decay and ruin as Columbia is ravaged by war. At the beginning of the game, Booker enters a bright sunny Columbia. At a pivotal moment in the game, where Elizabeth symbolically loses her innocence, the sun begins to set and a storm begins to develop (see Figure 10). By the final battle, it is raining and the sky is nearly black with stormy clouds (see Figure 11). This is an indicator of the physical decay of the city as it is destroyed by fighting and also an indicator of Elizabeth's transition from innocence to maturity. While Evan Watts's article "Ruin, Gender, and Digital Games" is primarily focused on ruin and gender, his outline of one of the themes of ruin is pertinent to BSI: "the destruction of the *physical* structures

is paralleled by, and symbolic of, the destruction of *social* structures, thus associating ruin with liberation and freedom".[202] As I stated in Chapter 2, this motif operates with more complexity in the *BioShock* universe than as outlined by Watts above. At one level the motif of ruin does operate subversively, symbolically destroying the dominant ideology which in *BSI* is ultranationalism and religious fanaticism, but it also represents a return to the status quo as this outlandish attempt at utopia self-destructs. In one sense this destruction liberates the repressed peoples of Columbia from the Founders, but in another it destroys the dream of a beautiful utopia floating in the clouds. In terms of Booker and Elizabeth's narrative, this theme becomes irrelevant when Columbia is erased from the universe altogether. In this all-encompassing narrative, Columbia represents Booker's sin and its erasure his redemption. The journey the player takes with Booker is his fight for another chance and another life. So when examining the theme of ruin in *BioShock* alone it can be seen as the tragic ending of a failed dream and a return to mediocrity, but in *BSI* it has a more optimistic interpretation: the earning of redemption.

[202] Evan Watts, "Ruin, Gender, and Digital Games," *WSQ: Women's Studies Quarterly* 39:3&4 (Fall/Winter 2001), 247.

Figure 10: A Storm is Brewing


Figure 11: Stormy Final Battle

4.4.3 Music

BSI employs both original and licensed musical scores just as in the first *BioShock* game. Its original music exists outside of the fictional world of Columbia, serving the purpose of creating mood and cuing important events in the narrative; it exists in the extradiegetic environment. The game's use of licensed music however, occurs in the avatar's physical environment of Columbia "(i.e., it emanates from a source in the fictional world and can be heard by the characters as well as the player)".[203] The licensed music in BSI is comprised of three different types: original music and songs, re-performed music and songs, and retro covers, as seen in the BioShock Wiki.[204] Original music and songs are recordings of songs performed by their original creators such as Polk Miller, Rudy Vallée, and Duke Ellington. Re-performed songs are "modern recordings of actual period songs by Jessie Carolina and her band Omnie Wise, or by Duncan Watt for Scott Joplin's piano compositions".[205] Retro cover songs are "period-sounding 'covers' of modern hits" such as Cyndi Lauper's "Girls Just Want to Have Fun", Creedence Clearwater Revival's "Fortunate Son", and R.E.M.'s "Shiny Happy People". This level of musical variety of licensed music was not present in either of the first two *BioShock* games, giving *BSI* a richer soundscape than its predecessors.

While analyzing the use of popular, licensed music in *BioShock*, Gibbons suggests placing it upon a continuum "with those that embody or reflect on the general dystopian environment (mostly ironically) on the one end, and those that zoom in to

[203] William Gibbons, "Wrap Your Troubles In Dreams: Popular Music, Narrative, and Dystopia in Bioshock" *Game Studies* 11.3 (2011).
[204] "BioShock Infinite Licensed Soundtrack", BioShock Wiki. Accessed at: http://bioshock.wikia.com/wiki/BioShock_Infinite_Licensed_Soundtrack.
[205] Ibid.

focus more directly on the action at hand at the other"; [206] the first establishes mood and adds irony and the second comments on the narrative. In *BSI*, licensed music operates in a similar way, supporting Gibbons's theory. The first song Booker and the player hear when they arrive in Columbia is "Will the Circle Be Unbroken?" which is a Christian hymn written in 1907.[207] This hymn is used throughout the game, even being sung by Elizabeth while Booker plays the guitar, which establishes it as the theme song of *BSI*. The use of this song seems to be comparing Columbia to Christian heaven especially in the chorus: "Is a better home awaiting, In the sky, in the sky?"[208] This can also been seen as an ironic comment on the hatred and corruption of Columbia which is more hellish than heavenly. This song, and its gospel style, also creates a reverent but celebratory mood, perhaps to inspire religious rapture in those just arriving in Columbia, including the player. The choice of a gospel hymn for introducing Columbia helps to shape player mood and expectations at the beginning of the game. This beautiful religious song choice also serves to heighten the irony when the player and Booker discover the violence and inequality within the city. Another example of the use of licensed music that supports Gibbons's theory is the song "Black Gal (I Don't Want No Jet Black Woman)" which is sung by a chain gang of African American prisoners while Booker is questioned by Fitzroy on an airship above. Since this song was recorded using actual prisoners in Mississippi it adds to the realism of the scene by helping shape the historical context of the fictional world. This song can also be read as ironic since the title and the lyrics imply that these prisoners are rejecting Daisy Fitzroy even though she is the leader of the

[206] Gibbons.
[207] "Will the Circle Be Unbroken?" *Wikipedia*. Accessed at http://en.wikipedia.org/wiki/Will_the_Circle_Be_Unbroken%3F
[208] Ibid.

resistance that will help free them. On the other hand, this song can be seen to be creating the patriarchal contex of Columbia and the historical setting itself. This song helps to set the mood for when Booker and the player later enter Finkton, where the lower classes toil to provide an easy living for the upper classes. The use of music in *BSI* echoes that of the first *BioShock* game by creating mood, irony, and providing narrative context.

4.4.4 Environmental Traces[209]

Environmental traces are objects, images, artifacts, etc. within the physical in-game environment attributed to characters that exist within the fictional world of the game and require ergotic effort on the part of the player to construct their meaning to the narrative or fictional world. In persistent multi-player worlds, environmental traces can be left by players, to be interpreted by other players, as well as NPCs. Environmental traces require ergodic effort from the player in order to make sense of them and, in the case of *BSI*, the result of this work is often a secondary narrative. An example of this can be drawn from the lighthouse at the beginning of the game. When Booker begins his ascent to the top of the lighthouse he finds that someone lives there, most likely the lighthouse keeper (see Figure 12). The scene becomes more ominous when we see that a table has been knocked over and dishes broken; there is also some blood on the table (see Figure 13). On the wall by the stairs there is a bloody hand print (see Figure 14). At the top of the stairs we find a window with bullet holes (see Figure 15). Finally we see the body of the lighthouse keeper with a message for Booker (see Figure 16). Before we even

[209] The concept of traces links to both Fernandez-Vara and Smith and Worch. Fernandez-Vara provides us with the term indexical storytelling which "refers specifically to generating stories through traces". The problem with this term is that it draws on semiotics which, for reasons discussed in Chapter 2, we want to avoid. This concept can be connected to all four of Smith and Worch's characteristics of environmental storytelling: it requires active problem solving through interpretation and association of elements from the player but it can be most strongly linked to telegraphing.

see the body, we know by the blood and the mess that some violent act occurred here. Knowing that we must continue in order to play the game, we are led through a series of traces that tell the story of how the lighthouse keeper was accosted on the second floor and killed on the third, his body left with a message to Booker. This is one of the many scenes in *BSI* that uses traces in order to tell a story. Environmental traces are essential to environmental storytelling since they help to fulfill all the functions of environmental storytelling outlined by Smith and Worch: association of elements, active problem solving, interpretation according to player experience, and telegraphing.

Figure 12: The Lighthouse Keeper's Home

Figure 13: Ominous Traces in the Lighthouse


Figure 14: A Bloody Handprint in the Lighthouse

Figure 15: Bullet Holes in the Lighthouse Window

Figure 16: A Dead Lighthouse Keeper

4.5 The Avatar's Social Environment

The avatar's social environment is constructed through NPC dialogue and voxophone recordings. NPC dialogue is rich and varied in *BSI* and gives the player information about the lives of the citizens of Columbia. NPC dialogue expresses ideological views (see Figure 17), how Columbia has changed over time (see Figure 18), Founder sanctioned announcements (see Figure 19), and how Columbians live day to day (see Figure 20), to give a few examples. These elements help to create the social environment of Columbia, giving the player insight into the lives of those who live there as well as contributing to the richness of the entire game environment.

Figure 17: NPCs Expressing Founder Ideology

Figure 18: NPCs Discussing Changes in Columbia

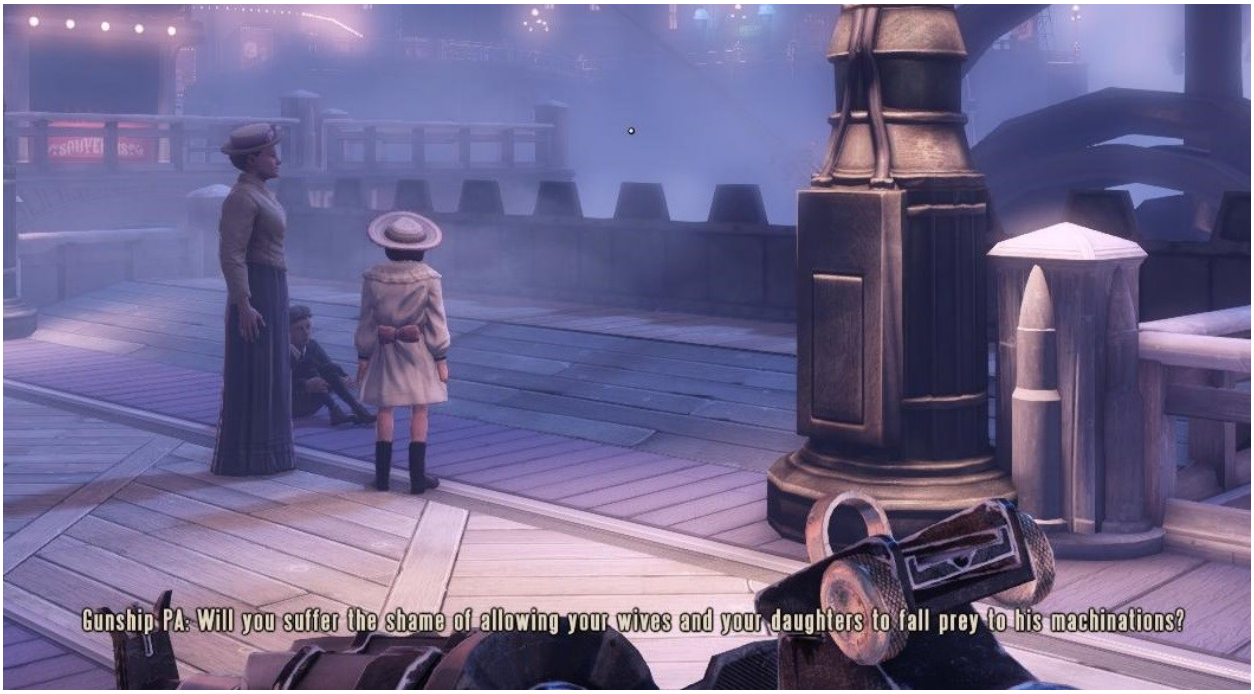

Figure 19: Founder Sanctioned Announcement

Figure 20: Ty Bradley Voxophone, "Tiger by the Tail"

Considering Smith and Worch's functions of game environments, we can interpret these functions to apply to the avatar's social environment of *BSI*. In terms of constraining and guiding player movement, dialogue and the voxophones guide the narrative movement and exploration of the player more than physical movement. For example, Booker overhears two Columbia police officers discussing the Sky-Hook, introducing a tool and a weapon that Booker can use later in the game while also letting Booker know that the Vox Populi have been using the sky-lines (see Figure 21). This also extends the game's simulation boundaries, informing the player that they have access to the sky-lines of Columbia. But this narrative movement links to the avatar's physical movement. New areas of Columbia provide Booker with new information about *BSI*'s narratives: Battleship Bay is populated by the elite of Columbia and many beach-goers express

dissatisfaction with changes in race relations (see Figure 22) while the lower classes, who live in Shanty Town, plan a revolution (see Figure 23). Both of these examples refer to the primary narrative and foreshadow the outbreak of the class war later in the game. The voxophones play a part in guiding Booker through the game ecology by indicating where to find specific items, such as optional mission items, or secret caches of items. In terms of affordance, in the social environment this is verbally represented rather than physically represented and informs the player about the social aspects of an area such as who inhabits it and the social norms found therein. For example, in Battleship Bay Booker is pressed to leave the "coloured" bathrooms by an African American janitor, indicating that it is unacceptable for a white person to be there (see Figure 24).

Figure 21: Columbia Police Discussing the Sky-Hook

Figure 22: Upper Class Dissatisfaction with Changing Race Relations

Figure 23: Planning a Revolution

Figure 24: Social Norms in Battleship Bay

The way NPCs respond to Booker also helps to reinforce his identity in Columbia. It is not until Booker is identified as the "False Shepherd" that the police force attacks him. If the player has any experience with first person shooter games, they may suspect that all is not quite as it seems since these games are categorized by action and violent gameplay. The viciousness of the events at the Raffle shifts the social acceptability of violence for the player. This shift is cued at the Raffle where Booker first sees a manifestation of the violence hidden behind the sunny façade of the upper class areas of the city. This moment is also established by the ludic rules of the game: the game does not allow the player to engage in violence until this moment. This is one example of how both the avatar's social environment and the extradiegetic environment function in tandem to shape the social norms in the game's environment, in this case if and when

Booker can engage in violence. Another more subtle example of this characteristic is that of the African American janitor whose reaction to Booker's presence in the "coloured" bathroom reinforces Booker's status as a white male which is privileged over that of the African American male.

Smith and Worch's final characteristic of game environments is that they "provide narrative context" which we can see in Figures 17 and 18. The stark difference between the upper and lower classes is highlighted in Battleship Bay. While white patrons lounge on the beach, an Irish labourer controls the illusion of the sea and African American servants clean, maintain, and serve. In terms of the primary narrative, beachgoers express concern about the Vox Populi, alluding to the social dissatisfaction of the lower classes and foreshadowing their potential revolution.

4.6 Extradiegetic Environment

The term extradiegetic is drawn from Clara Fernandez-Vara's work and she defines it as referring to elements that are "part of gameplay but are not part of the fictional world".[210] Although this term is very narrative-centric, it is useful for an examination of environmental storytelling, which is focused on the creation of narrative via the environment. These elements are used primarily to orient the player and give instructions but they can contribute to the narrative. One extradiegetic element is the narrative blurb contained in the game's booklet: "The year is 1912. You are Booker DeWitt, a former Pinkerton detective faced with mounting debts and forced to take one last job… You must travel to the mysterious city of Columbia to find a young woman and return her safely back to New York City". This establishes the setting: 1912 and the "mysterious city of Columbia". It establishes the identity of the avatar, Booker, which the

[210] Fernandez-Vara, 8.

player must assume to play the game. It also outlines Booker's primary goal: find the girl (Elizabeth) and take her away from Columbia. Although this element does not exist in the fictional world, in terms of in-game narrative it does orient the player and provide context at the beginning of his or her journey. Another extradiegetic element of *BSI* is the use of the loading screen to express Booker's thoughts at certain points in the game (see Figure 25). This form of running commentary helps to give Booker depth as a character and also orient the player by providing his current mindset and objective. In the case of *BSI*, extradiegetic elements do contribute to environmental storytelling but only partially since these examples only fulfill the last two characteristics of game environments outlined by Smith and Worch: reinforcing and shaping player identity as well as providing narrative context.

Figure 25: Battleship Bay Loading Screen

4.7 Functions of Environmental Storytelling

In the previous sections of this chapter I have examined the game environments identified in *BSI*[211] and how they stand up to Smith and Worch's criteria for game environments in general. Now I will examine these environments in context of Smith and Worch's criteria for the concept of environmental storytelling. Smith and Worch list four characteristics or functions of environmental storytelling in their presentation:

1. Environmental storytelling relies on the player to associate disparate elements, interpreting them as a meaningful whole.

[211] The avatar's physical environment, the avatar's social environment, and the extradiegetic environment

2. Environmental storytelling fundamentally integrates player perception and active problem solving, which builds investment.
3. Environmental storytelling invites interpretation of situations and meaning according to players' views and experience.
4. Environmental storytelling can help the player navigate an area by telegraphing.[212]

In order to establish how environmental storytelling functions within the three environments mentioned above, we must determine how these characteristics are manifested. There is a problem when we attempt to theoretically approach Smith and Worch's second characteristic: it requires player studies research in order to determine if players become more invested in the game because of the process of environmental storytelling. Because of this, I will not be examining this characteristic in this context. Since the characteristics of environmental storytelling have already been examined in the avatar's physical environment by Smith and Worch, I will focus on the avatar's social environment and the extradiegetic environment.

It is difficult to directly apply these characteristics to the avatar's social environment, since they were formulated with the visual in mind, without some freedom of interpretation. Smith and Worch's first, third, and fourth points can be illustrated by using the example of female sexuality in Columbia. Within NPC dialogue there are many comments that, taken together, can produce an interpretation of women's sexuality in Columbia. In Figures 26 and 27 women make assertive and flirty comments about Booker as he walks by. This definitely does not conform to the traditional Christian prescription for female behaviour that favours modesty and restraint over boldness. The women do not make any physical advances but the comments are very clearly flirtatious and they are open in their objectification of him. On the other hand, there are more examples showing that women are concerned about their reputations and the risk their sexuality poses. In Figure 28 the woman's friend chides her for her behaviour implying that

[212] Smith and Worch, 34.

she is acting scandalously and in Figure 29 a woman refuses to be seen alone with a man who she says has a "well established" reputation, perhaps as a womanizer. In Figure 30 a woman's friend claims she knows "a fellow who can, shall we say…take care of this?" with a questioning inflection of her voice at the end of the statement. That comment combined with the one in Figure 31 indicates that the first woman may be pregnant out of wedlock. There is an absence of discussion of any kind of sexual behaviour outside of heterosexuality which makes sense in a time when these behaviours were extremely taboo. From these traces the player can create a picture of women's sexuality in Columbia: it is strongly linked to reputation. Openly flirtatious comments from groups of women are acceptable but physical and clearly sexual advances by single women are seen as more damaging to a person's reputation. Pregnancy out of wedlock is serious enough to attempt an abortion, a much greater risk than it is today, which shows that family reputation is important enough to risk pain and even death. What is interesting to note is that all these examples are drawn from the upper class white population of Columbia which is perhaps an ironic comment on racist remarks about other peoples' sexualities. Returning to Smith and Worch's characteristics, this example shows that in order to create a picture of female Columbian sexuality, the player must make connections and associations between several comments from different sources. In the context of the fictional social environment, these comments can be seen as traces which, when taken together, create a micronarrative. My choice of example makes it clear that players rely on their subjective experiences when it comes to interpretation. I enjoy writing about gender and have written quite a few gender-focused papers in the past. This example reflects my interests and my own attitude toward gender as a female academic and player.

Figure 26: “He looks just fine to me.”

Figure 27: “Mmm…look at him ladies.”

Figure 28: Scandalous

Figure 29: The Importance of Reputation

Figure 30: An Unpleasant Question

Figure 31: “Damned if you do and damned if you don’t.”

As we have seen above, the extradiegetic environment only performs two of Smith and Worch's four functions of game environments. If one takes in inflexible view of Smith and Worch, according to their criteria, the extradiegetic cannot be considered a true game environment. But Smith and Worch do not explore whether or not the categorization of game environments demands that all of their criteria be filled. Nor do they discuss an environment that is outside the fictional in-game environment, like the extradiegetic. I would argue that although the extradiegetic is not a fictional in-game environment, it is a part of gameplay and it can contribute to the narrative (see Figures 32 and 33). Therefore, it is necessary to say that yes, the extradiegetic is a game environment and it can contribute to environmental storytelling, albeit in a different way than fictional in-game environments do.

Figure 32: The Factory Loading Screen

Figure 33: Comstock House Loading Screen

4.8 Conclusions

This analysis demonstrates that environmental storytelling is not limited to the avatar's physical environment: it occurs within the avatar's social environment and may possibly occur in the extradiegetic environment. The inclusion of these two environments in future analyses can broaden our understanding of the relationships between gameplay, the player, and narrative. In addition to this, I have analyzed these environments in the context of the functions of environmental storytelling proposed by Smith and Worch. The avatar's physical environment and the avatar's social environment both fulfill Smith and Worch's criteria to be considered true game environments however, the extradiegetic environment only partially fulfills conditions and more study is required to properly categorize this environment. In addition to this, we can see

that environmental storytelling is occurring within the two former environments but only partially in the latter one. What must be taken into consideration is that even though this analysis has artificially isolated these environments, they do not act independently of one another but operate together to shape both narrative and gameplay.

My examination of the avatar's physical environment is not unique because it is this environment that has been primarily addressed in the literature on environmental storytelling. As section 4.4 has shown, the examples from *BSI* fulfill Smith and Worch's characteristics of game environments very aptly. Smith and Worch do not offer a list of environmental elements which are associated with environmental storytelling, and this creates an opening for games studies scholars to enter the conversation and contribute with more detailed analysis. This section introduces the concept of environmental traces which is discussed in the literature on environmental storytelling but in a variety of contexts and under different names. Fernandez-Vara calls this concept indexical storytelling, but, as discussed in Chapter 2, relying on semiotics rather than games studies concepts is problematic because it does not account for the ergodic process in which a player of games must engage. While this concept is not a new one, its definition and name need to be concretized within game studies discourse in order to establish clarity around this concept.

This chapter has introduced the concept of the avatar's social environment which accounts for how fictional social elements of games can engage in environmental storytelling, and adds another dimension to the concept of environmental storytelling as a whole. Dialogue and interaction with NPCs are difficult to categorize as elements of the avatar's physical environment, and this issue brought up the need to conceptualize a new environment. The avatar's social environment is interconnected with the avatar's physical environment and it is

this interaction that defies the efforts of this analysis to isolate these game environments. While objects such as voxophones exist within the avatar's physical environment, by choosing to engage with them the player begins the ergodic process of constructing narrative of the social environment of Columbia. This is an example of the overlap of these two environments. An important function of the avatar's social environment is that it establishes the social norms of the society in which the avatar exists. This in turn constrains player behaviour by establishing the social rules they must follow, which, as in the case of violence and the Raffle, are supported by ludological constraints.

Another game environment, albeit a limited one, that is introduced here is the extradiegetic environment. While the term "extradiegetic" is drawn from Fernandez-Vara's work, it is this analysis that conceptualizes it as its own game environment. The term itself is very "narrative-centric" but the concept is a ludological one: elements refer to the narrative but the player interacts with them outside of the fictional world and its narrative. It might be beneficial to re-name this concept to reflect its ludological emphasis. In *BSI*, the extradiegetic environment does not fulfill Smith and Worch's first two characteristics of game environments: constraining and guiding player movement through physical properties and ecology and using player reference to communicate simulation boundaries and affordance. Since this analysis only uses one game as its primary example, it would be beneficial to examine the extradiegetic elements of other games to determine whether or not this concept can fulfill Smith and Worch's first two characteristics of game environments.

One point that can be taken away from this analysis is that a*ll* environmental elements do not contribute to environmental storytelling *all* the time. The flow of *BSI*'s narrative is balanced by combat and path finding so that players are engaging with the game in different ways at

different times. And sometimes these activities overlap so that the player is performing several different tasks at once. This shows that narrative interacts dynamically with gameplay within videogames and also that ergodic activity is happening simultaneous to ludological activity.

As stated in section 4.3, there are certain concepts tied to environmental storytelling that require a player studies inquiry in order to be examined. These concepts include, but may not be limited to, investment, incorporation, interpretation, and active problem solving. Although I am attempting to shift environmental storytelling into a more theoretical field, the perspective of game design should not be forgotten. It is important to approach environmental storytelling from many different angles if we are to understand the complexity of this concept since no one approach can be considered comprehensive. I hope that my analysis has offered new insights into this concept as well as new and intriguing directions for study.

Chapter 5: Conclusion

It is a love of stories that has brought me to this point and I hope that by examining how stories are told in *BSI* that I have contributed to our understanding of one of the ways narrative can function within games. *BSI* and the *BioShock* series are complex and expansive games with many fascinating narrative and ludic elements, many of which I could have examined. But I chose environmental storytelling because it is a concept that seems to marry narrative and gameplay so seamlessly, and it allows for player interpretation and subjectivity. It is this synthesis of meaning that occurs between game designers and players that allows for richness and multiple understandings ands meanings to emerge. It is this co-construction of meaning that I find so very fascinating and which allows for more active engagement from players. Although, as Aarseth has argued, playing a game is a different process from reading a book, the enjoyment I get from games reminds me of the pleasure I take from reading. It is this pleasure, this love of stories, which has inspired this inquiry.

Narratology and ludology, and the debate that surrounded these concepts, have been discussed at length in various games studies articles and sources. This conceptual discussion continues to be relevant in contemporary games studies because of the lessons that have been learned from this conceptual work, the two most important being that games are different from other types of media and both narratological and ludological perspectives are necessary to adequately understand how games function. Because of the concept of ergodic media that came out of this debate, I found it necessary to outline why games cannot be fully understood when approached solely from the perspective of semiotics: semiotics alone cannot account for the ergodic work necessary when engaging with games.

When I turned to examine the academic literature surrounding environmental storytelling itself I discovered that this concept had not fully shifted from theme park design and game development into the discipline of game studies. It was necessary to use works like Smith and Worch's presentation as a base for my own examination of environmental storytelling. Although there are not very many games studies sources, there are some theorists like Clara Fernandez-Vara and Henry Jenkins who do address this concept in their work. Unfortunately, these theorists are basing their work on concepts such as semiology and narratology, from a very literary perspective, rather than fully integrating games studies theory, especially ludology, into their works. Another gap in the academic discourse that I identified had to do with the *BioShock* game series itself. There has been academic literature that addresses the *BioShock* games but there are not many articles and those that I did find dealt with the first game almost exclusively. Ryan Lizardi's article deals with *BSI* but it does not address the concept of environmental storytelling directly.

I integrated literature that deals with ideology because this concept is operating on a couple different levels in *BSI*. There are a variety of ideologies that are made apparent within the various narrative levels in the game. On the other hand, ideologies circulate through the media artifacts that are produced by certain cultures, Western media and game culture in this case, specifically that produced by the United States. The concept of American Exceptionalism is especially pertinent because it seems to have been specifically chosen by the designers of *BSI*, who are themselves affected by this ideology that circulates within their parent culture. I continued to discuss ideology in Chapter 3, as I focused specifically on how ideologies circulate via media objects as well as how they are presented in the narratives of the games in the *BioShock* series. Games themselves, via the ergodic effort required of the player, can offer

opportunities for empowerment. Although this is mostly speculation on my part, based on related literature, it offers a very interesting avenue for future study. Since American Exceptionalism is present in BSI and is circulated by the dominant faction within Columbia, I provided a brief outline of the concept, using a contemporary source. I show how this ideology functions within the narratives of *BSI*, noting that it is purposefully integrated by the game's designers, albeit in a hyperbolic and fictional form. Although it goes beyond this analysis to state whether or not this indicates a high level of self-reflexivity in this team of game designers, it is an interesting question to consider.

Chapter 3 makes a transition from the more theoretical work that characterizes Chapter 2, to an exploration of the importance of the acknowledgment of subjectivity to games studies. Since games demand that players engage in an ergodic process, one that is necessarily participatory and interpretive, who the player is will determine how they experience a game. This also applies to games studies scholars who need to also be players. I offer a brief summary of my personal history in general and with games specifically in order to outline my own context as a player. The next section in this chapter engages with my personal experiences as I explain my methodology associated with playing and writing about *BSI*. I found that I created a methodology that was tailored to how I play games as well as how I write. My process for playing and taking screenshots closely followed the process I use when approaching research for an essay: moving from general and comprehensive to a more specific and focused engagement with the material. My method when it came to writing varied in that conceptual work continued to happen even when I was not writing. Another difference is that while dedication and work can carry me through to my goal when it comes to research, writing required different techniques when it came to overcoming obstacles. Instead of pushing myself harder, I stepped back and

wrote some fiction, engaging myself as a writer in a different way. I also engaged myself as a casual player instead of as an academic player by playing another game for my own enjoyment. The success of this tactic seems to indicate that I can use one kind of creativity to foster other types of creativity and creative work.

After this section, I shift from player back to game, from paidia to ludus, in order to examine environmental and ludic elements of *BSI* and create a foundation for the more specific examination that occurs in Chapter 4. This examination of environmental and play elements not only provides a picture of the gameplay in *BSI*, but also shows how these elements operate in their construction of narrative. These elements are carried over into Chapter 4 where it is shown that they fit into the three different environments that I have conceptualized.

In Chapter 4 I show that environmental storytelling can be seen to function within *BSI* according to Smith and Worch's characteristics. But I have complicated the question of how environmental storytelling functions by suggesting that three different game environments need to be considered when examining games like *BSI*. The physical in-game environment is what comes to mind at the mention of *game environment*. This environment embodies what is considered physical in relation to the avatar and encompasses the fictional world. In *BSI*, Columbia is the physical environment with which Booker, and the player, interacts. Within Columbia are elements such as objects, music, and weather which relate to the primary and secondary narratives in various ways by helping to create context, creating mood, or alluding to in-game ideologies. In the context of Smith and Worch, environmental storytelling occurs the most within this environment. This is most likely because the concept was formulated specifically with this environment in mind. The second game environment outlined in my analysis is the fictional social environment which is created through NPC dialogue and messages

left on voxopohones. These elements show the player what life is like for citizens of Columbia in everyday social contexts, such as how they live and what they think. In a single player game like *BSI* this environment is primarily created by game designers but in massive multi-player online games, this environment is created by players themselves as well as NPCs. Since Smith and Worch's characteristics of game environments were created with the physical in-game environment in mind, it was necessary to make them more flexible in order to apply them to other environments. After doing so, it was found that environmental storytelling is indeed occurring within this environment as well. The third environment, and the one I find most fascinating, is the extradiegetic environment, meaning that which is outside the fictional world but still considered a part of gameplay. In *BSI* this environment does indeed contain elements that contribute to narrative but this may not be the case for *all* games, which needs to be taken into consideration when applying these findings to other games. It was found that the extradiegetic environment only fulfills two of Smith and Worch's four characteristics of game environments and thus cannot be considered a true game environment according to their criteria. Keeping in mind that Smith and Worch are coming from a professional, game design background, one may argue against this conclusion from a theoretical standpoint. I would argue that because this environment is not a fictional-in game environment, Smith and Worch's characteristics, as they are currently articulated, do not directly apply. The extradiegetic environment needs to be considered and examined as a different type of game environment, one that refers to but is outside the fictional world. I believe that this is indeed a game environment and that environmental storytelling occurs here but further study is required to establish characteristics of game environments that are outside the fictional world of the game.

By breaking down the huge concept of *game environment* into different types, not only am I making this concept more manageable from a theoretical point of view but I am offering alternative ways of viewing the concept altogether. Doing this also offers new ways of viewing how environmental storytelling functions by applying this concept to new environments.

This examination of environmental storytelling creates a picture of gameplay as offering an opportunity for players to engage in a variety of activities performed both consecutively and simultaneously. This overlap of types of potential player engagement is part of what makes environmental storytelling fascinating and is also linked to the overlap of narrative and ludic elements that this concept engenders. This indicates that narrative and play in games exist and function within a complex and dynamic system whose elements can be theoretically isolated but this will only show us what they are and not how they function together. The fluidity and inter-connectedness of narrative and ludic elements needs to be considered at all times in order to maintain an understanding of games that is as accurate as possible.

Although the call for more research is almost cliché within academic discourse, it is a necessary call to arms. When it comes to culture and media, there are no simple answers and recognizing that there is more to learn is the only way to enrich our understanding of ourselves and the world around us. Within any academic discourse it is important to approach a concept or a question from different angles, and the same holds true in this case.

Many problems and questions came up for me during the course of this research that I was unable to answer since they were outside of the scope of my inquiry. A few questions came up that required player studies research to answer such as: how does environmental storytelling influence player incorporation? If a game utilizes environmental storytelling is it able to heighten

player incorporation just by using this concept? In what ways? Smith and Worch characterize environmental storytelling as requiring player interpretation but this activity can only be examined by examining the player him or herself. Another avenue that requires further research is: how does environmental storytelling function in multi-player game environments? If players can leave their own traces in game environments then it can be argued that players can create their own opportunities for interpretation of events by others. This is related to the question: can we find examples where videogames offer opportunities for empowerment through the use of player interpretation? Can player interpretation challenge dominant cultural ideologies? How much of this empowerment depends upon designers? During my research on ideology I asked: to what degree are game designers unconsciously influenced by the ideologies circulating within their cultural landscape? This question leads us to an interesting area of inquiry since it requires research on game design culture, society, and psychology. It leads us to ask how the process of unconscious transfer of cultural ideologies occurs which is one that applies more widely to media production and not just to videogames. A question that combines designer and player studies is one that asks is it a problem if designer intent and player interpretation do not match? Although I am inclined to say that no, the divergence of designer intent and player interpretation is not a problem, an adequate answer to this query requires more focused research on this question specifically. One final problem that arises directly out of my formulation of new types of game environments is: how can the definition of game environments be reformulated to include the extradiegetic environment? I have introduced this concept but an examination of game environments in many other games is needed in order to begin to answer this question.

Nearing the end of this story I can see that I have changed both as a player and as a writer as I have gained more confidence in both these roles. And yet I recognize, now more than ever,

that there is so much more for me to learn as our conversations continue. What began with a love of stories has become a love of games and it is an enthusiasm I share with other professionals, academics, and players. Acknowledging, as Pearce does, that collaboration and shared passion is more enriching than proving one's point is important to creating a productive and open disciplinary environment. Of course we will continue to debate and even argue but we must keep in mind that we are all united in our appreciation of games as valuable cultural artifacts that need to be studied in order to create a deeper understanding of Western media and culture.

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