

# THE SEA OF DOORS:

An interpretive exploration of how the *BioShock* games enable plural  
selves in the gamer

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Submitted for the degree Magister Artium (Visual Studies)

in the  
FACULTY OF HUMANITIES  
UNIVERSITY OF PRETORIA

February 2018

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Booker: Doors to?

Elizabeth: To everywhere. All that's left is the choosing.

Booker: What are all these lighthouses? Why are we... who are...

Elizabeth: They're a million, million worlds. All different, all similar. Constants and variables.

*(BioShock Infinite, Irrational Games 2013)*

For Juan, who insisted I play *BioShock Infinite* first.

# CONTENTS

	Page
LIST OF ABBREVIATIONS.....	vi
LIST OF FIGURES .....	vii
LIST OF TABLES.....	xii
LIST OF APPENDICES.....	xiii
<b>CHAPTER ONE: INTRODUCTION.....</b>	<b>1</b>
1.1 Background .....	2
1.1.1 Know thy ‘self’ .....	2
1.1.2 Multiple selves .....	3
1.1.3 Multiple selves in <i>BioShock</i> .....	4
1.1.4 Hypothesis.....	7
1.2 Need and scope for the study .....	7
1.2.1 Need.....	7
1.2.2 Scope.....	8
1.2.3 Feasibility and implications .....	8
1.3 Aims and objectives.....	8
1.3.1 Aim .....	8
1.3.2 Objectives .....	9
1.4 Literature review .....	9
1.4.1 The ‘self’ .....	9
1.4.2 Exploring the ‘self’ through immersive activity.....	10
1.4.3 Multiple selves .....	10
1.4.4 Technology and human interaction with technology.....	11
1.4.5 Visual technologies.....	14
1.4.6 Immersion and virtual ‘presence’ .....	15
1.4.7 Virtual selves .....	17
1.4.8 Virtual narratives .....	18
1.4.9 Game type, structure and features.....	18
1.4.10 The <i>BioShock</i> trilogy.....	19
1.5 Theoretical approach and methodology.....	20
1.5.1 Theoretical approach.....	20
1.5.2 Assumptions.....	20
1.5.3 Research methodology.....	20
1.6 Outline of chapters.....	22
<b>CHAPTER TWO: CONCERNING IDENTITY AND VIRTUAL ‘PRESENCE’ .....</b>	<b>23</b>
2.1 The ‘self’ and multiple selves .....	23
2.2 Game identity: avatars and agents .....	24
2.3 Plural and multiple selves in games.....	25
2.4 Defining virtual ‘presence’ .....	26
2.5 Immersion and suspension of disbelief: defining immersion .....	27
<b>CHAPTER THREE: PROVIDING AN ANALYTICAL FRAMEWORK FOR READING THE BIOSHOCK TRILOGY.....</b>	<b>34</b>
3.1 Analytical framework for establishing immersion, virtual ‘presence’ and, by extension, enhancement of plural selves in games .....	34

3.1.1 Game format .....	34
3.1.2 Ease of use .....	38
3.1.3 Challenge appeal .....	40
3.1.4 Aesthetic appeal .....	40
3.1.5 Sensory fidelity .....	41
3.1.6 Story substance .....	44
3.1.7 Social appeal .....	46
3.2 Conclusion .....	47

**CHAPTER FOUR: LUDOLOGICAL AND TECHNICAL FEATURES OF *BIOSHOCK* WHICH ENABLE VIRTUAL ‘PRESENCE’** .....

4.1 Introducing the <i>BioShock</i> universe(s): A synopsis .....	48
4.1.1 <i>BioShock 1</i> .....	49
4.1.2 <i>BioShock 2</i> .....	49
4.1.3 <i>BioShock Infinite</i> .....	49
4.2 The ludological and technical features of <i>BioShock</i> and how they contribute to virtual ‘presence’ .....	49
4.2.1 Game format .....	49
4.2.2 Ease of use .....	53
4.2.3 Challenge appeal .....	55
4.2.4 Aesthetic appeal .....	56
4.2.5 Sensory fidelity .....	65
4.2.6 Social appeal .....	70
4.2.7 Character customisation .....	72
4.2.8 Conclusion .....	72

**CHAPTER FIVE: NARRATOLOGICAL AND THEMATIC FEATURES OF *BIOSHOCK* WHICH ENABLE VIRTUAL ‘PRESENCE’** .....

5.1 Genre as immersive .....	74
5.1.1 Horror elements in the <i>BioShock</i> games .....	74
5.2 Narrative .....	83
5.2.1 Narrative structure .....	84
5.2.2 Ludonarrative synchronicity .....	86
5.2.3 Choices within narrative .....	89
5.3 Themes .....	92
5.3.1 Utopia and dystopia .....	92
5.3.2 Slavery .....	93
5.3.3 Race and class division .....	94
5.3.4 Religion and anti-religious sentiment .....	94
5.3.5 Parent-child relationships .....	94
5.3.6 American identity .....	95
5.4 The ocean is but a mirror: parallel universes, multiple selves and plurality of ‘self’ as a theme in the games .....	96
5.4.1 Down in a bathysphere and up in a rocket: parallels between Rapture and Columbia .....	96
5.4.2 Parallel universes .....	97
5.4.3 ‘Split’ personalities .....	99
5.4.4 Reawakening .....	100
5.4.5 Fabricated memories .....	100
5.4.6 Plurality within a single identity .....	101

5.4.7 Metamorphosis.....	102
5.4.8 Predestiny.....	102
5.4.9 Intertextuality.....	104
5.5 Conclusion.....	105
<b>CHAPTER SIX: PLURALITY OF ‘SELF’ IN THE GAMER: HOW THE <i>BIOSHOCK</i> GAMES ACHIEVE THE NECESSARY CHARACTERISTICS FOR VIRTUAL ‘PRESENCE’.....</b>	<b>107</b>
6.1 Virtual ‘presence’ in the <i>BioShock</i> games.....	107
6.1.1 Kinaesthetic-visual matching.....	108
6.1.2 Plausibility and suspension of disbelief.....	109
6.1.3 Sustained interest and attention.....	110
6.1.4 Personal involvement.....	110
6.1.5 Conclusion.....	111
6.2 How plurality of ‘self’ in the gamer is reinforced by the <i>BioShock</i> games.....	112
<b>CHAPTER SEVEN: CONCLUSION.....</b>	<b>114</b>
7.1 Ways in which representation of the ‘self’ in <i>BioShock</i> is symptomatic of greater social trajectories.....	115
7.2 Summary of chapters.....	116
7.3 Contributions of the study.....	119
7.4 Limitations of the study.....	119
7.5 Suggestions for further research.....	120
7.6 Closing statements.....	121
SOURCED CONSULTED.....	122
APPENDIX A.....	130
APPENDIX B.....	149

## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Term</b>
<b>AI</b>	Artificial intelligence
<b>FPS</b>	First-person shooter
<b>HDR</b>	High Dynamic Range
<b>HUD</b>	Heads-up display
<b>MDA</b>	Mechanics, Dynamics, Aesthetics
<b>MUD</b>	Multi-user domain
<b>MWI</b>	Multiple Worlds Interpretation
<b>NPC</b>	Non-playable character
<b>RPG</b>	Role-playing game
<b>UI</b>	User interface
<b>VR</b>	Virtual reality

## LIST OF FIGURES

		<b>Page</b>
<b>Figure 1:</b>	Irrational Games forum. Screenshot of the multiple selves of Elizabeth taken by Overflow, 2013.....	4
<b>Figure 2:</b>	Game crate. Pledges to fix BioShock remastered, 2016. ....	48
<b>Figure 3:</b>	View from Delta’s helmet. Screenshot by author. 2017. <i>BioShock 2</i> . Irrational Games, 2010.....	53
<b>Figure 4:</b>	Diegetic map. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	55
<b>Figure 5:</b>	Entering Columbia. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	57
<b>Figure 6:</b>	Columbian street. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	58
<b>Figure 7:</b>	The seed of the prophet. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	58
<b>Figure 8:</b>	Lighting. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	58
<b>Figure 9:</b>	Elizabeth revives you. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	60
<b>Figure 10:</b>	Elizabeth. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	60
<b>Figure 11:</b>	The raffle. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	61
<b>Figure 12:</b>	Columbian store. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	61
<b>Figure 13:</b>	Textures. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	61
<b>Figure 14:</b>	Mind your manners. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	62
<b>Figure 15:</b>	A righteous wind. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	63
<b>Figure 16:</b>	My family is starving. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	63



<b>Figure 17:</b>	Forsaken. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	63
<b>Figure 18:</b>	The founders will bleed. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	64
<b>Figure 19:</b>	Raindrops. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	66
<b>Figure 20:</b>	Elizabeth upset. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	71
<b>Figure 21:</b>	Elizabeth angry. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	71
<b>Figure 22:</b>	Elizabeth’s reaction to Chen Lin. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	71
<b>Figure 23:</b>	Shadow on the wall. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007. ....	75
<b>Figure 24:</b>	Ghosts of Rapture. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007. ....	77
<b>Figure 25:</b>	Lady Comstock. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	77
<b>Figure 26:</b>	Lamb is watching. Screenshot by author. 2017. <i>BioShock 2</i> . Irrational Games, 2010. ....	79
<b>Figure 27:</b>	Dr Steinman. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	80
<b>Figure 28:</b>	Specimen morphology. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	80
<b>Figure 29:</b>	Smuggler. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007 ...	80
<b>Figure 30:</b>	Bloodstain. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	81
<b>Figure 31:</b>	Don’t disappoint us. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	81
<b>Figure 32:</b>	Pub violence. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	81
<b>Figure 33:</b>	The torture of Chen Lin. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	82

<b>Figure 34:</b>	Do you see us coming? Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	82
<b>Figure 35:</b>	Asylum. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	82
<b>Figure 36:</b>	Founding father masks. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	95
<b>Figure 37:</b>	Infinite doors. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	99
<b>Figure 38:</b>	All different all similar. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	99
<b>Figure 39:</b>	Barriers to trans-dimensional travel. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	100
<b>Figure 40:</b>	Big daddy. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	131
<b>Figure 41:</b>	Splicer. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	131
<b>Figure 42:</b>	Rapture lighthouse. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007. ....	132
<b>Figure 43:</b>	Devastated rapture. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007. ....	132
<b>Figure 44:</b>	BioShock Wikia. Central control – Andrew Ryan, [s.a].....	133
<b>Figure 45:</b>	The flight. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	134
<b>Figure 46:</b>	Fontaine. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	135
<b>Figure 47:</b>	Fallen, fallen is Babylon. Screenshot by author. 2017. <i>BioShock 2</i> . Irrational Games, 2010.....	136
<b>Figure 48:</b>	End of the ‘self’. Screenshot by author. 2017. <i>BioShock 2</i> . Irrational Games,2010. ....	137
<b>Figure 49:</b>	Bioshock Wikia. Columbia Storyline, [s.a].....	138
<b>Figure 50:</b>	The Columbia lighthouse. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	138
<b>Figure 51:</b>	The Luteces. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	140

<b>Figure 52:</b>	Tear. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	140
<b>Figure 53:</b>	Daisy Fitzroy about to kill a founder child. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	142
<b>Figure 54:</b>	Columbia in ruins. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	142
<b>Figure 55:</b>	Songbird’s attack. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	142
<b>Figure 56:</b>	Elizabeth is taken. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	143
<b>Figure 57:</b>	The end of the world. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	144
<b>Figure 58:</b>	Songbird’s death. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	145
<b>Figure 59:</b>	The sea of doors. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	145
<b>Figure 60:</b>	Always a lighthouse. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	145
<b>Figure 61:</b>	Robert Lutece taking Elizabeth. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	146
<b>Figure 62:</b>	Elizabeth is lost. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	146
<b>Figure 63:</b>	AD. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	147
<b>Figure 64:</b>	The baptism. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013. ....	148
<b>Figure 65:</b>	Statue of Ryan. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	149
<b>Figure 66:</b>	Statue of Comstock. Screenshot by author. 2017. <i>BioShock Infinite</i> . Irrational Games, 2013.....	149
<b>Figure 67:</b>	Vita chamber. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	149
<b>Figure 68:</b>	Vending machine in Rapture. Screenshot by author. 2017. <i>BioShock</i> . Irrational Games, 2007.....	150

**Figure 69:** Vending machine in Columbia. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013. .... 150

## LIST OF TABLES

	<b>Page</b>
<b>Table 1:</b> Methods of defining immersion by game features. ....	32
<b>Table 2:</b> Areas of preoccupation of different factors of immersion.....	33

## LIST OF APPENDICES

	<b>Page</b>
<b>Appendix A:</b> Full synopsis of the <i>BioShock</i> games.....	130
<b>Appendix B:</b> Parallels between the worlds of Rapture and Columbia. ....	149

## CHAPTER 1: INTRODUCTION

Through the mastery of immersive potential and the power of imagination, computer games can be a potent medium for identity exploration. Evocative and entrancing by nature (Turkle 2005:3,82), the computer game allows the user to enact and assume the role of the character they play.

According to Sherry Turkle, contemporary Western society has largely come to understand the ‘self’ as a fluid and ‘plural’ notion (1994:164, 1997:77, Mainwaring 2016:sp), allowing this idea to permeate into visual culture.<sup>1</sup> It thus becomes pertinent to investigate the relationship between ‘self’ – especially a person’s understanding of one’s ‘self’ – and visual technologies.<sup>2</sup> Turkle (1994:164, 1997:77, Mainwaring 2016:sp) describes how the visual technologies of gaming in particular provide a platform for viewing the ‘self’ as plural and for investigating multiple identities, or trying out different ‘selves’. The possibility of projecting oneself into a game character and taking on another identity results in a sort of plurality of ‘self’ for the player.

This study looks at how Irrational Games’ *BioShock* trilogy (2007, 2010, 2013) enables plurality of ‘self’ in the gamer by enabling them to be virtually ‘present’ as the character they are playing, and argues that this virtual ‘presence’ is largely possible due to a specific set of factors. These factors are: (1) the immersiveness of the game, (2) the nature of first-person games, role-playing games and horror games especially, (3) the link made between the player and character through kinaesthetic-visual matching, and (4) the content of *BioShock* itself, which represents the notion of ‘self’ as fluid, multiple, fragmented and plural. The study also argues that the *BioShock* games then present the player with simultaneous characters to do this with.

While there are other mediums in which the viewer can become sufficiently immersed to feel as though they are ‘present’ inside the fictional world (such as film), this study holds that of all of these, computer games give the viewer the greatest agency within

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<sup>1</sup> Sherry Turkle is renowned for her studies on the relationship between gaming and the ‘self’ – notably online identity versus offline identity. While many theorists are consulted on issues of identity and immersion, Turkle is a leading academic in this regard and is the primary theorist for this study.

<sup>2</sup> Visual technologies are defined by Nicholas Mirzoeff (1998:1) as “any form of apparatus designed either to be looked at or to enhance natural vision”, and the visual representations that result from these.

that fictional ‘space’. Due to the way in which computer games allow the player to substitute the real world and its stimuli with that of the game world, computer games have heightened potential for a player to have a new identity in the game-space in the form of the role being played.

## **1.1 Background**

### **1.1.1 *Know thy ‘self’***

In their chapter entitled ‘Self, self-concept and identity’ in the *Handbook of ‘self’ and identity* (2012:69), Daphna Oyserman, Kristen Elmore and George Smith explain that identities are “traits and characteristics, social relations, roles and social group memberships that define who one is”. Oyserman *et al* (2012:69) explain that these identities accumulate to make up one’s self-concept and go on to quote Neisser (1993), Stets and Burke (2003), Stryker (1980) and Tajfel (1981) to say that a self-concept is “variously described as what comes to mind when one thinks of oneself”. They add that “in addition to self-concepts, people also know themselves in other ways”, through “self-images, and self-feelings, as well as images drawn from other senses – a sense of what they sound like, what they feel like tactilely, and a sense of their bodies in motion”, the totality of which makes up the ‘self’ (Oyserman *et al* 2012:69). According to Oyserman *et al* (2012:71), theorists generally agree that to have a ‘self’ requires “reflexive capacity” on the part of the individual: having a ‘self’ presupposes that the individual is simultaneously an “actor who thinks (I am thinking) and the object of thinking (about me)”.

For Anthony Giddens (1991:3), this reflexivity is not optional but necessary from late-modern society onward, as an adaptation to multifaceted modern life. In addition, Khang Zhao and Gert Biesta (2008:1-2) explain that the ‘self’ may be continually adjusted by the individual, and may also be influenced by others and by social forces, but that the ‘self’ must exist from the start.

Oyserman *et al* (2012:70) state that “self and identity researchers” in general “have long believed that the ‘self’ is both a product of situations and a shaper of behaviour in situations”. They state that “self, self-concept and identity are mental constructs that are



shaped by the contexts in which they develop and influence action” (Oyserman *et al* 2012:75). This means that as much as an individual’s thoughts and actions in circumstances are influenced by the ‘self’, the ‘self’ is formed and moulded by experience of certain situations and external influences such as family, social circles, and technology use.

Thus, it can be held that technology, as part of the context in which the ‘self’ develops and influences action, is capable of changing or influencing traits, characteristics, social relations, roles and social member groups making up identity, thereby influencing self-concepts and the way an individual understands oneself. For example, this can be done by allowing a person to create and fulfil a different role online and by joining online social groups among other means. As such, the ‘self’ can also be influenced and shaped by computer games.

### **1.1.2 Multiple selves**

When Sherry Turkle explains that with the help of technology, we are increasingly understanding the ‘self’ as multiple (1994:164, 1997:77, Mainwaring 2016:sp), she refers in particular to the way we investigate identity by enacting roles in computer games. While Turkle (2011:4) expresses concern about “the costs of life with simulation”, when asked whether she thinks that this transferral between sub-selves is something healthy or something we should curb, Turkle states that this is inevitable in our current way of life and that we should use it as an opportunity to gain knowledge about the very nature of the ‘self’ (Mainwaring 2016, sp). Similarly, Jayne Gackenbach and Heather von Stackelberg (2007:56) state that “postmodern thinking views the notion of multiple selves, rather than one discrete ‘self’, as a healthy adaptation to the complexity of modern life” of which technology is presumably an integral part.

Jean Baudrillard (1983:17) considers postmodern society to be one in which the ‘real’ and ‘unreal’ are no longer easily distinguishable from each other. The immersive and integrated nature of digital technology has made this all the more true, allowing for a mutual influence between the digital and the ‘real’. In terms of the ‘real’ and virtual, the ‘self’ is capable of pluralising to fit within each of these worlds. Psychologist David

Lester (2015:142) discusses the work of Thomas Dunn and Antonio Castro (2012), who explain the following:

[A] postmodern society encourages a plural self. The use of modern technology requires a multiple self. Interactive video games entice the players into simulacra, or hyper-realities (...). Online interactions promote cyberselves which people can use to enact a multiplicity of selves (...).

The terms ‘plural selves’ and ‘multiple selves’, in this sense, do not refer to Multiple Personality Disorder,<sup>3</sup> but rather to the ways in which we have come to see (with the help of technology) identity as something we have many of, something fluid, contextually split, and interchangeable. Gackenbach and von Stackelberg (2007:56) state that “we all have many aspects of self, in addition to the experience that we are a unified whole”.

### 1.1.3 Multiple selves in BioShock

*“When I was girl, I dreamt of standing in a room, looking at a girl who was and was not myself, who stood looking at another girl who was and was not myself.”*  
– Rosalind Lutece, *BioShock Infinite* (Irrational Games, 2013)



Figure 1: Irrational Games forum. Screenshot of the multiple selves of Elizabeth taken by Overflow, 2013. *BioShock Infinite*. Irrational Games, 2013.

<sup>3</sup> Multiple Personality Disorder, also known as Dissociative Identity Disorder, is a mental condition in which the individual takes on a number of varying identities, which all inhabit the mind and body of the person afflicted (Barlow & Durand 1995:228). Each ‘identity’ behaves differently and has different perceptions of the environment and themselves, and “at least two of these identities or personality states recurrently take control of the person’s behaviour” (Barlow & Durand 1995:229).

Irrational Games' critically acclaimed and aesthetically powerful *BioShock* (2007), *BioShock 2* (2010) and *BioShock Infinite* (2013) present fascinating cases for study. They have been the subject of recent research by many theorists, such as Martin Buinicki (2016) for their thrilling representation of nostalgia and dystopia; Diana Adesola Mafe (2015) for their impactful representation of racial tension; and Grant Tavinor (2009) for their breath-taking visuals. Impressively, within this complex mix of subject matter, issues of 'self', multiple selves, parallel worlds and trans-dimensional travel find a comfortable place, but have been neglected in academic study.

The *BioShock* games are first-person shooter (FPS) games – in which players navigate the game world through the eyes and body of the character they are playing, usually making use of a form of shooting to complete tasks – and role-playing games (RPGs) in which players assume the role of a particular character. The player takes the role of a male protagonist and moves through the dystopian worlds of Rapture and Columbia, following a storyline in each game to complete over-arching tasks and to progress through events of the narrative. The player has the choice of several weapons with which to defeat enemies, as well as a host of genetic modifications that the player can gather throughout each game. The player interacts with auxiliary characters that enhance the story, and certain interactions with these characters influence outcomes at the end of the game. A full synopsis of each game is outlined in Appendix A.

Within the storylines of each of the *BioShock* games, the respective characters are represented as potentially occurring over many timelines, in many forms. The games thus represent 'multiple selves' in the literal sense of different versions of an individual, existing on multiple timelines, or in different universes and parallel worlds (Figure 1. Irrational Games 2013, screenshot by Overflow). In doing so, they represent 'multiple selves' as possible selves across all potential outcomes. The multiplicity of 'self' in the trilogy also takes the form of 'real' selves versus imagined selves, different characters in the games that can ultimately be understood as the same person, and of past, present and future selves. Furthermore, the games speak to notions of what a 'self' is, what the 'self' does, and how individuals playing the games may have many roles and selves.

It is for this reason that the *BioShock* series has been chosen for this study, over the myriad of other first-person shooters and role-playing games available. *BioShock* presents multiple selves in a more overt and comprehensive way than many of its counterparts, due to its interrogation of alternate universes and the fact that there are characters that exist across these game universes. The *BioShock* games are thus examples of Turkle's observation that contemporary Western society is coming to understand the 'self' as multiple and represents the 'self' as such in visual culture.

Moreover, the fact that the games interrogate multiple selves within the narrative and structure potentially impacts the plurality of 'self' in the gamer further. This study looks at the ability of computer games to enable identity exploration and assimilation, and argues that the features of the *BioShock* games make them particularly conducive for this because, in providing simultaneous alternate versions of each identity in the game, the *BioShock* games create a rich source of identities for the gamer to experience all at once.

In addition to their unique portrayal of multiple selves, *BioShock* games, like many other games, provide for immersion and for what Robert Mitchell (1997:18) calls kinaesthetic-visual matching, i.e. the connection between what one sees and the movement one feels, allowing a person to identify what is seen on screen as oneself. Thus, players take on the identity of the character they control and liken them with an additional 'self' of their own. This adoption of an extra 'self' allows for an interrogation, for the purposes of this study, of the relationship between the virtual and physical 'self', or selves, of the player, and thus the plurality of 'self' enabled by the *BioShock* games.

According to Elizabeth Anne Reblin (2015:vi), who studied the ludonarrative synchronicity<sup>4</sup> of the *BioShock* games, the advantages of studying *BioShock* as a trilogy, rather than looking at three separate game titles that fit the above descriptions are as follows: "First, *BioShock*'s creator, Ken Levine's stated goal was to build a game in

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<sup>4</sup> 'Ludonarrative synchronicity' is a term created by Reblin to describe those points at which the ludology and narrative of the games operate together in a congruous way (2015:vi), which have a direct influence on the immersion of a game.

which the players were not an observer of narrative, but a participant”, making the trilogy excellent for the study of immersion and virtual ‘presence’ that enables plurality of ‘self’. Secondly, “the advantage of having three related games to analyse is that it allows for multiple points of comparison and correlation that appear in all three games” (Reblin 2015:vi).

Lastly, the *BioShock* trilogy is a good case study to consider when looking at virtual ‘presence’ because, according to Mark Ward (2010:265,267), it is notable for its success at immersing its audience. This is significant because it is necessary for the player to be very immersed in the game in order to experience being virtually ‘present’ in the game world.

#### **1.1.4 Hypothesis**

The games in the *BioShock* trilogy enable plurality of ‘self’ in the gamer as a result of virtual ‘presence’ caused by high levels of immersion. Immersion is enhanced in the *BioShock* series by the role-playing and first-person format of the games, the resultant kinaesthetic-visual matching, the narrative structure and content, realistic and gripping audio and visuals, the use of the horror genre and thematic representation of multiple selves. The tendency of the *BioShock* games and the player to consider the ‘self’ as fluid and fragmented is symptomatic of the greater social trajectories suggested by Turkle (1994:164, 1997:77, Mainwaring 2016:sp), namely that the ‘self’ is becoming increasingly viewed as plural.

### **1.2 Need and scope for the study**

#### **1.2.1 Need**

Due to the pervasive nature of technology in our lives and its ability to influence and inform our understandings of our lived experience, it is imperative to understand the relationships and effects taking place between technology and the individual, especially regarding the individual’s sense of ‘self’. The nature of our relationship with technology is such that our understanding of what it means to be human and to have an identity or even a “true self” is undergoing change, as we are increasingly coming to see identity as fluid instead of static (Turkle 1997:72). It is thus important to continue to evaluate these

relationships between the individual and technology as technology evolves, as well as to investigate representations within examples of technology and visual media. Furthermore, to do so considers contemporary issues in visual culture and addresses what Turkle (1997:72) calls a growing cultural trend in understanding the ‘self’ as multiple and flexible. Lastly, it speaks to current issues of the individual in the digital age in relation to virtual reality (VR), and post-humanism.<sup>5</sup>

### **1.2.2 Scope**

The study focuses on the ‘self’, and multiple selves as they are enabled and represented in selected examples of contemporary Western culture. The study focuses on the *BioShock* games for computer: *BioShock* (Irrational Games 2007), *BioShock 2* (Irrational Games 2010) and *BioShock Infinite* (Irrational Games 2013), which interrogate notions of multiple selves on multiple timelines in parallel universes. The study looks at technical, ludological, thematic and narrative features of the *BioShock* series and of games in general in order to elucidate the ways in which they create the immersion and virtual ‘presence’ that allows the gamer to have plurality of identity.

### **1.2.3 Feasibility and implications**

The study is feasible in that the areas which are delved into have not previously been studied in the way intended here. The findings have implications for future investigations into the relationship between technology and the ‘self’, particularly within the field of visual culture studies.

## **1.3 Aims and objectives**

### **1.3.1 Aim**

This study aims to explore how multiple and plural selves are enabled in the *BioShock* trilogy through the nature of computer games to encourage virtual ‘presence’, through their immersive technical, ludological, thematic and narratological features.

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<sup>5</sup> Post-humanism here refers to what Elaine Graham (2004:10,12) calls a “re-evaluation of what it means to be human” – a phenomenon stemming from the impact of contemporary technologies on the user. These effects, says Graham (2004:12,14,15) include the following: mechanisation of the human,; a loss of clarity regarding where the body ends and technology begins; and most importantly “the creation of new personal and social worlds” in digital forms.

### 1.3.2 Objectives

- To explore representations of plurality of ‘self’ in *BioShock*, *BioShock 2* and *BioShock Infinite* (Irrational Games 2007, 2010 and 2013).
- To explore how computer games like the *BioShock* trilogy can enable plurality of identity through virtual ‘presence’.
- To track ways in which computer games influence identity, understandings of the concept ‘self’, and representations of the ‘self’.

## 1.4 Literature review

### 1.4.1 The ‘self’

Daphna Oyserman, Kristen Elmore and George Smith (2012:70) define the terms ‘self’, ‘self-concept’ and ‘identity’ and discuss how these simultaneously influence and are influenced by situations. They explain (2012:71) that “theorists converge on the notion that [a capacity for] reflexive thinking is critical to having a self”, and discuss the perspectives from which the ‘self’ can be viewed by an individual when taking on such a reflection, specifically: self-concepts, self-images, self-feelings, and impressions through the other senses (2012:73). They explain that “self, self-concept, and identity are mental constructs that are shaped by the contexts in which they develop and influence action” (2012:75).

Conversely, Anthony Giddens (1991:52) expresses his views that the ‘self’ is constructed by the individual but that it is developed solely through the reflexive activities of the individual in response to their late-modern societal context. Khang Zhao and Gert Biesta (2008:1,2) comment on Giddens’ perspective and argue that the formulation of the ‘self’ is a life-long adaptive process, and that it is also influenced by external stimulus, but that the ‘self’ must have existed initially for it to continue to be remade and re-evaluated.

In *Kinesthetic-visual matching and the self-concept as explanations of mirror-self recognition* (1997:18), Robert Mitchell discusses two distinct and opposing lines of argument in the study of self-recognition, namely that mirror-self recognition may stem from a self-concept of the individual looking in the mirror, and that mirror-self

recognition stems from kinaesthetic-visual matching. The mirror has evidently been regularly recognised as a technology that influences understanding of the 'self', and has been discussed further in the section of the literature review focusing on specific visual technologies (1.4.5).

#### **1.4.2 Exploring the 'self' through immersive activity**

In *The relationship between 'self' and activity in the context of artists making art*, Paul Sullivan and John McCarthy (2007:235) explain that art is an activity that has "historically invited self-reflection, self-immersion, and self-exploration". The authors argue that "there is a sense in which people use action to explore and play with their identities" (2007:237). They explain that the "relationship between the artistic 'self' and artistic activity is potentially reciprocal where artists simultaneously invest themselves in their artistic activity and, in the process, change themselves, perhaps by changing their sense of how their activity contributes to the world they inhabit" (2007:237-238). Sullivan and McCarthy continue: "this reciprocity, however, begs the question, how exactly are we to understand the 'self' and its relationship to activity?" (2007:238). This study begs the same question of the activity of computer gaming: how are we to understand the 'self' and its relationship to first-person shooter games like *BioShock*?

In *Performances of the Self*, Angeliki Avgitidou touches on similar issues. Avgitidou discusses the traditional functions of the self-portrait, including the function of self-exploration (2003:131,133). She also discusses the purposes of the new self-portrait, which is networked, and that she argues has lost reference to a "true" 'self' which more traditional self-portraiture may have possessed by examining 'self' and identity (2003:131-132). Avgitidou then considers notions of the 'self' as constructed, and as existing in many forms and aspects rather than as a single true 'self' (2003:134-136).

#### **1.4.3 Multiple selves**

According to David Buckingham (2008:1), "globalization, the decline of the welfare state, increasing mobility, greater flexibility in employment, and insecurity in personal relationships" are just a few of many issues that contribute to a "sense of fragmentation" in the lives of contemporary western individuals which cause instability in identity



formation. Buckingham (2008:10) thus suggests recent “general shifts in the way that identity is defined and lived out”.

In his book *On multiple selves* (2015), psychologist David Lester discusses the work of numerous theorists to argue that all people do not have one distinct or cohesive ‘self’, but have multiple selves, or sub-selves instead. Lester suggests (2015:2-7) a “multiple-self theory of the mind” for study of behaviour, and refers (2015:142) to Dunn and Castro (2012:5) to bring up issues of technology as a factor in these sub-selves.

Sherry Turkle (1994:164, 1997:77, Mainwaring 2016:sp) suggests that identity is “fluid” and multiple in that we do not have a single unified ‘self’, and that contemporary technologies allow us to investigate and live out these different versions of ourselves. Like Turkle, Jayne Gackenbach and Heather von Stackelberg (2007:56) postulate “multiple selves, rather than one discrete self, as a healthy adaptation to the complexity of modern lives”.

Leonard Lawlor (2012:4) uses Jean Francois Lyotard to explain that “there is no unifying meaning of being”, only multiplicities of existence and of things, resulting in a heterogeneity indicating that there is no unified ‘self’ or identity, but rather that the ‘self’, the “I” is a “we” – a multiplicity that combines to create a heterogeneous whole. The ‘self’ is thus, according to Lawlor, multiple in nature.

#### **1.4.4 Technology and human interaction with technology**

In *Technoculture and critical theory: in service of the machine* (2002), Simon Cooper discusses the extent of integration of technology into the contemporary Western lifestyle, despite what he calls “ambivalence” towards it (2002:1). Despite its pervasiveness, technology is, according to Leo Marx, poorly defined. In *Technology: the emergence of a hazardous concept*, Marx (2010:561) explains that technology is a concept that is outlined very vaguely, with many contesting understandings of what it encompasses, making the concept dangerous. Marx details the relationship between humans and technology understood as a tool or instrument, tracing it back to the Stone

Age (2010:562). Marx is of the opinion that technology cannot be autonomous and that “technology as such makes nothing happen” (2010:576,578).

This study, along with many others argues otherwise. In *Transforming technology: A critical theory revisited* (2002:4), Andrew Feenberg differentiates between an instrumental view of technology, which sees technology as neutral “tools”, which only serve the needs of their users, and a substantive theory of technology, which sees technology as a “new cultural system that restructures the entire social world as an object of control” (2002:6-7).

As such, in this perspective, technology influences and is influenced by society, culture, politics and values. Cooper (2002:1) says that technology is influential to our lives in that it meets our needs, but simultaneously formulates new needs. As such, he believes that to see technology purely as instrumental neglects to consider how technology influences “subjectivity, embodiment and the social realm” and the ways in which it can impact us (2002:3).

In *The question concerning technology* (1977:2), Martin Heidegger, whose work falls under substantive theory, explains that each piece of technology serves a purpose in conjunction with human activity. He continues to say that technology, according to Aristotle, arises out of certain components: the material form from which it can be made, the shape and form it takes, and what people use it for (the instrumental aspect). Likewise, this study assumes a substantive stance on technology, and seeks to prove that technology is not neutral and can influence us and our understanding of the ‘self’ through interaction with it. In an interview with Simon Mainwaring (2016, sp), Sherry Turkle states that we learn about ourselves as we enact these various personalities in these places, by performing a different aspect of ourselves in each, making interaction with virtual reality and social media a reflexive exercise.

In *Misbehaving tools: the politics of human-technology interactions* (2005:187), Amanda Du Preez (2005:190) argues that the term ‘technology’ encompasses “social, economic and institutional forces”, which means that technology can never be neutral in

that it is “value-laden” and “culturally embedded”. Du Preez (2005:185) goes on to quote Ruth Schwartz Cohen in saying that “[t]ools are not passive instruments, confined to do our bidding, but have a life of their own”. According to Du Preez then, like Cooper and Heidegger, technology and human interaction must result in mutual influence.

In *Posthuman conditions* (2004:10,12) Elaine Graham considers similar issues regarding the influence of technology on humans and explains a current “re-evaluation of what it means to be human”, brought about by the effects certain technologies can have on humankind. She explains that “mechanization of the human” (with specific reference to artificial body parts), “the blurring of bodily boundaries” (in reference to our amplified engagement with tools and technologies), and “the creation of new personal and social worlds” (such as virtual settings and cyberspace, which cause us to question notions of space, place and being somewhere) are altering what it means to be a human (2004:12,14,15). Graham’s work is useful for explaining effects of technology on the ‘self’, especially where technology and the ‘self’ become existentially and physically intertwined.

In *Selfuitbeelding en Facebook: ‘n estetika van verdwyning?* (2013:279-280), Amanda Du Preez explores the ways in which certain technologies attempt unmediated omnipresence by using the work of Paul Virilio to identify ‘selfies’ as instantaneous, and as an example of ‘aesthetics of disappearance’, while explaining that traditional self-portraiture endures through time. This argument allows for multiple (online, offline, virtual, physical) versions of the ‘self’, as well as technology’s influence on the perception of ‘being’ in a particular time and place (as delineated by Heidegger).

In *Speed and politics* (1977:135) Paul Virilio formulates the notion that communication technologies especially act to “reduce distances” and “negate space”, leaving the “government of nothing but time” (1977:141). This means that, with the use of technology, humans have outgrown two of the most fundamental systems upon which our existence is based, “the basis for the experience of motion and of being” in a particular time and place (1997:120, 123). Similarly, Martin Heidegger (2003:33) explains that the human understanding of ‘being’ is related to their notion of location in

time, and Hans-Georg Gadamer suggested that our interpretation of text is influenced by “historicity and temporality” (Gadamer 2004, in Regan 2012:299).

Additionally, Virilio (1997:123) explains that time-matter and space are not only the foundations upon which our experience of living and moving is based, and necessary to the nature of our existence, but has “firmly grounded individualism”, “with the growth of self-awareness”. ‘Being’, self-awareness, individuality and existence hinge on space-time and our relationship with it. This reading is useful for discussing how technologies, especially those which influence experience of being in time and space, influence the ‘self’.

From these texts, it can be deduced that technology is able to affect people when they interact with it to the point where they are changed and must re-evaluate what it means to be human, and re-evaluate the ‘self’ and its relationship to technology.

#### **1.4.5 Visual technologies**

Nicholas Mirzoeff (1998:1) defines visual technology as “any form of apparatus designed either to be looked at or to enhance natural vision”, which would then include computer games, screens, the gaming interface, the visual representations made with these and more.

In *The essence of VR*, Michael Heim (1993) defines the term ‘virtual reality’. Heim lists potential characteristics which define most forms of virtual reality: simulation, interaction, artificiality, immersion, telepresence, full-body immersion and networked communications (1993:109-128). Sherry Turkle (1994, 1997) discusses virtual reality, the internet and games as allowing individuals to live out different identities, or aspects of identity, and even parallel lives. Kathy Cleland (2010:1) argues that there are various kinds of interaction with virtual spaces, and that there is usually some blend of the virtual and real space, causing an intermingling which this study argues may cause an overlap of identity between the two.

According to Jill Walker Rettburg (2014:1), self-representation in digital media can occur in three forms: written, visual and quantitative. The visual may take place in forms of pictures and videos, but also in the form of an avatar or character, as in computer games. Nick Yee, Jeremy N. Bailenson and Nicholas Ducheneaut discuss ways in which an avatar may influence a user's behaviour (2009:286). They explain that an avatar is a visible digital representation of a user, which acts in "real time" according to the actions of the user (Yee *et al* 2009:285). They conclude (Yee *et al* 2009:309) that "neither the virtual nor the physical 'self' can ever be truly liberated from the other", so the two are mutually influential.

Jayne Gackenbach and Heather von Stackelberg make interesting observations regarding the internet. In *Self online: Personality and demographic implications*, Gackenbach and Von Stackelberg (2007:55) explain that Western culture has been drastically changed by the internet, and that it has influenced "how we relate to ourselves as well as to each other". They go on to state that the internet gives us the option to "be authentically ourselves" or to investigate being someone else, or being a different version of oneself (2007:55), thus supporting the argument that people have many selves/sub-selves. Jayne Gackenbach and Jim Karpen (2007:337) also note that the internet may influence the individual by enabling higher states of consciousness. This study argues that this can be extended beyond the internet to computer games as well.

#### **1.4.6 Immersion and virtual 'presence'**

In *A grounded investigation of game immersion* (2004:1297), Emily Brown and Paul Cairns discuss works which have sought to define immersion, and combine this discussion with an interview of gamers to develop a clear definition of the experience of immersion. This is because they argue (Brown & Cairns 2004:1297) that while the term 'immersion' is commonly used among gamers and theorists, its definition has been vague and inconsistent thus far. Brown and Cairns (2004:1297) split immersion into three tiers: engagement, engrossment and total immersion, describing the characteristics of and barriers to each.

With the same goal of defining immersion more clearly, Charlene Jennet, Anna L. Cox, Paul Cairns, Samira Dhoparee, Andrew Epps, Tim Tijds and Alison Walton (2008:641) conducted a qualitative study of gamers and their experiences, using the work of several theorists to help define immersion. Their findings are similar to that of Brown and Cairns (2004) and include that immersion is indeed “the degree of involvement with a computer game” (2008:642), as well as that immersion causes the player to experience lack of awareness of time, loss of awareness of the real world, and a sense of being *in* the task environment. They also add (Jennet *et al* 2008:642,643) that freedom of choice, space for the imagination to work and the ability to apply one’s own beliefs and thoughts to the game allows the player to buy into the game world more easily.

Jennet *et al* (2008:643) comment that virtual ‘presence’ can be measured in a variety of ways and that while its definition, like that of immersion, is still under much debate, it can be regarded as the “psychological sense of being in a virtual environment”. Jennet *et al* (2008:643) add that the extent to which virtual ‘presence’ is experienced can be increased by the “naturalness of interactions with the virtual environments and how much they mimic real-world experiences”, as well as the amount of “successfully supported action in the environment” in a way that can be “perceived as lawful” – i.e. plausible within the game environment.

In *Voice, videogames and technologies of immersion* (2010:265), Mark Ward argues that the audio-visual designs of videogames aim primarily to “immerse and engage the human perceptual and emotional systems” through development of an “emotion-machine”. Ward interviews Emily Ridgeway (2010:267), the sound director of *BioShock 1* and discusses the use of sound in the game. Ridgeway discusses the various sound techniques used in the creation of the game, mentions the barriers experienced by the game makers, and explains that the intentions of the game designers were to use sound as an immersive, narrative device, which would improve the ‘realness’ of the game, create a horror aesthetic, be true to the time-period and heighten the gamer’s experience (Ward 2010:267-276). This interview is significant for this study in looking at immersive use of sound in the *BioShock* games.

Lastly, Anders Drachen, Georgios Yannakakis, Lennart E. Nacke and Anja Lee Pedersen (2010:49) discuss the use of psychophysical methods of measuring player experience, chiefly using heart rate and electrodermal activity, which when contextualised through the use of interviews can determine which features and parts of a game are immersive and emotive for the player. This is relevant to the study at hand because it shows that in immersive games, the player experiences not only a psychological response but a physical one related to this, indicating that the player really does take another identity unto themselves when immersed and ‘present’ in a game world.

#### **1.4.7 Virtual selves**

In *Constructions and reconstructions of the self in virtual reality: playing in the MUDs*, Sherry Turkle (1994:158) explains that virtual worlds like Multi-User Domains (MUDs) become a space in which you can “present yourself as a ‘character’, in which you can be anonymous, and in which you can play a role or roles as close or as far away from your ‘real self’ as you choose”. This exemplifies the multiple ‘selves’ discussed in this study. Turkle argues that the player can try out a number of identities in gameplay, increasing the already plural nature of identity.

In *The second self* (2005:3), Turkle discusses the computer as an “evocative object” which by its very design causes us to re-evaluate many things we have known to be true. Turkle (2005) also discusses how it is possible to become lost in a simulated world, resulting from identification with the playable character through action. Turkle is therefore touching on the notions of immersion and virtual ‘presence’ which appear to heighten the extent to which the gamer takes on the character identity.

Similarly, Zach Waggoner (2009:1) looks at the relationship between virtual identity and non-virtual identity in video role-playing games (RPGs). Specifically, Waggoner (2009:9) differentiates between an avatar and an agent, which are both forms of virtual characters that a player takes on but which differ because an avatar allows for customisation while an agent does not. Waggoner (2009) notes that the increased

potential for customisation of avatars allows the player to make the character more their own, and to become more involved and identified with this digital identity.

#### **1.4.8 *Virtual narratives***

In *Hamlet on the holodeck: the future of narrative in cyberspace*, Janet Horowitz Murray (1997:11) sees the computer game as a new medium for story telling which can convey narrative in ways which other story-telling mediums like books and films cannot. Murray (1997:81) identifies the greatest difference between the game and more traditional story-telling mediums as the fact that in games the player is part of and within an event instead of merely witnessing it. The player has an active role within the narrative, making the game a highly compelling way to tell a story. Murray (1997:266) indicates features that she believes a game should have to make it a more successful and immersive story-telling medium, including “open-ended agency” for the player.

Elizabeth Anne Reblin (2015:vi) looks at the “ludonarrative synchronicity” of the *BioShock* trilogy, comparing narratological and ludological elements to determine whether the two are congruent. She interrogates a myriad of features of the *BioShock* games and concludes that from her perspective there are many issues in the ludonarrative synchronicity of the games. Reblin’s work is extremely useful for this study because it makes observations regarding the narrative and structure of the game which can be used to look at the game’s design and because the synchronicity of ludology and narrative can have a big impact on the immersiveness of the game.

#### **1.4.9 *Game type, structure and features***

In considering the immersiveness of a game and looking at those features which allow it to enable the gamer to become immersed, the structure and genre of the game itself play a role. In *Match made in hell: the inevitable success of the horror genre in video games* (2009:20), Richard Rouse explains the reasons why computer games and the horror genre work well together, which largely hinge on the immersive nature of the two and the appeals which horror makes to emotion and the psyche that allow for very gripping games. This is relevant because the *BioShock* games, especially the first and second, are commonly seen as examples of the horror genre of gaming. They make use of a number



of techniques that are hallmarks of the horror genre and in doing so may heighten immersion.

James Babu (2012:4) discusses the use of Heads-Up Displays (HUDs) in video games for presenting game information and looks at whether immersion is affected by whether or not the information in the game is presented through diegetic or non-diegetic methods. HUDs are present in almost every game and can influence the level of immersion depending on their design, making it an important feature to look at in the study of the games at hand.

In *Perspectives, point of view and immersion*, Laurie N. Taylor (2002:1,3) considers the use of space in video games and in particular the perspective from which the player views and interacts with this space. According to Taylor (2002:5) this perspective informs the way the player interacts with the game world and takes on a role within the narrative. As the *BioShock* games are played from a first-person perspective, Taylor's work becomes relevant when looking at *BioShock's* game interface, the viewpoint of the player from the avatar's eyes and the implications of these for immersion.

#### **1.4.10 The BioShock trilogy**

In *Interpretations of freedom and control in BioShock*, Adam Ruch (2010:84-86) looks at the narrative and themes in *BioShock* which centre around freedom and choice. Freedom and choice are some of the strongest themes in the *BioShock* games, and since they inform a significant part of the experience of the player (Jennet *et al* 2008:642,643), Ruch's interpretations may be valuable.

Commentaries from Ken Levine, the writer and director of the *BioShock* games, on the official Irrational Games website provide insight into the games and the intentions of the game designers. This can be combined with the player experiences of *BioShock* games to inform the knowledge base of this study surrounding these games. As such, the author has completed several 'play-throughs' of each game in the trilogy to gain comprehensive knowledge of the games.

## **1.5 Theoretical approach and methodology**

### **1.5.1 Theoretical approach**

This study accepts the basis of substantive theory of technology, and in doing so follows a qualitative hermeneutic analysis of the relationship between technology and user, and of theoretical arguments surrounding the ‘self’ and technology. It operates according to a multiple-self theory of mind, as suggested by David Lester (2015) in order to interrogate how technology enables multiple selves, as discussed by Sherry Turkle (1994:164, 1997:77, Mainwaring 2016:sp). A hermeneutic (i.e. interpretive, according to Palmer 1969, in Regan 2012:28) analysis, based on the understandings of Hans-Georg Gadamer and Martin Heidegger allows for an ontological approach to the subject matter at hand (Regan 2012:28), as well as an interrogation of technology’s relationship with temporal being which informs human existence (Heidegger 2003:33). Furthermore, according to Nicholas Davey (1999:23), a hermeneutic approach “offers an extended philosophical meditation upon what *happens* to us in our experience of [the visual]”, particularly computer games in this case.

### **1.5.2 Assumptions**

This study operates under the following assumptions:

- That technologies and scientific advancements are key informers to how we understand our temporal, physical, spatial and social place in the world, as individuals with self-concepts, and are thereby capable of influencing the ‘self’ of the user.
- That technology has an effect on us and is not neutral.
- That a multiple-self theory of mind is necessary for understanding human behaviour, especially where technology is concerned.
- That contemporary Western society is increasingly viewing the ‘self’ as fluid and multiple.

### **1.5.3 Research methodology**

This study begins with and is based on a review of existing literature on the issues and related topics at hand. It then uses this information in a process of analysing the *BioShock* games and ways in which the ‘self’ of the gamer is made to be increasingly

plural by such games, in part due to technical choices of the game creators, and in part due to thematic representations of multiple/plural selves within the games selected. The analysis is thus both narratological (explores the multiple selves that emerge through the narratives of the games) and ludological (considers how technical aspects of the gameplay itself are structured in such a way as to further enable the creation of plural selves).

According to Paul Cobley, in *The John Hopkins guide to literary theory and criticism* (2005), “[narratology] is a systematic, thorough, and disinterested approach to the mechanics of narrative, in stark contrast to those approaches that observe or seek out “value” in some narratives (and not in others)”. The use of the term ‘narratology’ in this study refers to these concerns, but is not purely structuralist and includes all factors related to the narrative, the story, the story progression, in ways similar to that of Reblin’s analysis of *BioShock* (2015:7).

According to Reblin (2015:17-19), most analyses of the ludological features of computer games use a Mechanics, Dynamics, Aesthetics (MDA) framework, in which ‘mechanics’ includes “all necessary pieces to play the game”, including rules, equipment, venue and more; ‘dynamics’ includes the “behaviour of the game, the actual events and phenomena that occur as the game is played; and ‘aesthetics’ refers to the game’s “emotional content, the desirable emotional responses”. While this approach encompasses almost all possible features of a game’s ludology, it is too vague to apply to a game to determine immersion.

Therefore, to study immersion thoroughly through both the narrative and ludological components, which are strongly intertwined, this study constructs a framework using several theorists on immersion and their suggested requirements for immersive experience, in a way that is as inclusive of as many features of a game as possible. The study then applies this framework to the *BioShock* games to determine their capacity for the player to experience virtual ‘presence’ ‘in’ the game and thus to examine how it can enable plurality of ‘self’.

## 1.6 Outline of chapters

The structure of this research dissertation is organised in chapters as follows:

1. Introduction – This chapter has introduced the background, need, scope, and aims for the study, provided a literature review and outlined the approach.
2. Concerning identity and virtual ‘presence’ – This chapter defines concepts like the ‘self’, as well as what is meant by ‘multiple selves’ in this study. It also defines an avatar and an agent, regarding the role taken on by the gamer. The chapter goes on to discuss virtual ‘presence’ and the way in which the ‘self’ of the gamer can translate into the game space. The chapter does this by defining immersion and explaining the ways in which immersion can result in virtual ‘presence’ by providing an analytical framework for games that is used in this study. It also looks at how virtual ‘presence’ and thus plurality of selves in games is possible.
3. Providing an analytical framework for reading the *BioShock* trilogy – This chapter looks at the features for immersion and virtual ‘presence’ identified in Chapter 2 in greater detail. These features form the structure for analysis through which the *BioShock* trilogy is analysed.
4. Ludological and technical features of *BioShock* which enable virtual ‘presence’ – The chapter begins with a synopsis of each game and then uses the framework outlined in Chapter 3 to look at the ludological and technical features of the *BioShock* games which encourage immersion and virtual ‘presence’.
5. Narratological and thematic features of *BioShock* which enable virtual ‘presence’ – This chapter uses the framework outlined in Chapter 3 to look at the narratological and thematic features of the *BioShock* games that encourage immersion and virtual ‘presence’.
6. Plurality of ‘self’ in the gamer: how the *BioShock* games achieve the necessary characteristics for virtual ‘presence’ – This chapter summarises the total effects of the *BioShock* games in encouraging plurality of identity for the player.
7. Conclusion – This chapter summarises the findings of the study and suggests possibilities for further study.

## **CHAPTER 2: CONCERNING IDENTITY AND VIRTUAL ‘PRESENCE’**

This chapter discusses identity inside and outside of the game world. It begins by defining the ‘self’ and multiple selves as real-world phenomena. It then looks at the way that the ‘self’ of a player is channelled into a game character (either an avatar or an agent), in order for the person to have an identity within the game world. It then considers the ways in which a player who feels immersed in such a game may experience a sense of virtual ‘presence’ within the game world, and how this can be considered to enable plurality of ‘self’. In doing so, the chapter considers a number of theoretical approaches to immersion and virtual ‘presence’ and structures them into a framework.

### **2.1 The ‘self’ and multiple selves**

Oyserman *et al* (2012:69) consider that while individuals know themselves largely through ‘self-concepts’, people also identify themselves through self-images, self-feelings, and impressions they build through the other senses – notably, how they sound, how they feel tactilely, and how they move. This means that the idea we have of who we are is comprised of mental perceptions of oneself, as well as a physical perception of the extent and motion of one’s body.

In addition to this, Oyserman *et al* (2012:70) comment that in the field of ‘self’ and identity research most theorists hold that the ‘self’ is simultaneously influenced by and an influencer of behaviour in situations: “self, self-concept and identity are mental constructs that are shaped by the contexts in which they develop and influence action” (Oyserman *et al* 2012: 75). Therefore, the ‘self’ is influenced in part due to outside influences, but also determines how people interact with things they encounter. Turkle (2005:3) rejects the idea that the “computer is just a tool”, and instead sees it as having a direct impact on the user and, in particular, on the identity of the user. Technology, as something we encounter daily, must play a role in shaping identity.

Yet technology not only influences individuals’ identity, it changes their very understanding of identity. According to Turkle (1994:163,164), due to the use of contemporary technologies, individuals in Western society have been forced to re-evaluate their previous understanding of the ‘self’ as “unitary” or singular, noting that the word ‘identity’ literally means ‘one’. Turkle (1994:166) states that this is because the current use of computing technologies for social media and gaming is being carried out within a context of a

“postmodern ethos of the value of multiple identities”. Turkle and Papert (1990:129, 132) add that because the computer itself – in that it requires a language of its own, its own unique way of thinking in order to process data – encourages multiple ways of knowing and thinking.

Turkle (2005:2) also notes that the computer has continued to be an “evocative” object since the 1980s, insofar as the relationship between the online ‘self’ and offline ‘self’, the virtual and the real, the avatar and the player is constantly questioned. Yet these concepts, which at first glance appear to be binaries, are not separate but intertwined and overlapping. As such, Turkle considers that contemporary Western society has largely come to understand the ‘self’ as fluid and ‘plural’ (1994:164, 1997:77, Mainwaring 2016:sp), allowing this idea to permeate into forms of visual culture, such as the same types of games that contributed to the re-evaluation of identity in the first place.

Consequently, this study argues that technology – and computer games in particular – are able to further influence the way individuals understand and experience identity through allowing identity to become even more plural by enabling players to investigate and live out roles other than their own ‘real’ identity. This can only be possible if players are sufficiently immersed in the game to find themselves ‘present’ in the game role. This study analyses this relationship between immersion, virtual ‘presence’ and plurality of ‘self’.

## **2.2 Game identity: avatars and agents**

The bridge between a ‘real’ and virtual ‘self’ begins with a character. When playing a game, a person is usually required to control a digital character to complete tasks, follow the narrative or move around the game space. Zach Waggoner (2009:1) interrogates the link between a player’s virtual or online identity as a character within the game and the non-virtual ‘real-life’ identity of the player, where computer based RPGs are concerned. Waggoner differentiates between the term ‘avatar’ and ‘agent’ to describe the type of character the player takes on when playing the game.

In order to explain the term ‘avatar’, Waggoner (2009:9) identifies a definition by Laetitia Wilson (2003:2-3) as the most illuminating:

[An avatar is] a virtual, surrogate ‘self’ that acts as a stand in for our real-space selves, that represents the user. The cyberspace avatar functions as a locus that is multifarious and polymorphous, displaced from the facticity of our real-space selves (...) avatar spaces indisputably involve choice in the creation of one’s

avatar; there is substantial scope in which to exercise choice and create meaning [within the videogame].

With Wilson's definition in mind, Waggoner (2009:9) distinguishes avatars from agents by noting that an avatar can be altered by the user, while an agent can only be controlled, and the "appearance and skills [of the agent] never change throughout the course of the game".

According to Katherine Hayles (1999:38), "the avatar both is and is not present, just as the user both is and is not inside the screen". This allows for a sort of mitosis of the 'self', whereby a single human is simultaneously person and avatar; real and imagined; physical and virtual; in the world and in the game-world; in the present and in the game's time.

The fact that there is such a wide range of ways through which a game-world enables a person to be someone else can mean the player is simultaneously male and female; architect and archmage; human and elf; law abiding citizen and evil doer. The capacity for plural identity in computer games is seemingly endless.

### **2.3: Plural and multiple selves in games**

In *Constructions and reconstructions of the 'self' in virtual reality* (1994:158), Turkle describes how MUDs on the internet can enable the user to interrogate different identities:

All [of these domains] provide worlds for social interaction in a virtual space, worlds in which you can present yourself as a 'character', in which you can be anonymous, in which you can play a role or roles as close or as far away from your 'real self' as you choose.

She adds (1994:158) that the 'self' in this context is "not only decentered but multiplied without limit", due to the possibilities for creation of an endless number and variation of identities, provided by technology. Turkle states (1994:158) that technology allows unprecedented opportunities to toy with one's identity and perform new ones; calling MUDs "a new environment for construction and reconstruction of the self". Turkle (1994:159) differentiates between the uses of different kinds of games for identity exploration, saying that in "games that occur in ongoing virtual societies like MUDs, the focus is on larger social and cultural themes" but "traditional role-playing prompts reflection on personal and interpersonal issues".

Turkle (1994:159) explains that by using computational technology, people are given the option to elucidate and resolve identity issues, as well as rethink their understanding of the 'self'. She explains (1994:161) that a game can be an escape from the 'real', as well as be used to work through the 'real'. She clarifies (1994:161) that this is possible because role-playing games are simultaneously in and out of real life – existing in a space in between: where the player is and is not the character they are playing out. The player is able to play an “aspect of [themselves] that they embody as a separate ‘self’ in the game space” and can remake themselves, or even play their ideal ‘self’ (Turkle 1994:161-163). The player, according to Turkle (1994:164) evolves into an expert in “self-presentation and self-creation”, and the notion of a single true ‘self’ becomes questionable and even unlikely.

Turkle adds (1994:161) that the game world allows for experiences and events that may be rare in reality, providing the player the opportunity to investigate their responses to situations they may never have otherwise experienced. The computer game, in this sense, becomes a sort of make-believe domain like those acted out by children – a safe space in which a person can pretend to be someone else, without real-world repercussions, and in doing so investigate what or whom one could possibly become.

#### **2.4 Defining virtual ‘presence’**

Plurality of ‘self’ in a game, requires players to locate themselves within the game, taking on the new role or identity, using a virtual ‘presence’. It is important to note here that the study is not proposing a complete modernistic presence. The ‘presence’ within a game world discussed by this study is the mediated and embodied experience of perceptually substituting one’s real-world environment for a virtual environment. The study proposes that this virtual ‘presence’, or substitution of reality, is what allows the player to test out different roles thus enables plurality of identity.

Jennett *et al* (2008:643) defines virtual ‘presence’ as “a psychological experience of being in a virtual environment”. James Babu (2012:11) explains that simply put, “presence is described to be the experience of being in one place, while physically located in another.” As such, the notion of being present in a game calls into question notions of space, and how understandings of space have changed partially because of individuals’ experience with technologies such as computers and gaming. The player remains embodied and located in



their real world place and time yet substitutes this reality and the associated stimuli with the place, time and stimuli of the game world.

Being virtually ‘present’ in a game requires very high levels of immersion while playing. Jennett *et al* (2008:643) state that while “presence is often viewed as a state of mind, [they] argue that immersion is an experience in time”. This means a game *can* be immersive without resulting in a sense of virtual ‘presence’ (Jennett *et al* 2008:643), but that a high sense of immersion *often* leads to the experience of virtual ‘presence’. Immersiveness in a game can thus be seen as the extent to which there is a capacity or potential for virtual ‘presence’ (i.e. substitution of their real environment with a virtual one). Thus, the pluralisation of the player’s identity through gaming hinges on the immersiveness of the game.

Once the player has become highly immersed, they can take on the identity of the character that they are role-playing within the game space. This means that the player gains virtual ‘presence’ as the avatar, which is an alternate identity from their own in the ‘real’ world. By simultaneously existing as themselves and the avatar, the player acquires multiple selves.

## **2.5. Immersion and suspension of disbelief: defining immersion**

In *A grounded investigation of game immersion* (2004), Emily Brown and Paul Cairns discuss their research into the definition and parameters of game immersion by interviewing gamers. They explain (2004:1297,1299) that immersion is an important experience for gamers, and that while immersion has been poorly defined in research thus far, it is a largely shared concept among gamers, that suggests the degree of player involvement with a game.

The term ‘immersion’ is often confused with the notion ‘cognitive absorption’. Jennett *et al* (2008:643) define cognitive absorption as “a state of deep absorption with software”. Cognitive absorption requires “temporal dissociation, attention focus, heightened enjoyment, control and curiosity” (Jennett *et al* 2008:643).<sup>6</sup> According to Jennett *et al* (2008:643), the key difference between immersion and cognitive absorption is that cognitive absorption is “an attitude towards technology”, while immersion is “the actual experience of a particular occasion of playing a video game”. Immersion refers to a “specific instance of playing” and disregards the motivations for doing so and can, thus, result from cognitive absorption.

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<sup>6</sup> A loss of a sense of the passing of real time and feeling as though one is experiencing time differently from how one does outside of the game world.

Jennett *et al* (2008:642-643) note the differences between ‘immersion’ and similar concepts like ‘flow’ and ‘cognitive absorption’. Flow is defined as “the state in which individuals are so involved in an activity that nothing else seems to matter” (Csikszentmihalyi 1990).

Flow in a game is comprised of the following features: “clear goals; high degree of concentration; a loss of the feeling of self-consciousness (sense of serenity); distorted sense of time; direct and immediate feedback; balance between ability level and challenge; sense of personal control; intrinsically rewarding” (Jennett *et al* 2008:642). Flow can thus be seen as an intense state of immersion, but a game can create immersion without necessarily creating flow (Jennett *et al* 2008:642).

Brown and Cairns (2004:1298-1299) attempt to rectify the vague notion of immersion by splitting it into three levels of involvement as follows: engagement, engrossment and total immersion. The first level is engagement. This requires the gamer to “invest time, effort and attention” into a game and can be blocked, or hindered, by preferences for some types of games over others, and unwillingness to invest the aforementioned time, effort and attention (Brown and Cairns 2004:1298-1299). Engagement with a game requires the player to consciously accept the alternate world that the game is offering them. According to Anthony J. Ferri (2007:8), “something happens to transport the person from being a spectator to being absorbed in the characters and story” and this can be referred to as the suspension of disbelief – whereby the viewer is called to surrender their reality and be transported to another world through an imaginative work. Engagement with a game also requires tools (in this case hardware and software) that are intuitive to use, that provide the gamer with control and which operate smoothly without issue (Brown and Cairns 2004:1300). If these conditions are met, the gamer may become engaged with a game.

The second level is engrossment, which requires the gamer to be emotionally affected by the game and to become invested in the game’s world. This requires realistic and artful construction of visuals, tasks, plot and sound; and may require a distraction-free environment (Brown and Cairns 2004:1299). As this takes place, gamers may begin to become “less aware of their surroundings and less self-aware” than before (Brown and Cairns 2004:1299).<sup>7</sup>

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<sup>7</sup> Up to this point, the player is distracted from the real world and their subjectivity is projected into the game world but they have not yet taken on the identity of the character whose role they are playing. It is only upon total immersion that the player inhabits multiple selves.

The third level is called ‘total’ immersion,<sup>8</sup> whereby the gamer is ‘present’ in the game world, requiring not only attachment to and empathy with the character, but also the use of the gamer’s own senses to navigate the environment (for example, by listening or looking closely) and a consuming game atmosphere (Brown and Cairns 2004:1299). It is noted (Brown and Cairns 2004:1299) that the gamer may in some cases only experience this virtual ‘presence’ for a few moments at a time, for example when having the rush of a threat or a jump-scare (a popular gaming term referring to a sudden fright caused by an aggressor).

When interviewed by Brown and Cairns (2004:1299), gamers who experienced ‘total’ immersion described it as a transferral from the real world into the game itself: “when you stop thinking about the fact that you are playing a computer game and you’re just in a computer”; “you feel like you’re there”. In describing the experience in this way, the gamers are indicating that when totally immersed, they perceive the game world instead of their real one. Brown and Cairns (2004:1297,1299) describe such immersion as virtual ‘presence’: “the extent to which a person’s cognitive and perceptual systems are tricked into believing they are somewhere other than their physical location”.

By stating this, Brown and Cairns clarify that the player does not become disembodied or removed from their real world but is coerced into believing they are elsewhere: their real world is substituted with the virtual reality. In summation, a game can be so immersive that it becomes a substitution for the real. Total immersion requires a gaming environment that would be a plausible and gripping substitution for the real. Not only does this require accurate and interesting sensory stimuli, but it also requires ease of gameplay and “invisibility of controls”, removing distracting barriers between the player and game (Brown and Cairns 2004:1230).

Babu (2012:12) explains that “[w]hile Brown and Cairns (2004) supposes that one must progress through multiple levels to reach total immersion, other researchers propose that this stage of immersion is indeed a multidimensional experience”, and details what these facets of immersion are according to a number of sources. The first of these is Ernest Adams (2004:sp), who proposes that there are at least three types of immersion, and lists as examples

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<sup>8</sup> The term ‘total immersion’ may stir suspicion of disembodiment, but refers primarily to the experience of being totally involved with the game, as opposed to being removed from one’s body into it. The player remains embodied and their physical senses are as much a part of the experience of the game world as they would be in the real one. The gamer is fully distracted from the real world experience.

‘tactical’, ‘strategic’ and ‘narrative’ immersion, which are not hierarchical but independent of each other. Adams (2004:sp) explains that tactical immersion is instantaneous, physical and often survival-based, with simple challenges that can be solved in seconds. Adams (2004:sp) suggests that strategic immersion involves much more planning and calculation to solve challenges. While ‘tactical’ and ‘strategic’ immersion are not usually too concerned with story-line, ‘narrative’ immersion hinges almost entirely on a strong story and characters.

Secondly, Babu (2012:12) looks at the way in which Laura Ermi and Frans Mäyrä (2005) identify forms of immersion. Ermi and Mäyrä (2005:7-8) propose that the three dimensions of immersion are sensory, challenge and imaginative, also known as the SCI-model. ‘Sensory’ immersion refers to the “audiovisual execution of the games”, which can influence the amount of interest, attention and belief that the player will afford the game (Ermi and Mäyrä 2005:7). Ermi and Mäyrä (2005:8) list ‘challenge-based’ immersion as the second dimension of immersion, and Babu comments (2012:12-13) that this is very similar to what Adams (2004:sp) proposes about ‘tactical’ and ‘strategic’ immersion. In ‘challenge-based’ immersion, the gamer is immersed when the player’s abilities are comfortably balanced with the difficulty of challenges. The final form of immersion mentioned by Ermi and Mäyrä (2005:8) is ‘imaginative’ immersion, where the player has come to care about the story and game world and identify with characters. Babu (2012:13) explains that imaginative immersion is essentially identical to Adam’s facet of ‘narrative’ immersion.

Thirdly, Babu (2012:12) considers the thoughts of Alison McMahan (2003:77), who attributes virtual ‘presence’ to ‘perceptual’ and ‘psychological’ immersion. McMahan (2003:77) defines ‘perceptual’ immersion as “accomplished by blocking as many senses as possible to the outside world”, while ‘psychological’ immersion is caused by the player being mentally absorbed in the game world. McMahan (2003:68-69) comments on the importance of three factors for immersion to take place:

“(1) the user’s expectations of the game or environment must match the environment’s conventions fairly closely; (2) the user’s actions must have a non-trivial impact on the environment; and (3) the conventions of the world must be consistent, even if they don’t match that of [the ‘real’ physical world].”

Lastly, Jan-Noël Thon (2008:34) categorises immersion into the following types: ‘spatial’ immersion, ‘ludic’ immersion, ‘narrative’ immersion and ‘social’ immersion. According to Thon (2008:35), spatial immersion refers to the transferral of attention from the player’s ‘real

world' environment to that of the game space, and is similar to the concept of 'spatial presence' (Babu 2012:13). Spatial presence "occurs when part or all of a person's perception fails to acknowledge the role of technology that makes it appear that s/he is in a physical location and environment different from his/her actual location and environment in the physical world" (Wirth *et al* 2007:4). Thon (2008:36) defines ludic immersion as the "shift of the player's attention to the interaction with the game" and involves not only the game space, "but the possibilities for action within it" and is similar to Ermi and Mäyrä's (2005:8) 'challenge-based' immersion. Thon (2008:37) identifies 'narrative' immersion as the "player's shift of attention to the unfolding of the story of the game and the characters therein", and is much like 'imaginative' immersion (Babu 2012:13). Lastly, Thon (2008:38) identifies 'social immersion' as a "shift of attention to the other players as social actors and the relationship between them".

In an effort to extract the common features of immersion from the variety of overlapping and diverging sources above, the following two tables have been constructed.<sup>9</sup> The first indicates a summary of the above information and as such identifies different categories of immersion according to each of the theorists discussed above (Brown & Cairns, Adams, Ermi and Mäyrä, McMahan and Thon). In order to construct Table 1, the respective types of immersion discussed by each of these theorists have been identified and grouped according to theorist (rows) in order to show clearly which theorists have named what kinds of immersion in their texts. They have also been grouped according to whether the theorist arranges the types of immersion hierarchically/vertically or independently/horizontally (columns). In cases such as that of Brown and Cairns where there is content in both columns, the horizontal types of immersion fall into the vertical levels of immersion.

Table 2 has been constructed with the intention of making evident common ideas regarding immersion across theorists. To construct Table 2, the recurring ideas of immersion from Table 1 have been grouped into categories according to the issues that they are primarily preoccupied with, in order to indicate which ideas are those on which theorists generally

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<sup>9</sup> According to Susanne Verdinelli and Norma I. Scagnoli (2013:359,360) in the International Journal of Qualitative Methods, visual displays of data are more common for quantitative research than qualitative, but that they can be helpful "in extended textual passages; in representing a model or links among different key concepts". Matrices, or tables, can also summarise, simplify and organise information from research to make it easier to understand and interpret (Verdinelli & Scagnoli 2013:359,367). It is for these reasons that tables have been constructed to extract information for determining the analytical framework to be used in looking at immersion through the rest of the study.

converge regarding immersive properties.<sup>10</sup> The second table thus groups similar types of immersion as summarised by Table 1 (right column) into their basic preoccupations (rows) so as to develop a single framework for analysing immersion for the purposes of this study that is inclusive of a number of varying approaches to immersion in an analytical framework to be used through the rest of the study.

**Table 1:** Methods of defining immersion by game features (Tabled by author)

<b>Theorist</b>	<b>Levels of immersion</b> (Vertical split of requirements for immersion into tiers. Each level must be achieved before moving to the next)	<b>Types of immersion</b> (Horizontal split of requirements of immersion into features, which can occur independently of each other)
<b>Brown &amp; Cairns</b>	(A hierarchy, where each level must be achieved before progressing)	
	1) Engagement	a) Player invests attention b) Player invests time c) Player invests effort
	2) Engrossment	d) Player is emotionally affected e) Game has artful presentations
	3) Total immersion	f) Player feels a sense of being virtually 'present'
<b>Adams</b>		g) Tactical immersion h) Strategic immersion i) Narrative immersion
<b>Ermi &amp; Mäyrä</b>		j) Sensory immersion k) Challenge-based immersion l) Imaginative immersion
<b>McMahan</b>		m) Perceptual immersion n) Psychological immersion
<b>Thon</b>		o) Ludic immersion p) Narrative immersion q) Social immersion r) Spatial immersion

<sup>10</sup> The 'areas of preoccupation' were developed with thorough reading and analysis of each of the texts to find which technological, ludological, narrative and thematic concerns are relevant for each kind of immersion. First, the types of immersion suggested by each theorist were identified and tabulated in Table 1. Second, the relevant factors and game features for each kind of immersion were listed. Third, types of immersion dealing with the same features were grouped. Last, each group was named after its area of preoccupation and tabulated in Table 2.

**Table 2:** Areas of preoccupation of different factors of immersion (Tabled by author)

<b>Area of preoccupation</b>	<b>Types of immersion</b>
<b>1) Game format</b>	b) Player invests time (Brown & Cairns)
<b>2) Ease of use</b>	a) Player invests attention (Brown & Cairns)
<b>3) Challenge appeal</b>	c) Player invests effort (Brown & Cairns) g) Tactical immersion (Adams) h) Strategic immersion (Adams) k) Challenge-based immersion (Ermi & Mäyrä) o) Ludic immersion (Thon)
<b>4) Aesthetic appeal</b>	e) Game has artful presentations (Brown & Cairns) n) Psychological immersion (McMahan)
<b>5) Sensory fidelity</b>	f) Player feels a sense of virtual ‘presence’ (Brown & Cairns) j) Sensory immersion (Ermi & Mäyrä) m) Perceptual immersion (McMahan) r) Spatial immersion (Thon)
<b>6) Story substance</b>	d) Player is emotionally affected (Brown & Cairns) i) Narrative immersion (Adams) l) Imaginative immersion (Ermi & Mäyrä) p) Narrative immersion (Thon)
<b>7) Social appeal</b>	q) Social immersion (Thon)

By grouping the types of immersion into areas and features they are preoccupied with, one is able to compress a number of approaches to immersion (from a number of theorists) into a single analytical framework. The areas of interest specified in this framework can then collectively be used to consider the all-around immersiveness of a game and can therefore aid in establishing the extent to which the game can enhance virtual ‘presence’ and thus plurality of ‘self’. As such, Table 2 represents the analytical framework that this study uses to analyse the first-person shooter games at hand.

The areas of interest in Table 2 are therefore discussed further in Chapter 3 in order to provide more insight into how these concepts work in games. The concepts are then applied to the *BioShock* trilogy in Chapter 4 and 5 as the analytical framework through which the games have been interpreted.

## **CHAPTER 3: PROVIDING AN ANALYTICAL FRAMEWORK FOR READING THE BIOSHOCK TRILOGY**

Chapter 2 has served to compound a variety of theories regarding immersion into a single cohesive approach to determining the immersiveness of a game, towards achieving virtual ‘presence’ for the player. When a player is virtually ‘present’, the games engender plurality of ‘self’ in the gamer by encouraging them to take on the identity of the avatar and fulfil that character’s role in the game. Thus, by looking at immersive features in a game, and its potential for virtual ‘presence’ of the gamer in the game world, capacity for plurality of ‘self’ can be determined.

To this end, Chapter 3 expands on each area of analysis identified in Table 2 (Chapter 2) as contributors towards immersion. They are: game format, ease of use, challenge appeal, aesthetic appeal, sensory fidelity, story substance, and social appeal. Any technological, ludological, narrative and thematic factors falling into each of these areas are considered in the analytical framework. Chapter 3 is thus written in preparation for the analysis of the *BioShock* trilogy in Chapters 4 and 5, which is carried out using the features below as the analytical framework.

### **3.1 Analytical framework for establishing immersion, virtual ‘presence’ and, by extension, enhancement of plural selves in games**

#### **3.1.1 *Game format***

Due to player preferences, game format will impact whether the player will be willing to invest enough time to become immersed in a game (Brown & Cairns 2004:1298-1299) and the type of interaction they will have with the game when playing. Some game formats are typically seen as more immersive than others. The following game formats and types are generally seen as the most immersive that the gaming world has to offer, by way of their style of game play and the way in which the gamer can take on the character and move through the game world.

- **Role-playing games**

Role-playing games (RPGs) – games in which the gamer takes on the role of a character within the game world and may see from over the shoulder, rather than from the protagonist’s eyes – are seen by Brown and Cairns as highly immersive (2004:1299). Similarly, Zach Waggoner and Janet Horowitz Murray identify the video-RPG as the best game format for



immersion (Waggoner 2009:12-13). This is because the RPG enables players to ‘become’ that character and to make it their own, within the context of some story or lore, as well as move it around as they please.

Waggoner (2009:12,13) draws on Murray (1997:264, 268, 270-271) to reveal the traits which should be in an RPG to allow it to be at its *most* immersive: a strong *emotional impact* on the player, the player has the *choice* of a number of ways to go about tasks,<sup>11</sup> the option of *solo play*,<sup>12</sup> a highly *responsive environment*, the absence of real-world consequences and a *transformational experience* for the gamer. Waggoner (2009:12-13) adds that if an RPG allows players to “construct true avatars” (i.e. customise their avatar to truly reflect the character they want to play, and by extension aspects of themselves) this adds to the immersiveness of the game. The avatar is a projection of the embodied ‘self’ and customisation of it is akin to choosing a new identity to try out.

- First-person shooters

Richard Rouse (2009:21) explains that a first-person shooter (FPS) game can be seen as a more immersive type of game than its counterparts:

[S]ince players are, to some extent, able to determine the actions of the main character, while playing a game they project themselves into the main character much more than in any other medium. This is especially true in first-person games, where immersion is undeniably one of the primary goals.

Interestingly, Brown and Cairns comment (2004:1299) that only one of the games described as totally immersive by their participants (in their study measuring immersion in games) was not a first-person perspective game (a game in which players see directly from the eyes of the character being played, as though it were themselves – such as in the *BioShock* games).

With regards to the fact that in a FPS, the player sees through the eyes of the character, Dan Pinchbeck (2009:79) states that according to Calleja (2007), “the relative lack of visualised avatars in FPS (meaning that one does not see the character from an external perspective because the player is looking through their eyes) games has been argued to enable a greater and more direct relationship between the player and the system”. Simply put, the fact that the

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<sup>11</sup> Choice in a game usually refers to the extent to which the player can make moral, personal, and preferential decisions, such as whether to kill or spare a character, how they want their avatar to look, what fighting style and weapons they use, which missions to do first (if at all) and where in the game world to go, as well as how to get there. These choices may or may not prove meaningful for the outcome of the narrative.

<sup>12</sup> Solo play takes place when the gamer can play the game without a real-world partner or team.

game is played through the eyes of the character makes it easier for the gamer to ‘become’ that character, making the character one of the player’s ‘selves’.

The fact that FPSs are also often fast-paced and thrilling, due to quick-moving threats and a high action element, also allows them to possess more of an immersive nature than many game types in which the player can be more relaxed and detached. Moreover, the fact that FPSs often require the player to focus well makes them more gripping of the player’s attention. The need for quick thinking and elevated levels of focus can be compounded and heightened by the game’s genre and the hallmarks that go along with it.

- Genre

The genre of a game informs the content, narrative, and aesthetics of the game. It also has a significant impact on the goals of the game designers for game-play. The horror genre is of particular interest in this study, as a number of elements of this genre are incorporated in the games pertinent to this study.

According to Wheeler Winston Dixon’s *A history of horror* (2010:1), the horror genre is as old as narrative itself, and originally there were horror fables handed down from generation to generation, which later developed into literature and theatre productions designed to scare the audience, and eventually evolved into film. In his study *Dead Space 2: The sublime, uncanny and abject in survival horror games*, Garth McIntosh (2015:33) notes that horror games commonly make use of the horror tropes that have been used in film.

As such, the horror genre of gaming usually incorporates fright, sudden attacks, dark and spooky milieus and grotesque or frightening imagery. In addition to this, many horror games incorporate many psychological techniques to work their way into the mind of the player. Due to the use of such features, according to Rouse (2009:20), the horror genre is able to “manipulate certain key emotions” in the player. Rouse continues (2009:20): “Two of the most obvious of these emotions... are both tension and fear, and the player may come to feel alone, scared, disturbed and gripped by the game.” McIntosh (2015:31) notes that while many of the tropes are from film, “playing [a game] as opposed to watching a horror film, allows the gamer to subjectively experience what it is like to ‘play’ the role of [the protagonist]” and that this illusion is upheld through the use of the sublime, the uncanny and the abject.

McIntosh notes (2015:10) that the sublime is important in gaming and horror games in particular because “it motivates the gamer to seek out emotional dichotomy and provides motivation to complete the game”. According to McIntosh (2015:17), the ideas of the sublime vary somewhat among theorists but there is a general consensus that the first aspect of the sublime is a sense of awe, or even fear, related to one’s own survival and the second is to be moved to a feeling of transcendence. In discussing the importance of fear in the sublime experience, McIntosh (2015:17-18) quotes Cat Francis (1999) as follows:

...the self, confronted with something larger and/or more powerful than itself, fears annihilation. But even as the self cowers in the moment of that threat, it becomes aware that the threat is an empty one, that the annihilation will not take place.

While Edmund Burke (1909) posits that the sublime exists in the realm of self-preservation and “no pleasure from a positive cause belongs to it”, McIntosh (2015:180) argues that in the rush that comes from the realisation that the threat is over, there is a sense of pleasure and transcendence, and horror games rely on this response. McIntosh (2015:34) clarifies that while the sublime is a temporary experience, in games it “seeks to become a continuous circumstance” through narrative, fear, the uncanny and the abject.

The ‘uncanny’ is a term referring to the experience of something as eerily familiar: similar to yet different from what is known, creating an uneasy feeling in the player (McIntosh 2015:35). According to McIntosh (2015:35), this uneasy feeling stems from a “loss of personal boundaries” that comes from not being certain of what is and is not known, or what is or is not part of the ‘self’.<sup>13</sup>

The ‘abject’ is the final experience that is integral to horror games. McIntosh (2015:39) states that according to Julia Kristeva (1982), the abject is more violent than the uncanny and stems from an inability to find the familiar in what is seen. The abject is met with strong opposition and is often the root of the sense of horror. The loss of boundaries of identity is also something that occurs in the abject, where one’s personal boundaries are threatened, and thus the abject has to be expelled. Where the sublime leads to transcendence, the abject leads to revulsion.

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<sup>13</sup> The loss of the boundaries of identity is of particular interest to this study because the study argues for the flexibility and fluidity of identity as well as the way in which games encourage this. If one takes McIntosh’s statement to be true then, by extension, if a computer game is able to evoke the uncanny it is breaking down the sense of singular identity of the player.

Rouse comments (2009:20) that “computer games provoke these [emotions] better than other media because there’s actually something at stake for the player”. By this, Rouse means that gamers may lose progress and their character may be killed, so the ‘fear’ response is heightened in game-play over other horror mediums because the player may be heavily invested. For these reasons, the horror genre is particularly effective in immersing the player and making them experience virtual ‘presence’ as their avatar.

### **3.1.2 *Ease of use***

In order for a player to become ‘engaged’ and for attention to be sustained, rather than broken, there must be a distraction-free environment and interaction (Brown & Cairns 2004:1299). The ease of use of a game refers to the hardware and software characteristics of the game-play experience which may heighten or hinder game play (Brown & Cairns 2004:1300). This can also include the difficulty of use of the game’s own interface. The intuitiveness of a game and of the device on which it is played greatly affects the experience of game-play and the possibility of immersion taking place (Brown & Cairns 2004:1300).

- Usability and ease of control

Turkle (2005:82) notes that when people play an immersive game, they “experience their every move as translated into game action”. In saying this, Turkle is referring to the fact that when there is a functioning and smooth interface between player and game, the instruction that gamers give to the computer results in an instantaneous response in the form of their character’s actions or an interaction with the game world. This immediacy of response in the game world heightens the extent to which immersion is possible and the extent to which the player may identify the avatar (or agent) as a version of themselves. The responsiveness of the avatar to the intuitive actions of the player is an important factor for immersiveness, for kinaesthetic-visual association, and ultimately for engrossment and ‘presence’ within the game.

According to Laurie N. Taylor (2002:2), the experience of a game space depends greatly on the nature of the game’s interface, because it is through this interface that the player must act on the game space. Taylor (2002:3) states that this use of the term ‘interface’ simultaneously refers to “the physical apparatus by which the player accesses the game – controllers, joysticks, keyboards and mice – and the varying configurations of that apparatus.” According

to Taylor (2002:3), while the act of playing the game relies on the nature of the interface, the interface itself is equally dependent on the nature of the game and its features.

Taylor adds (2002:1) that the space which a player must navigate in the game world is 'virtual' in that it is a "presentation and representation of space generated through programmed code" as opposed to a "real space", because there is no material dimensionality of the space of a video or computer game. The 'virtual' space, while not real, is in many ways still physically experienced by the player due to sight, hearing, emotional and physical reactions. The immersiveness of the game hinges in part on this physical experience. The game-play itself, and the study thereof, is thus "understood experientially through visual and auditory presentation and through the game's human-computer interface" (Taylor 2002:1).

This illusion of space within the game world is made using forms, or meshes, simulated, textured, placed in relation to each other and viewed from a perspective by the player. This "optical perspective from which the game is played, as it is represented in the involvement with interface, is also pivotal to the creation of game space" (Taylor 2002:3). Taylor (2002:5) explains that perspective "shapes the player's perception of the game space because it tacitly encodes the vantage point from which the player acts on and engages with objects and actors in the game world".

- Heads-Up Display

According to James Babu (2012:5), "[s]hooter games, both first-person and third-person, often utilise the concept of a 'heads-up display' (HUD) in order to convey crucial information to the player." An HUD, according to Wilson (2006), in Babu 2012:7) is the sum of a number of elements and features that 'overlay' (sit on top of) the game world as it is viewed by the player, so as to provide information to the player: "Information such as ammunition count and character health are all common attributes found in the HUD" (Babu 2012:7).

While several recent games have done away with HUDs in an effort to remove any material that may distract from the game world and reduce immersiveness, fitting the information into the game-world instead (Wilson 2006, in Babu 2012:5), other game designers have opted to keep the HUD but simplify it as far as possible to make it less intrusive (Wilson 2006, in Babu 2012:7).

### **3.1.3 Challenge appeal**

Immersion hinges on the player investing a certain measure of effort into a game and its challenges. The type of challenge must be appealing to the player for them to invest this effort (Brown & Cairns 1298-1299) and the player's abilities must be well-matched to the game's difficulty level (Ermi & Mäyrä 2005:8) for challenge-based immersion. The types of challenge can evoke tactical or strategic immersion respectively, depending on whether the challenges are fast and survival-based or require planning (Adams 2004:sp). Thon also notes that ludic immersion can result from the interaction with the game and the "possibilities for action within the game". According to Ermi & Mäyrä (2005:8), "challenges can be related to motor skills or mental skills such as strategic thinking or logical problem solving, but they usually involve both to some degree". First-person shooters and horror games usually involve some measure of 'tactical' immersion because the goal is survival of immediate and fast-paced threats.

Turn-based game play, for example, can be regarded as less immersive, taking away from the 'flow' of the challenges, because the player is required to wait and hold back any reactions while the non-playable character (NPC) or computer takes its turn. Rouse notes (2009:22) that while "no game offers the players *Infinite* freedom, even the relatively limited choices presented in a linear point-and-click adventure game makes players feel empowered and thus immersed."

### **3.1.4 Aesthetic appeal**

According to McMahan (2003:77), psychological immersion is the process whereby a player is mentally absorbed into a game world. Brown and Cairns (2004:1299) suggest that a player can be 'engrossed' in a game if it has artful presentation of visuals and sound. The aesthetic appeal is the extent to which the game provides visuals, sounds, lighting, textures, characters, settings and objects that are aesthetically pleasing to the gamer. This does not necessarily refer to how accurate the sights and sounds of the game are (discussed in 4.2.5), but rather how creatively the game world has been made. This often involves how 'pretty', impressive, or even how horrific the sights and sounds are so as to create interest and appreciation. In other words, this involves the extent to which the visuals evoke a sublime experience. Additionally, these aspects make the diegetic world more sensually compelling, thereby encouraging suspension of disbelief and immersion, and leading to virtual 'presence'.

- Aesthetically appealing sights

Ambient lighting, glittering water, weather elements, interesting objects and people are just a few of the many things that can create an appreciation for the aesthetic design of a game. Lighting effects in games especially are used to create a wide variety of atmospheres and add to the realism of the digital world. Volumetric details, god rays,<sup>14</sup> bloom effects,<sup>15</sup> high dynamic range (HDR) lighting,<sup>16</sup> anti-aliasing<sup>17</sup> and more all contribute to the aesthetic character of a game. Without these settings in a game, one cannot have wet surfaces, creepy dark corners or the utopian glow that the *BioShock* games have been able to achieve. The use of dust motes visible in rays of light can also be an aesthetically appealing and a realistic contribution to lighting design.

Lighting effects are not the only features that can make a game visually appealing. Interesting landscapes, objects, details, textures, characters, costumes, creatures and more can make a game visually interesting and gripping for the player. They also add to the richness of the game world, variation between levels and to the character and atmosphere which the game world possesses.

- Aesthetically appealing sounds

In addition to adding to the realism of a game (discussed in 4.2.5), sounds can also have an aesthetic value. Birds tweeting, people chatting, and trees rustling (among any number of other ambient sounds) can contribute to the feel of an open and relaxed environment, while on the other hand, the use of footstep sounds and heartbeat sounds, for example, contributes to the gripping, threatening and immersive nature of the game.

Music also contributes greatly to the mood of a game. It can add to a sense of threat, light-heartedness, sadness, romance, mystery and more. Music can also contribute to the sense of a game occurring within a certain milieu: it can send messages about the period and place in which the story is taking place.

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<sup>14</sup> Volumetric lighting and god rays are lighting effects used in games that allow visible rays of light to beam through between and around objects.

<sup>15</sup> This lighting effect creates a glowing, hazy shine, particularly useful for creating Columbia's atmosphere

<sup>16</sup> HDR rendering maintains and improves detail on rendered surfaces

<sup>17</sup> Anti-aliasing smoothes out the edges of rendered objects to make them appear more realistic.

### 3.1.5 *Sensory fidelity*

According to Brown & Cairns (2004:1299) ‘total’ immersion and a sense of virtual ‘presence’ requires identification with the character being played and the use of the player’s own senses to navigate the environment. For this to be possible, sensory fidelity is required. Unlike aesthetic appeal, which is extraordinary and which contributes solely to the impressive or rich nature of the game world, sensory fidelity refers to the ways in which a game presents sounds, visuals, texture and light, so as to be as close as possible to how these would be experienced if the player were really there.<sup>18</sup> Ermi & Mäyrä (2005:7) comment on the notion of sensory’ immersion, which is based on not only on interest and attention that aesthetic elements afford, but believability. Similarly, McMahan (2003:68-69,77) argues that ‘perceptual’ immersion in a game requires sensory information from the ‘real’ world to be blocked and replaced with audio-visual information that is true to the game-world, interactive and consistent. Thus it is important to note that the term ‘accuracy’ below refers to the fidelity of the visuals and sounds to the physical laws of the respective game world. The extent to which visual features are believable and life-like is seen to be related to immersion. For Thon (2008:35), ‘spatial’ immersion in a game refers to the transferral of attention from the player’s ‘real world’ environment to that of the game space.

- Accurate visuals

In addition to aesthetically powerful visuals and graphics (discussed in 4.1), which hold the attention of the player, the visuals must be life-like (or at least plausible) and true to the game world. This may include accurate or recognisable textures on surfaces; accurate bodily proportions; naturalistic movement of people, creatures and objects; realistic nature and weather; accurate behaviour of lighting and more.

Another contributor to the accuracy of visuals is the successful use of mesh frames – the actual structure of an object before being covered by a texture. Incorrect mesh frame design can result in glitches such as bullets not passing through what should be a gap in a structure (because while there is a hole in the texture there, there is not hole in the mesh frame), or a carried weapon or piece of armour appearing to pass through part of the character.

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<sup>18</sup> Aesthetic appeal and sensory fidelity are separate in this section due to the fact that very different features are required of a game to achieve them. While a naturalistic aesthetic can add to the beauty (aesthetic appeal) of a game, the opposite is not true. A game can be visually impressive without necessarily being visually life-like. While sensory fidelity can contribute to kinaesthetic-visual matching, aesthetic appeal cannot. While sensory fidelity contributes to realism, aesthetic appeal contributes more to interest, thus each contributes to immersion in different ways.



The visual prowess of a game is one of the most commented on and important features of contemporary game design for players, but while it is important to use detail to maintain visual accuracy, many games that use high definition go over the top and cause the visuals to be a distorted representation rather than a naturalistic one.

- Accurate audio

In addition to aesthetically powerful music and sounds (discussed in 4.1), which hold the attention of the player, the audio must also be realistically accurate and true to the game world. This may include the use of ambient sounds, echo, 2D and 3D speech (defined in 6.1.5), gunfire sounds, voices, footstep sounds, as well as accurate sound effects upon interaction with objects.

- Kinaesthetic-visual matching

Oyserman *et al* (2012:69) state that in addition to self-concepts – the idea one has of oneself – people also identify themselves through “self-images, and self-feelings, as well as images drawn from other senses – a sense of what they sound like, what they feel like tactically, and a sense of their bodies in motion”.

Computer games make use of these ways of identifying people as themselves to enhance the connection the players have with the character – the extent to which they identify the avatar as themselves: Axel Stockburger (in Ward 2010:272) quotes Brenda Laurel as having stated that videogames can create immersion through the “tight linkage between visual, kinaesthetic and auditory modalities”.

According to Robert Mitchell (2002:2), kinaesthetic-visual matching is the “recognition of similarity between the feeling of one’s own body’s extent and movement (variously called kinesthesia, somasthesis, or proprioception) and how it looks (vision)”. Kinaesthetic-visual matching therefore refers to the process by which the players are able to identify something they see as themselves by noticing parallels between their own action or movement or tactile stimulus and the character’s. The player’s actions with input devices such as keyboard and mouse are reflected on screen in the actions of the character. This makes it possible for the individuals playing a RPG to identify themselves with the character and to see the character as a sub-self, or aspect of ‘self’, or alternate ‘self’ which they can explore and live out.

- Physiological response

Resulting from kinaesthetic-visual matching, high immersion, and the first-person perspective, the player may experience instantaneous reactions to the game, indicating that the gamer has become completely absorbed in the game world, and that physical embodiment is part of the gaming environment. These are not just emotional reactions like those brought about by the horror genre and the emotional appeals of the narrative, characters or environment, but physiological reactions that result from the gamers embodying the character and their experiences within the game world. The player, as an embodied creature naturally has an inseparable link between the mind and body, allowing what happens to the mind in the game world to reflect in the body in the real world. This can be seen in heart rate and electrodermal activity.

Anders Drachen, Georgios Yannakakis, Lennert E. Nacke and Anja Lee Pedersen (2010:49) state that “Psychophysical methods are becoming more popular in game research as covert and reliable measures of affective player experience, emotions and cognition.” These measures commonly include the measurement of electrodermal activity and heart rate (Drachen *et al* 2010:49). Drachen *et al* (2010:49) explain that “Psychophysiology ... investigates the relationship between psychological manipulations and the resulting physiological activity”. While these have successfully been used as measurements of emotional response to stimuli, “different psychophysiological measures are not independently reliable” on their own (Drachen *et al* 2010:49). For this reason, the psychophysiological measurements are usually combined with questionnaires (Drachen *et al* 2010:49).

While many researchers now use these physiological responses to gaming stimulus to understand the relationship between player and game and study immersiveness in specific games, game-designers are also making use of this connection to enhance the sense of virtual ‘presence’ in games.

### **3.1.6 Story substance**

Brown and Cairns (2004:1299) suggest that a player’s engrossment and emotional investment in a game is encouraged by “artful presentation” of tasks and plot. Similarly, Adams (2004:sp) indicates the importance of a well-developed story and characters for immersion, and Ermi & Mäyrä (2005:8) argue that ‘imaginative’ immersion takes place when a player

has come to care about the game-space and its characters. For Thon (2008:37), ‘narrative’ immersion is based on the way that attention is diverted to the unfolding of the story of the game and the characters therein.

- Narrative

Computer games have become a useful and successful medium for story-telling. Their uniqueness as a story-telling medium arises from many characteristics which the game possesses that other story-telling mediums do not. Murray (1997:81) comments on game action as a medium of storytelling in comparison to books and theatre as follows: “the moment is startling and immediate... [y]ou are not just reading about an event that occurred in the past; the event is happening *now*, and unlike the action on the stage of a theatre it is happening to *you*”. Similarly, Sherry Turkle (2005:82) discusses the way in which users may “lose themselves” within the simulated world, saying that “you have to do more than identify with a character on the screen. You must act for it. Identification through action has a special kind of hold.” By saying this, Murray and Turkle are noting that computer games are ideal story-telling mediums in part because of their immersive nature.

To this end, Turkle (2005:82) adds that the extent to which the game is gripping and requires focus from the player heightens the player’s experience of ‘being in’ the game. She adds that immersive games are “relentless in their demand that all other time stop and in its demand that the player take full responsibility for every act”. In saying this, Turkle touches on the fact that players not only become completely absorbed in the game, plunging into it in such a way that real life is ‘paused’, but that players also adopt the game decisions as their own and feel personally accountable for game outcomes. This is because players empathise with the character they are playing and are immersed to the extent that they *become* the character and experience really being there.

According to Murray (1997:185),

In order to create rich and satisfying stories that exploit the characteristic properties of digital environments and deliver the aesthetic pleasures the new medium seems to promise us... writers would need a concrete way to structure a coherent story not as a single sequence of events but as a multi-form plot open to the collaborative participation of the interactor.

From this, we can deduce that Murray favours open narratives with free choice over more linear narratives and values audience participation in the story. Murray believes that this is what makes games as a storytelling medium special.

Another feature of computer games which makes them successful as a story-telling medium is the large variety of ways in which they can convey information and story to the player. This can be through dialogue, radio commentary, diegetic objects (such as posters within the game world) aesthetic features of the game-world, flashbacks, cut-scenes and more. It is the use and choice of such options for story-telling by the game designers which can improve story-telling and immersion or act to negate these. Cut-scenes, for example, are commonly believed to reduce immersiveness of the game-play, as they take the gamer from being an actor within a situation to spectating as it happens (Babu 2012:38, Ward 2010:269). While cut-scenes are useful for contributing information to the narrative, it is believed that their use should be reduced and that other creative solutions should be found in order to create flow.

In addition to the type of conveyers used for information in the game world, the game-designers must consider the context of the story within larger narratives and bodies of information. Specifically, the accuracy of a game to in-game lore<sup>19</sup> and lore that extends beyond the game-world is a very important component of the story. A narrative not fitting in with its context can be jarring and can cause the player to lose appreciation for game design. This is especially true for games that are part of franchises in which the lore extends throughout.

### **3.1.7 Social appeal**

A game can have a sort of social appeal, arising from the ways in which it can be played with others or alone, as well as from the ways in which the player can interact with NPCs. Thon (2008:38) defines ‘social’ immersion as the attention attributed to other players and “social actors” that the player encounters in a game. Some kinds of game can achieve their goals more effectively by being a single-player game only, for example horror games require that the player feel alone to enhance fear. Games that are played by the gamer on their own are also commonly seen as more immersive, partly because attention is not constantly called to people and commentary outside of the game world.

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<sup>19</sup> ‘Lore’ refers to the history and background of the game world, which forms a context that the game narrative and its characters occur in.

### **3.2 Conclusion**

Part of what makes games unique as an immersive story-telling medium is the extent to which players 'become' the character they are controlling (Turkle 2005:82). Immersion and suspension of disbelief create the possibility of projecting oneself into another character and taking on another identity, which is largely what enables immersion to result in a sort of plurality of 'self'. The features that have been discussed in this section enable a substitution of the player's real-world surroundings and stimuli with that of the game world. Together, these factors enable a new context in which the player can live out a different identity, thereby enabling plurality of 'self' for the gamer.

Following the above framework, Chapter 4 analyses those ludological and technical aspects of the game which serve to increase immersion and make virtual 'presence' possible, and Chapter 5 looks at the narratological and thematic factors which do the same.

## CHAPTER 4: LUDOLOGICAL AND TECHNICAL FEATURES OF BIOSHOCK WHICH ENABLE VIRTUAL ‘PRESENCE’

Having introduced the framework of significant features to consider when looking at game immersion and the extent to which virtual ‘presence’ and plurality of ‘self’ may be achieved for the gamer, it becomes necessary at this point to briefly introduce the games and their universes (Figure 2. Game crate 2016, artistic rendering) by means of a synopsis of each game (a full detailed explanation of each game can be found in Appendix A).<sup>20</sup> Thereafter, this chapter serves primarily as an analysis of the ludological and technical features of *BioShock* games and how they enable virtual ‘presence’.

This section uses the framework developed in Chapters 2 and 3 to look at how the *BioShock* trilogy uses ludological features to enable immersion<sup>21</sup> and makes possible the sense of virtual ‘presence’ required to take on the protagonist (a second ‘self’) and, in the case of the *BioShock* games, all of his or her counterparts (parallel identities, discussed in Appendix B).

### 4.1 Introducing the *BioShock* universe(s): A synopsis



Figure 2: Game crate. Pledges to fix *BioShock* remastered, 2016. Artistic rendering.

<sup>20</sup> It is imperative to read Appendix A in order to understand the nuances of each game that contribute massively to the theme of plural identity running through the narratives. The author strongly recommends that the reader do so before proceeding to read the analyses and interpretations that follow.

<sup>21</sup> As discussed in chapters 1, 2 and 3, high levels of immersiveness are required for virtual presence to take place. By commenting on levels of immersiveness, we are considering the potential for virtual presence which is necessary for the player to identify themselves as the avatar and thus undergo pluralisation of identity.

### **4.1.1 *BioShock 1***

*BioShock* (Irrational Games 2007) follows the story of Jack, a man whose aeroplane crash lands at a lighthouse in the middle of the ocean. Jack enters the lighthouse only to discover that it is the gateway to an underwater city called Rapture. Jack navigates Rapture with the aid of a man named Atlas and must fight off the mutated inhabitants to reach and kill a man named Andrew Ryan. Upon doing so, Jack is made aware that he is in fact the illegitimate son of Andrew Ryan, as well as the fact that he has been manipulated by Atlas using a trigger phrase and that Atlas is actually Frank Fontaine, whom the player must then defeat in order to complete the game.

### **4.1.2 *BioShock 2***

*BioShock 2* (Irrational Games 2010) follows the story of Subject Delta, a Big Daddy (a term referring to a man grafted into a metal suit and compelled with chemicals to protect Little Sisters). Delta traverses Rapture, seeking Eleanor – a little girl who was once his Little Sister and with whom he shares a link that dictates his survival.

### **4.1.3 *BioShock Infinite***

*BioShock Infinite* (Irrational Games 2013) follows the story of Booker Dewitt, a troubled war veteran who must enter the city of Columbia and bring back a girl named Elizabeth to wipe away his debts. Booker and Elizabeth must navigate a number of challenges, using Elizabeth's ability to move through time and space. It is revealed at the end that Elizabeth is actually Booker's daughter and that the antagonist, Zachary Comstock is a version of Booker Dewitt from another timeline. The city of Columbia is revealed to be the city of Rapture in another universe.

## **4.2 The ludological and technical features of *BioShock* and how they contribute to virtual 'presence'**

### **4.2.1 *Game format***

- The RPG format

The *BioShock* games are, by their very design, role-playing games. RPGs present the player with a particular character whose role the player must fill, and whose mind and actions become intertwined with that of the player. In the *BioShock* trilogy, the player is given the identity of Jack, Subject Delta and Booker Dewitt respectively; and the game is structured to fully involve the player within that identity. A number of techniques are used in the *BioShock*

trilogy to enable players to identify themselves as the role they are controlling. These are discussed below.

Firstly, the player sees through the visual perspective of the character they play and uses their character's hands to interact, which are constantly visible throughout the game as though held up before their eyes as they move around the game world (discussed in the section of this chapter regarding first-person shooters and heads-up display). Secondly, the player speaks with their character's voice (in the case of Booker Dewitt, but not Jack or Subject Delta, who do not speak throughout the games). Thirdly, the player is immersed into their character's environment (discussed in this chapter under aesthetic appeal and aesthetic fidelity). Fourthly, the player is presented with their character's moral conundrums (discussed in chapter 5, under choices). Lastly, the player must follow a narrative that comprises a portion of the life of the characters, following on from their past and deciding their future (discussed in chapter 5, under narrative). Consequentially, RPGs like *BioShock* are highly conducive to virtual 'presence' and plural identity, due to the measures taken to implant the player within the given role.

It must be noted that there is some difference between the three games regarding the type of role provided for the player to fill. In *BioShock Infinite*, explains creator Ken Levine (I.G. Ken 2010), the player takes on a fully developed character and one (mostly) knows who that person is:

[y]ou play an actual character, and not a cipher who is unaware of his own identity. You are Booker Dewitt, a particular character with an established history, with a voice you will hear as he talks to himself and others in the game.

Here, Levine notes that unlike the first two *BioShock* games, in which the avatar's reactions are not seen or heard, the avatar which the player takes on in *BioShock Infinite* is seen and heard reacting to visual stimulus separately from the input of the player, and is thus a more clearly predefined character for the player to become. While Booker is the more established of the three protagonists, the main character of each game does undergo development, and the player is presented with more information about their past as they proceed. In each of the three games, the gamer learns more about the role they are playing as the game continues, which in turn creates mystery and intrigue, thereby heightening immersion.



- FPS

The *BioShock* games are also first-person shooter games, in that the game-play is from a first-person perspective and, like other first-person shooters, the game-play consists mostly of using a combination of firearms, projectiles, supernatural powers and melee attacks to fight enemies in order to progress.

The style of weapon use in *BioShock* is similar to that of typical first-person shooter games. In *BioShock* 1 and 2, players can pick up all the weapons they come across and choose which to use from these. The player can also choose from their collected ‘plasmids’, which enable supernatural powers. In *BioShock Infinite*, however, Booker can only carry two weapons at once (but is equipped with his vigors – which enable supernatural powers – and his grappling device). Booker may exchange his weapons at any time when coming across others, but would need to find the weapon in the game world and swap another out of his inventory, and then search and swap again if he wanted to return to his original firearm. In this sense, *BioShock Infinite* is more realistic (which can strengthen immersion), but limits the player’s opportunities for character customisation (which can weaken the player’s identification with the avatar and thus weaken immersion and the possibility of taking on that identity).

Reblin (2015:78) notes that *BioShock Infinite* had fewer vigor options than the previous games had plasmids. This, however, is consistent with the theory mentioned by Reblin (2015:90) that the vigors are but a few plasmids brought over from the other universe of Rapture (one aspect of the significant theme of parallel universes, discussed in Chapter 5). There is also no hacking of safes and technology required in *Infinite* like there had been in *BioShock* 1 and 2, comments Reblin (2015:78), but Elizabeth’s lock-picking can be seen as the Columbian counterpart to this. The significance of Rapture-Columbia parallels is that it reinforces the idea of Rapture and Columbia being the same place in different possible timelines, and the resultant theme of plural identities within the game.

The functioning of health levels of the avatar in *BioShock* is also similar to that of most first-person shooters. In each of the three games, health can be regained by using medicine and ingesting food, which increases realism and thus immersion. The threat of low health, imminent death and loss of progress also makes the game more gripping and thus immersive. This applies more strongly in *BioShock* 1 and 2, in which the player is at greater risk and the character is alone, contributing to sense of fear and threat. The player loses more progress

and Jack/Delta awakens at a 'vita-chamber'. If Booker dies, however, he is revived by Elizabeth and loses some money. There is less progress lost and the player has a companion. Unlike the first two games, in *BioShock Infinite*, Booker has a shield feature in addition to his health. The shield takes a certain amount of damage before being broken and regenerates if Booker finds cover from attack. The sense of risk is thus lower in *BioShock Infinite* than in its predecessors – there is less of a threat to the avatar's health and the player is not alone in the game world for most of the game. This compromises some of the horror-related immersion (discussed in Chapter 5), but it may be a game mechanic to help the player become more invested in Elizabeth as a character, which becomes important for taking on the identity of Booker.

Super-human abilities are gained by collecting vigors (in *BioShock Infinite*) and plasmids (in *BioShock 1* and *2*). From *BioShock 2*, the player is able to 'dual-wield' (use at the same time) weapons and plasmids, comments Reblin (2015:58). A chemical called EVE is required for the use of plasmids, and salts are required for the use of vigors. These can be found around the diegetic game space. The fact that *BioShock* brought in the plasmids differentiates it from simple FPSs, because it means that players now have three components that they can mix and match according to their playing style – adding to the opportunities for choice (allowing the player to identify with the avatar and take responsibility for outcomes). Furthermore, gamers who do not like typical shooter-games but prefer the use of magic in fantasy games may be more interested in this playing style. This means that there are many ways to complete goals (thereby increasing challenge appeal and enabling the player to identify better with the role, increasing virtual 'presence' within that role and thus plural identity).

In *BioShock Infinite*, the player can also collect 'gear' – various objects that contribute to armour and performance in battle, as well as infusions, which permanently increase possible health, shield or salt capacity. In *BioShock 1* and *2*, similar upgrades can be found or bought from a Gatherers' Garden and managed at a Gene Bank. Those upgrades found within the diegetic game space, rather than purchased within a window at a 'vending machine' tend to be more conducive to immersion.

The fact that the *BioShock* games are first-person shooter games lends itself to the role-playing nature of the series. Players see the game world through the eyes of the character, as though they were in the character's body. Many measures are taken to encourage the player

to identify this viewpoint as their own, to become immersed within the role and to take the character on as an identity of their own. The selected weapons are visible in the characters' hands towards the bottom of the screen; and the hands can be seen taking certain actions, like reloading, knocking, pressing buttons and more when the players select these actions. When players use movement keys, the character moves as though walking through the game world and players are encouraged to feel as though it is they themselves who are walking through the space. When playing as subject Delta, players sometimes view the game world through Delta's helmet (Figure 3. Irrational Games 2010, screenshot by author). This is done to create the sense of actually being Delta – of viewing from his perspective.



**Figure 3: View from Delta's helmet. Screenshot by author. 2017. *BioShock 2*. Irrational Games, 2010.**

As discussed in Chapter 3, the fact that the FPS enables the player to move and act through the eyes of the character is particularly conducive to immersion within the game, and to identifying with the character being played.

#### ***4.2.2 Ease of use***

The user interface (UI) in the *BioShock* series is simple and easy to use: the controls are standard to FPS games (WASD, mouse click), making it intuitive, especially for someone who regularly plays this type of game. Anyone who has played an FPS before, or even an RPG will be able to play *BioShock*. The plasmids and vigors can also be assigned to numbers on the keyboard, allowing a large variety of attacks to be available within a very intuitive and

simple system. Like most games, graphics settings are available for most screen resolutions and computer speeds so that the hardware capabilities do not create limitations to the enjoyment of the game. In addition to the standard settings in place to keep the gameplay simple and intuitive, the game itself presents information in such a way as to do the same.

These factors are significant because the gamer can only be immersed in a role and within a game space (allowing the possibility of virtual ‘presence’) if there are no barriers blocking the use of the game or transferral of information.

- HUDs

The successful heads-up display (HUD) provides necessary information to the user without being intrusive, so that the information retrieval is seamless and does not disrupt immersion. As far as presenting the status of the avatar is concerned, the *BioShock* series is once again very similar to most games. The information needed by the players to manage their character and weapons overlays the screen constantly, and is non-diegetic with meta-representations according to Babu (2012:24). Babu continues to describe *BioShock*'s HUD as follows:

Health is portrayed as a non-diegetic element and a meta-perception. All plasmids are governed by one simple mana bar, showing the remaining amount of EVE or salts and there is no stamina feature. Health and stamina, as per usual in games is in the corner of the screen, with the health of enemies overlaying the view of the enemy NPC. Whenever the player is damaged, the health bar is decreased and screen-blurring appears.

Babu (2012:24) describes the ammunition counter in the HUD as an entirely non-diegetic numerical value on the bottom (left in *BioShock 1* and *2*, right in *Infinite*) of the screen with an icon. A compass needle in the top centre of the screen indicates the direction of the next checkpoint and is a variant of meta-representation (Babu 2012:24). Objects of importance are highlighted with a glow in order to indicate to the player to interact with them or pick them up (Babu 2012:24). Viewing from Delta's helmet is done in such a way as to be as non-disruptive as possible to the HUD and gameplay by only occurring during cut-scenes and when travelling under water.

In *BioShock Infinite*, when the player takes a melee hit from one side, there is blood spatter on the screen from that direction. There is also a crack overlay when the player's shield is broken. If the player jumps from too high, there is a temporary black overlay on the edges of the screen. Not only are these signs helpful as a source of information to the player who

cannot physically feel when these things happen or what side they come from, they are simple indicators which can be instantly understood in battle. Health bars over enemies are optional.

While a map can be brought up in the first two games, maps in *Infinite* only exist on boards within the game environment (Figure 4. Irrational Games 2013, screenshot by author). A key can be pressed to shoot an arrow from the avatar to the objective, showing the route.



**Figure 4: Diegetic map. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**

Information provided in the HUD is generally necessary for optimal gameplay, but if it is not presented in a user-friendly way or is distracting, it can greatly detract from immersion and thus the possibility of virtual ‘presence’. By using simple symbols and placement similar to that of most other games, the *BioShock* series has prevented their HUD from detracting from immersiveness.

#### **4.2.3 Challenge appeal**

The nature, types and difficulty of challenges and tasks within the game can contribute to immersiveness. There must be a sense of what Csikszentmihalyi (1991) calls ‘flow’ (a term referring to the ease with which game actions can be carried out to create a seamless link between player action and game action). Flow is influenced by the smoothness of technical

apparatus which influence the ease of use (including HUDs) as discussed in 4.2.2, the appropriateness of difficulty of challenges, and the nature of tasks to be completed.

Ward (2010:265-267) quotes the online commentary of a number of gamers in noting that *BioShock* creates a personal experience for the gamer, as well as successfully develops flow. Ward (2010:267) says that when a player is experiencing flow, their “awareness of the technical apparatus” becomes extremely low, allowing the player to be immersed deeper into the game world. The *BioShock* series achieves this in a number of ways:

Firstly, the games allow for general ease of use of the technical apparatus and the games’ interface, as discussed in 4.2.2. Secondly, for each of the three games, there are difficulty settings to suit the player’s gaming capabilities, so that the difficulty of the challenge does not exceed the capabilities or experience of the player, which would hinder enjoyment and possible immersion. In addition, tasks are sufficiently challenging and require some planning, but are not overly complicated or difficult, allowing the game to have a sense of flow and still allowing the player to gain a sense of achievement from completing tasks.

Additionally, big overarching challenges and small subsidiary tasks give the game direction and add to the narrative. To enhance flow, *BioShock* made the storyline and game-play rather linear. In other games, where linearity is not the case and game-play is more ‘open world’,<sup>22</sup> immersion is possible but flow may be challenged – the choice to do the main quest is left in the hands of the user whose decisions render it personally rewarding.

#### **4.2.4 Aesthetic appeal**

*“Irrational Games meant BioShock to be a ‘horrifying, sophisticated, visually stunning... experience that would leave players gasping for breath...”*

– Elizabeth Anne Reblin (2015:44)

The aesthetic appeal of a game (including its detail, impressiveness, beauty, horror and other factors) is influential for virtual ‘presence’ in that its capacity to create immersion is so high. The aesthetic appeal creates interest in the game world for the gamer, appreciation for the game, holds the player’s attention, and contributes to the character of the game space in such a way as to make it more rich and believable as a narrative device.

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<sup>22</sup> An ‘open world’ game is one in which the character can explore more freely and in which the space is usually much larger.



Aesthetic appeal and sensory fidelity (4.2.5) have been separated in this analysis because, while the two go hand in hand, a game can be visually interesting and impressive without necessarily being lifelike (for example *Borderlands: The Pre-Sequel* (2K Australia 2014)); and a realistic game can be lifelike and accurate to the senses without being extraordinary, beautiful, horrific or sublime. Thus, aesthetic appeal and aesthetic fidelity contribute in very different ways to how a player may be immersed.

According to Reblin (2015:32), when *BioShock* 1 came out, it was widely acclaimed for its artistic prowess, and while *BioShock* 2 did not receive quite as much praise, *BioShock Infinite* was once again very well received for its aesthetic work. The *BioShock* series can be commended on a number of factors contributing to aesthetic appeal: Firstly, ten years on from the creation of *BioShock* 1, the appearance of water in the game is still impressive by contemporary gaming standards (Figure 5. Irrational Games 2013, screenshot by author).

Secondly, light sources are also an important basis of aesthetic appeal in the *BioShock* games (Figures 5, 6, 7, and 8. Irrational Games 2013, screenshot by author). The use of warm or cool lighting, as well as contrast between light and dark can create atmosphere and even an environment that appeals to the viewer and is artistic. Light is also used to highlight particular objects or people in such a way as to create meaning about that character or item.

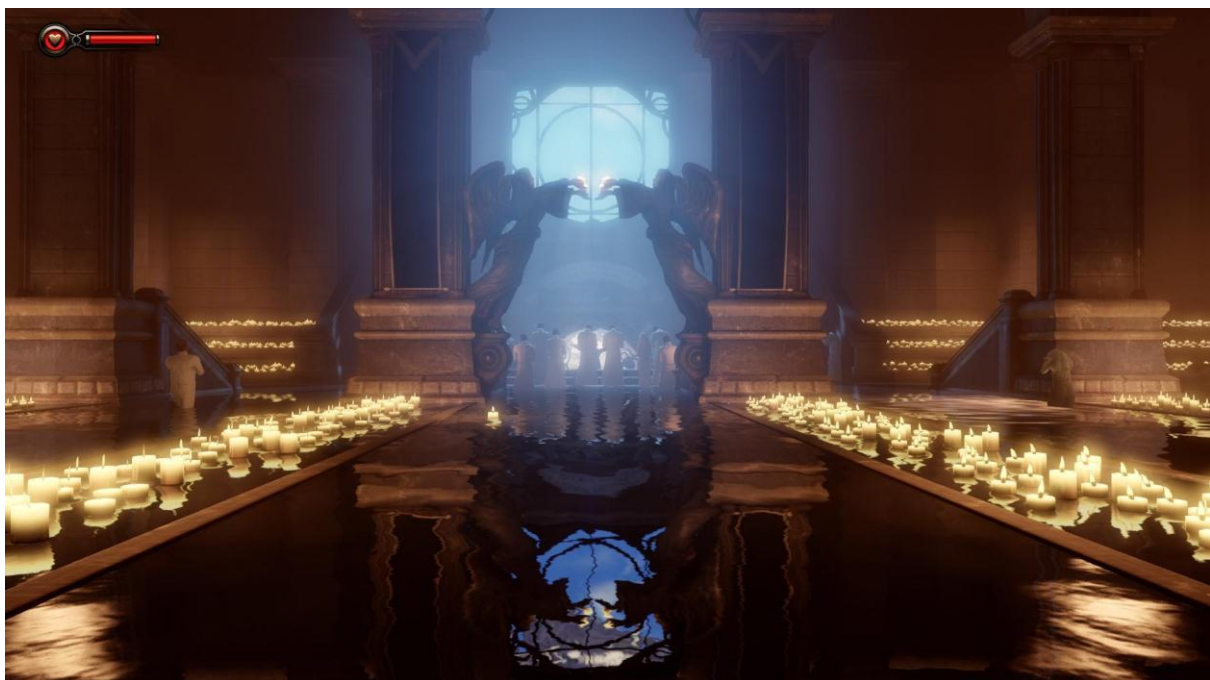


Figure 5: Entering Columbia. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 6: Columbian street. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

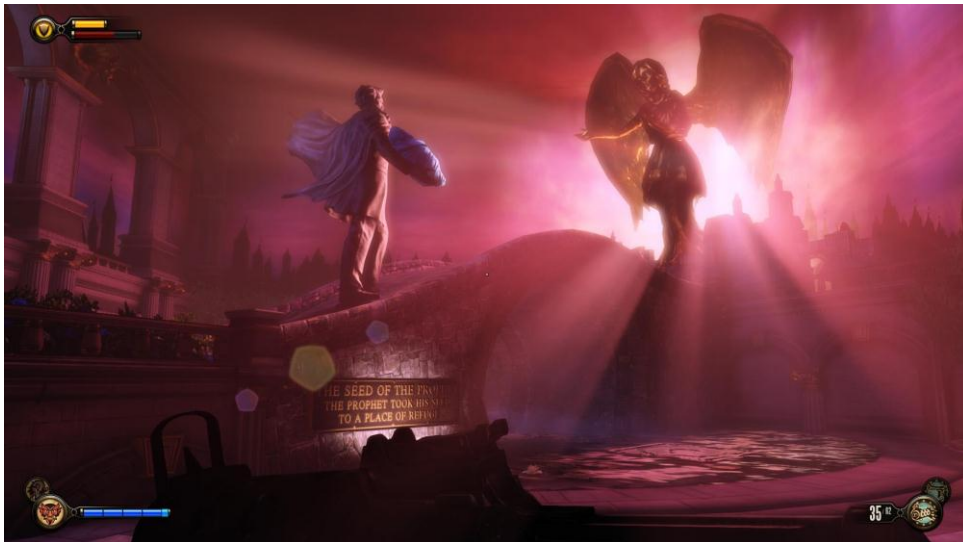


Figure 7: The seed of the prophet. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 8: Lighting. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Thirdly, the animation of the characters, and in particular the movement of characters, within the games is also a source of aesthetic appeal which the *BioShock* series has successfully rendered. The Big Daddies are lumbering and slow until they attack – whereupon they resemble a fast-approaching train. Gatherers (Little Sisters) are tiny bare-footed girls that flit lightly around and trill on about angels (in reference to dead bodies carrying the ADAM which they must collect). Splicers run in an erratic fashion, as an indicator of their deranged mental state and directionless aggression. In Columbia, the Handyman jumps great distances and uses his giant hands to attack the player. The members of the Fraternal Order of the Raven disappear and reappear, moving extremely fast making them difficult to target, while their crows fly and twitch in a threatening way. The police run normally like most people, while civilians often cower and hide. The use of movement in this way conveys character type, indicates whether the NPC is friend or foe, and adds depth to the beings in and around Rapture and Columbia.

In appearance, the Big Daddies are massive, with a weapon (usually a drill) replacing one hand, and headlights which glow green, yellow or red depending on the extent to which they find the player a threat. The Little Sisters wear dirty dresses, have sallow skin and glowing eyes, indicating their own nature as an abomination and creating a comparison between normal little girls and these which have been experimented on and mutilated. The splicers often wear masks and are covered in blood, wielding weapons like guns or wrenches. The design of these and other NPCs indicates the madness of Rapture. In *BioShock Infinite*, the civilians wear normal clothes for the time period and the police wear uniforms, while the *Vox Populi* wear more tattered and militant gear, decorated with red cloth and occasionally masks.

More notably, Elizabeth's clothing and hair changes throughout the game in accordance with her mindset (Figures 9 and 10. Irrational Games 2013, screenshot by author). At the beginning when she is hopeful and light-hearted, her hair is long and tied back neatly, her skirt and blouse clean. As the game progresses her clothes get dirty and tattered. She later has an open collar, consistent with all her movement and running. At one point Elizabeth tears some material from her skirt for Booker's injured hand, which she wraps up (visible on the avatar of Booker) and her skirt remains torn. After killing Daisy Fitzroy, she cuts her hair off and wears her mother's dress, beginning to look angry, sullen and determined. The costume, thus, can become part of the narrative but can also indicate the psychological state of the character.



**Figure 9: Elizabeth revives you. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**



**Figure 10: Elizabeth. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**

Fourthly, the *BioShock* games have impressive use of textured surfaces to create varied and real environments (Figures 11, 12, and 13. Irrational Games 2013, screenshot by author) as well as to make rich settings and atmospheres. Clothing material, wood, tile, metal, carpet and stone are all rendered in a very real and saturated way, creating an aesthetically appealing environment. This operates hand in hand with the actions of surrounding objects, such as the sparks flicking from wires, and creaking metal sounds to add to the richness of the environment and make meaning about that space.



Figure 11: The raffle. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

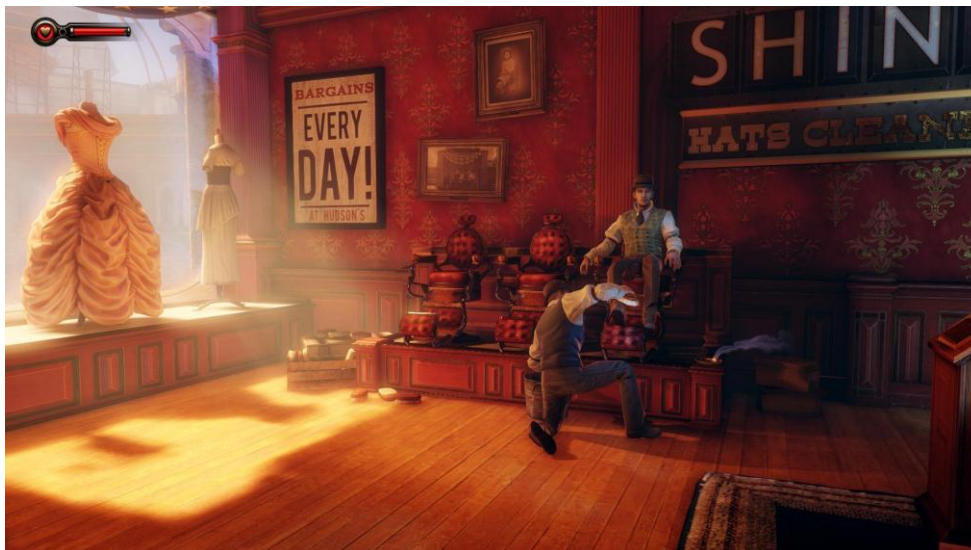


Figure 12: Columbian store. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

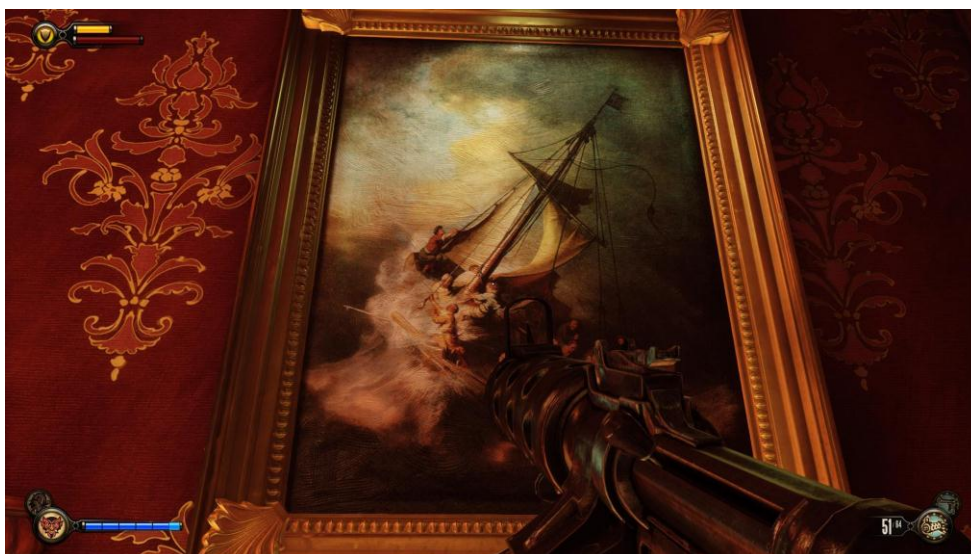


Figure 13: Textures. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Fifthly, the architecture, landscape and objects of Rapture and Columbia contribute as a source of visual interest. While Rapture's environment consists mostly of water and metal, Columbia is comprised more of stone, wood and air space. Each game provides different areas characterised by different purposes and filled with different objects to create interest and diversity. For example, while *BioShock 1*, did not enable the player to move around outside of Rapture underwater, *BioShock 2* makes opportunities for this. This adds an aesthetically pleasing element while contributing to the experience of exploration of the environment and adding variety. While the journeys underwater are short and very linear, the experience of Rapture's underwater surroundings is a visually pleasing experience. Each level differs slightly so that there is a sense of progression, a varied environment and continuous points of interest, all of which support immersion.

Within these differing spaces, some of the most significant diegetic objects include signs, writing on the wall and posters which bring in extra information about the backstory and contribute to the richness of the environments (Figures 14, 15, 16, 17, and 18. Irrational Games 2013, screenshot by author). In Columbia especially, these signs are often reminders of the racial tension and political unrest. They are also used to create a sense of danger (discussed further in Chapter 5)



Figure 14: Mind your manners. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 15: A righteous wind. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

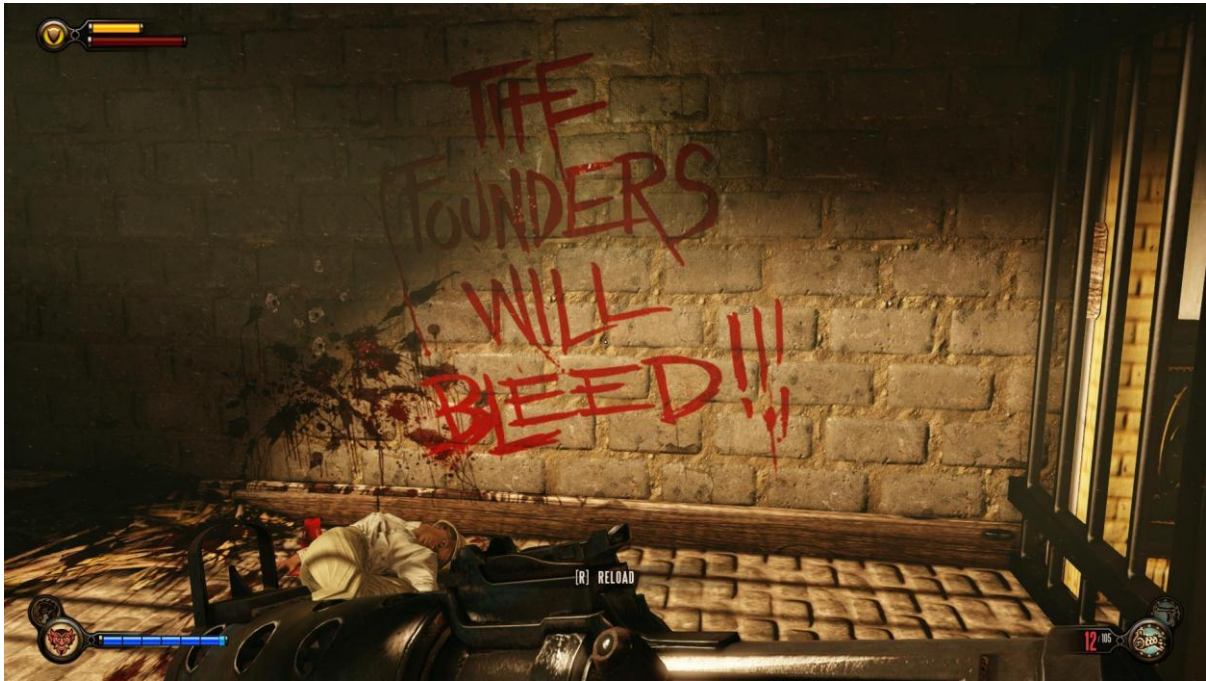


Figure 16: My family is starving. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 17: Forsaken. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.





**Figure 18: The founders will bleed.** Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

Lastly, audio is also a large contributor to aesthetic appeal. Music provides atmosphere and can create tension or evoke certain moods, but can also contribute to the story. For example, in *BioShock Infinite*, tears in time are used to bring in music from other time periods, which reinforces the storyline surrounding multiple universes and timelines. Music in *BioShock Infinite* also indicates the start and end of a gunfight – an exciting and fast-paced composition which ends upon the death of the last enemy in the battle. The music upon first sight of Elizabeth is sympathetic and delicate, while after seeing Chen Lin for the first time the music becomes mysterious and sad.

Furthermore, audio from objects and creatures can contribute to emotion and meaning in the story. Songbird's cry is simultaneously sad and threatening. When health gets low the player starts to hear the sound of a heart beating. When attacked by a Big Daddy, the latter produces a metallic roaring sound. The approach of a Big Sister results in her shrill cry getting louder as she approaches, adding to the urgency of the player as time runs out before her arrival. At some points, the radio talks about Booker (a form of diegetic sound information, contributing to the narrative), warning the citizens against him and contributing to the fullness of Columbia as a functioning city.

The combination of these graphic and auditory elements is used to heighten the emotion of certain situations, or even to heighten tension. In addition, sound and lighting is used to give important information about the setting, people and objects. An impressive-looking game is more likely to hold the attention of the player, while the care taken by the game makers is a factor that usually contributes to the player's appreciation of the game. Moreover, the general richness and impressiveness of a game and of the scenes and elements within it greatly contribute to immersion, and *BioShock* has achieved this in full measure. As such, the character of the game world and its inhabitants is made richer and given greater variety, which can contribute to the immersiveness of the game world and the virtual 'presence' of the player within it.

#### ***4.2.5 Sensory fidelity***

While aesthetic appeal deals with the impressiveness of sights and sounds, sensory fidelity deals with the extent to which these are realistic, life-like and plausible. The extent to which the gamer's sensory perceptions are akin to what they would be if gamer were actually there, is a large contributor to virtual 'presence' and is something for which most games, including *BioShock*, strive.

- Accurate visuals

The accuracy of the water and its movement in the *BioShock* series is an important factor in its appeal, because water is such a significant part of the game world, in Rapture and at the lighthouses especially. For example, if players run through water pouring from above them, their vision is blurry for a while; when looking up in the rain, the 'camera' gets droplets on the lens and the players' "vision" blurs. Raindrops can also be seen as they fall on surfaces and on other bodies of water, as well as in the air around the character (Figure 19. Irrational Games 2013, screenshot by author).

With regards to the naturalism of lighting in the game environments, Rapture needed to look as though it was under water – devoid of sunlight, with a green-blue tint from the surrounding ocean water, while Columbia needed to glow as though it were heavenly, and full of natural light as it sits high above the clouds. The shadows on walls and surfaces throughout the *BioShock* series are done successfully, with the movement, shape, density and surrounding light sources of characters and objects taken into account. By making light and water realistic, the game world becomes more plausible and immersive. The fact that the light and

water reacts and changes as the player moves through it also contributes to a sense of virtual ‘presence’, as the environment responds to the player’s action in the game world. The varied textures in the games not only create interest but are highly realistic. The ways in which light operates on shiny, carpeted, wooden, wet, slimy, stone and metallic surfaces all differ. The use of different materials is especially prominent in Columbia. The realism of the environment and of the people is improved by the careful use of textures and the sense of being within the game environment is more pronounced as a result.



**Figure 19: Raindrops.** Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

Attention to visual detail has also been shown in other ways: when the avatar ‘dies’ it actually appears to fall over, with the viewpoint of the player tilting sideways and plunging downwards. In battle – especially in *BioShock Infinite* – after a number of shots, the player’s pistol smokes and the barrel of the machine gun goes red hot. The sheen of flying bullets is also visible as the player shoots toward and alongside the avatar. Moreover, realism is applied for the operation of weapons and not just their appearance. For example, the player has to reload or else it will happen automatically during a fight – maintaining the realistic limitations of firearm use. If the player shoots an NPC in the head the latter dies much faster and in *Infinite*, the player can even shoot a hat off of the head of an NPC enemy. If the avatar takes a melee hit from one direction, the character is knocked sideways by the force of the hit. Such minor details can contribute greatly to the realism and thus immersiveness of the game. In these ways, the combat scenes maintain realism.



The realistic nature of a game's visuals can contribute greatly to the extent to which the gamers find themselves immersed and virtually 'present'. The players must be entranced in and convinced by their in-game environment in order for them to take on the role of the avatar within it.

- Accurate audio

A great deal of attention has been given to the design of audio in *BioShock*. Among other examples, the sound of water dripping can frequently be heard in Rapture, to signify the leaks; when Delta walks underwater around the outside of Rapture, the player hears the avatar breathing in his suit; the sound of water on the suit can also be heard if Delta walks under a leak and is commensurate to the amount of water hitting the suit. In *BioShock Infinite*, the music is used to signify the time period and location, and the player also overhears others' conversations while walking past. The sound of Booker's footsteps sounds different on tile from wood and if the player shoots someone that person's speech is interrupted. Ambient sounds in both Rapture and Columbia contribute to the realism of the game space, adding depth to the environment.

In order to study the use of sound as an immersive device, Ward (2010:267-268) conducted an interview with Emily Ridgeway, the audio lead for the first *BioShock* game. Ridgeway states (Ward 2010:268): "*BioShock* was all about immersion. We really wanted to lure the player as much as possible into thinking they [*sic*] were actually in an underwater city full of deranged citizens".

According to Ward (2010:268), Ridgeway thought the use of a voiceover to bring in information would ruin immersion if not properly given context and a place within the game narrative: "In *BioShock* it was crucial that all voices were explained and given a narrative context".

"Throughout the gameplay, Jack picks up recordings from the inhabitants of Rapture, which the player can listen to at any time. When played, a radio appears at the bottom corner of the screen with a person's portrait. This can be seen as a meta-representation since this device is explained through the game's plot, but is not located directly in the game space" (Babu 2012:24). Much like the previous *BioShock* games, the player of *BioShock Infinite* can pick up recordings in the form of Voxophones, which expand on the history and narrative.

Ridgeway (Ward 2010:268-269) believes that the most “satisfying games” are those in which the storyline of the character and the storyline of the game are interwoven and the same, as opposed to parallel. Ridgeway states (Ward 2010:269) that “early on, Ken Levine (the creative director and chief writer of *BioShock*) and the design team decided that they did not want to use cut-scenes (little movies that deliver story) because they believed cut-scenes broke immersion and made it harder for the player’s story and the game’s story to be as close as possible.” She continues (Ward 2010:269): “this forced Ken and the designers to be more creative about how they integrated story. They decided to use ‘audio-logs/diaries’ to convey the back-story and broadcast radio messages to convey the game’s present story and tell the player what to do”. Ridgeway adds (Ward 2010:269) that they put in significant effort to provide information without using voice – including posters, diegetic writing and “carefully planned scenes and environments”.

Mark Ward (2010:269) details the way in which Ridgeway was constrained by the fact that game designers usually require the enemy artificial intelligence (AI) to announce their actions because the player could be facing any direction when the enemies are cued. Ridgeway was able to bypass these constraints by focusing on the emotional tone of the AIs to announce their actions rather than having direct statements of their actions to signal an attack, which she felt would take away from immersion. Ridgeway (Ward 2010:70) added that by having the imminent danger signalled by tone instead of words, this could “in turn incite an emotional reaction from the player towards the AI”. Mark Ward (2010:270) explains that:

[n]ot only does Ridgeway’s technique employ voice performance as a form of metadata to be used by the player to monitor the state of game-play, but, by using the player’s own faculty for social cognition, Ridgeway is able to fold back-story into contextualized information for immediate use by the player. In this way, emotion, game-play, and narrative are understood concurrently, thus sustaining immersion.

Ridgeway (Ward 2010:271) also comments on her choices made in voice-casting in order to sustain immersion: “As far as voice-casting goes, on *BioShock 1* I was really looking for super-realistic un-gamey natural performance”. Ridgeway (Ward 2010:271) explained that she wanted the voice-acting to be emotive but not over-exaggerated, so as to optimally maintain realism.

Ward (2010:271-272) explains that in addition to the use of “communication through vocal affect” as a means of creating meaning within the game, Ridgeway has used spatialisation to

do the same. According to Stockburger (*DIGRA Level up Conference*, 2003, in Ward 2010:272) “[the game environment] can be understood as a collection of elements organised as culturally coded representations of space”. Ridgeway (Ward 2010:272) states: “For a game like *BioShock* the spatialisation is very important. It was used as a way to distinguish different voices and their function for the player”.

Here, Ridgeway is referring to the use of 2D and 3D sound. Radio voices are provided in 2D (so they move around with the player and do not have a location in the game world), and drown out the sound effects when playing so that the player does not miss important notices. 2D voices are flat, so it seems unnatural when used for dialogue, according to Ridgeway (Ward 2010:272). Commenting on the radios, Ruch states (2010:85) that “Jack simply picks them up as he goes along, thus avoiding the interminable dialogue exchanges in other story-rich games”. Reblin (2015:84) notes that Booker is the first one of the three protagonists who speaks. Booker makes comments on things he sees and screams when he is on a very fast SkyLine. Elizabeth also quietly says “wow” and “huh” at certain things she encounters when exploring the game world. The conversation between Booker and Elizabeth, especially, informs and guides the narrative, while also making their relationship more real.

Unlike the 2D radio sounds, the dialogue, explains Ridgeway (Ward 2010:272), is 3D, so that the voice is “positioned in the [game] world, it pans from left to right speaker as you move around, and can also fade out the further the player moves away from the source”. The 3D sound, according to Ridgeway (2010:272) is intended to sound as realistic as possible, but must sometimes be changed somewhat to suit the needs of the game design: *BioShock* required the enemy AIs to be audible from further away than they would be in reality in order to enhance “a sense of tension and fear”. According to Ward (2010:273):

Ridgeway’s use of 3D dialogue functions as an aid to perceptual immersion for the player, simulation of audition of real-world spatial characteristics, while the interplay between 2D and 3D can be understood to actively construct narrative point of view.

Ridgeway, says Ward (2010:273), “contends that the current hotspot in game sound development is not only the tussle between game-play and narrative, but also in communicating emotional content through the voice”.

The use of sound in these ways throughout the *BioShock* games adds to the realism of the game world and enables the player to feel as though they are within it. This improves the likelihood of the player taking on the identity and role of their avatar due to the believability and realism of their sensory perceptions. The gamer is made to be virtually present in the game space.

#### ***4.2.6 Social Appeal***

The *BioShock* games are playable only by oneself, allowing for greater immersion into the game (as discussed in Chapters 2 and 3), yet socialisation between the protagonist and NPCs is highly emotive and engrossing. ‘Followers’, a term used to describe NPCs who follow the protagonist around and usually provide some measure of aid, are renowned amongst gamers for getting in the way, especially in fight scenes and tight spaces. Elizabeth, on the other hand is helpful: throwing the player salts, ammunition and health packs. She also stays out of the way and can look after herself.

In addition to the smooth interaction allowed with Elizabeth by her unique following style, this allows for players to make some of their own decisions. Her reactions to the events of the game (Figures 20, 21 and 22. Irrational Games 2013, screenshot by author) are also extremely important for the social value of *BioShock Infinite*. Her behaviour towards the occurrences of the game keeps the player involved in the action and narrative and thus more immersed.

In an article on the Irrational Games website, the game developer’s newest employee at the time posted that one of the things a player should know about *BioShock Infinite* is that not every NPC attacks you on sight – the motives of the people in Columbia are not like the splicers of Rapture, they are far more complex and “their enmity – or their loyalty – cannot be taken for granted.” This means that it is left in the hands of the player to decide whether to trust or eliminate a character, leaving players with more choice and making them personally responsible for outcomes.



Figure 20: Elizabeth upset. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 21: Elizabeth angry. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 22: Elizabeth's reaction to Chen Lin. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

#### **4.2.7 Character customisation**

By the definitions given by Waggoner,<sup>23</sup> it is clear that the protagonists whose role is played by the gamer in the *BioShock* games are avatars and not agents because while the characters cannot be customised in appearance (and in fact are not seen throughout most of the game, which occurs in first-person perspective) they can gain skills, change weapons, customise their genetically modified powers and must make moral choices which change certain outcomes in the narrative.

The fact that players can customise their character to an extent by choosing their powers, their weapons, and some limited armour, allows the players to invest some of their own preferences and identity into the character they are playing. Being able to make a character their own allows for the players to be more seamlessly immersed in the role of the character, because there are no features clashing with the self-concept the players have to the extent that they are unable to identify. As such, being able to customise the character and make certain decisions about style of gameplay is a factor influencing virtual ‘presence’ within that role.

#### **4.2.8 Conclusion**

The technical and ludological elements of the *BioShock* games operate together to encourage immersion to be strong enough that virtual ‘presence’ can take place. The physical operation and interfaces of the game, as well as the processes for gameplay, are conducive to intuitive use, while the diegetic objects and spaces are designed to be aesthetically powerful as well as realistic. The gamer is presented with sufficient challenges and choice to allow them to make their own decisions and play in a way that is most true to the role they believe they are taking on. The player is also provided with certain ways to change their style of gameplay and the characteristics of their avatar, which also enhances the extent to which they fall into the role. Lastly, the nature of role-playing games and first-person shooters is that the player experiences the game from the very eyes of the avatar and is encouraged to take on their identity.

In these ways, the *BioShock* series is able to create a sense of virtual ‘presence’ for the gamer. The player takes on the character and lives out possibilities within the game space that they may not otherwise have encountered with the real-world identities they possess. In this way,

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<sup>23</sup> Waggoner (2009:9) states that an avatar can be altered by the user, while an agent can only be controlled, and the “appearance and skills [of the character] never change throughout the course of the game”.

the identity of the avatar within the game world becomes a new additional identity of their own. The relationship between the virtual 'presence' that is enabled by the technological and ludological features discussed in this chapter (and the narratological and thematic features discussed in the next chapter) and the plurality of identity of the gamer is discussed in Chapter 6.

## **CHAPTER 5: NARRATOLOGICAL AND THEMATIC FEATURES OF *BIOSHOCK* WHICH ENABLE VIRTUAL ‘PRESENCE’**

In addition to the ludological and technical features discussed in Chapter 4, the *BioShock* games possess narrative and thematic features which are equally capable of contributing to virtual ‘presence’ and plurality of identity of the player. This section uses the framework developed in Chapters 2 and 3 to look at how the *BioShock* trilogy uses narrative and thematic features to enable immersion and encourage the virtual ‘presence’ required for the player to take on the protagonist as an additional identity of their own.

### **5.1 Genre as immersive**

The nature of the first-person shooter (FPS) is such that the game is often fast-paced and thrilling, requiring quick reaction to danger. The FPS thus combines well with horror or sci-fi thriller elements. The *BioShock* series uses the nature of the FPS and elements of the horror genre to its advantage in order to create an immersive and gripping game world and storyline. According to Elizabeth Anne Reblin (2015:36), *BioShock*’s creators sought to “tell a mature, terrifying story”, and the original game pitch hoped to “scare the hell out of people”. Due to the ability of horror genre games to “manipulate certain key emotions” in the player such as tension and fear (Rouse 2009:20), the player quickly becomes immersed, physically reacts to the stimuli, and is virtually present.

It is important to note that the horror elements in the *BioShock* series are not unique to the series or even to games in general, but rather stem from a history of horror narrative and aesthetic to create an immersive (and in some cases sublime) response, as discussed in Chapter 3. Moreover, while not all narrative and aesthetic elements used in the *BioShock* series exist to induce fear in the gamer and not all the hallmarks of horror games (discussed in Chapter 3) are present, the games make use of several elements of the horror genre to capture the player and to create a sense of the disturbed nature of the game world and its inhabitants. The following paragraphs discuss the horror elements that the *BioShock* games possess.

#### **5.1.1 Horror elements in the *BioShock* games**

The first of the horror elements used in the *BioShock* games is ‘jump scares’, a frequently used term among gamers which describes occurrences in a game where something suddenly happens to give the player a fright, most commonly involving the appearance of an enemy



seemingly out of nowhere. In *BioShock* for example, there is an instance in which the player is walking through an abandoned medical ward and sees the shadow of a deranged surgeon on the wall, but as the avatar approaches the lights go off and when they come back on the shadow has gone, implying that the insane surgeon is hiding in the room with the player. He jumps out of a cabinet soon after and attacks the avatar. When a player is given a real fright by an in-game jump scare, it is a sign that they are immersed to the point of virtual ‘presence’ and are responding with a physical and mental state of fear.

The sublime is evoked here because of the perceived threat to the player’s safety and the heightened urge for self-preservation that it brings about. As noted in Chapter 3, Garth McIntosh (2015:4,18) argues that the fact that horror games can evoke a sense of fear enables them to bring on a sense of the sublime sense of pleasure and transcendence in the rush that comes from the realisation that the threat is over. Thus, the sublime, insofar as it is the “strongest emotion which the mind is capable of feeling” (Burke [1767] 1909:58-59), is likely to bring about an intense sense of immersion and virtual ‘presence’.<sup>24</sup>



Figure 23: Shadow on the wall. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.

<sup>24</sup> It should be noted that Burke (1767) deals with a more comprehensive interpretation of sublimity with an emphasis on awe, whereas here the focus is on fear of threat and elation experienced after survival.

Thirdly, sound is also used as a contributor to fear and danger. The sound of footsteps behind the player can create a very threatening feel to a part of a game in that it creates suspense and heightens focus and immersion. The shrill sound of Big Sister approaching getting progressively louder and louder heightens pressure to prepare, as well as tension and fear for the player. The senseless babble and shouts of the splicers contributes to their insane and threatening presence, while the metallic roar of the Big Daddy is intimidating and signals that it is no longer in a passive state but is prepared to attack. The ability to hear enemies from afar causes the suspense to heighten because the player begins to anticipate danger.

Fourthly, the creatures and enemies which the player must face are generally scary in appearance, movement and behaviour. According to Reblin (2015:36), the very look of Big Daddies and Little Sisters, “with their monstrous forms”, is an example of the scary aesthetic that the creators had aimed for in the first and second game. The guards of the mental facility in *BioShock Infinite* are fearsome, with sirens for a head. The mutated and raw appearance of the splicers is also a contributor to the abject horror.

Another addition to the horror feel of the game is the use of ghost-like forms (Figure 24. Irrational Games 2007, screenshot by author) who appear in the world of Rapture as figments from the past to add information about events and people in Rapture (Ruch 2010:86). While primarily used as a narrative device and to convey information, these ghosts add a sense of horror, the supernatural and unrest in Rapture. *BioShock Infinite* also uses ghostly figures in one chapter of the game (Figure 25. Irrational Games 2013, screenshot by author), in which Elizabeth’s adoptive mother, Lady Comstock is brought back as a spectre and raises the dead as ghostly attackers to fight off and “punish” Elizabeth. The threatening and abominable nature of these creatures can be very immersive for the player, especially when alone (i.e. without Elizabeth, a Little Sister or another NPC) because the player’s focus is heightened to avoid damage or being killed.



Figure 24: Ghosts of Rapture. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.



Figure 25: Lady Comstock. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

In addition to the sublime feeling created by the threat that these characters pose, a sense of the uncanny and the abject is also evoked. The uncanny arises through the uneasy familiarity of these humanoid characters, as they flick back and forth between the known and 'other'. According to Garth McIntosh (2015:37), the uncertainty of whether something is safe or to be feared is intrinsic to the uncanny. For example, the parental and caring relationship between the Little Sisters and their Big Daddy protectors creates a stark contrast with their frightening appearances and dark purpose, and the player becomes uncertain of their standing. The fact that the uncanny results in a loss of the player's own personal boundaries (McIntosh 2015:35) means that in coming into contact with characters such as these, the player loses certainty in their own identity and their own place – in which case the games allow for greater fluidity of identity. Later in the first *BioShock* game, players must turn themselves into a Big Daddy through mutilation and augmentation, and the players become the very thing that they were uncertain of.

The abject, on the other hand, lies primarily in the splicer characters and in the corpses found commonly in the diegetic game space. McIntosh (2015:39) details that Kristeva's abject is epitomised by the corpse and the dying body because it is what the 'self', as living, must make the 'other' and reject in order to survive. In Kristeva's idea of the abject, there is "a literal breakdown between the subject and object" (McIntosh 2015:40). In this sense, the ghosts encountered, who are no longer living, must also be a form of the abject. Those characters who are monstrous because of mutilation and deformity – the splicers, the Big Daddies, the little Sisters, the Handy Men, and more – also exemplify abject because they represent what it is to not be whole, to have one's body and one's identity as human broken down completely until there is nothing they recognise about themselves and the 'other' exists within themselves (McIntosh 2015:39).

Fifthly, the diegetic spaces themselves have a horror value. The hospital ward in *BioShock 1*; the mental asylum in *BioShock Infinite* (Figure 26. Irrational Games 2013, screenshot by author), the experimental laboratory of Elizabeth's tower; the Little Sister wing and the Big Daddy labs are just a few examples of areas that are designed to be disturbing. The combination of darkness, tight spaces and threatening aesthetics cause some levels to be particularly conducive for horror. The architecture of Rapture itself is especially favourable to a sense of fear, because it uses tight spaces and closed level designs to encourage a feeling of claustrophobia and entrapment in the player (Reblin 2015:44,92). Some aspects of the

space interact in a threatening way to the movement of the player – for example, upon entering the lighthouse, the door shuts behind you, adding a feeling of entrapment to the game space as well as the idea that you are not alone.



Figure 26: Asylum. Screenshot by author, 2017. *BioShock Infinite*. Irrational Games, 2013.

Furthermore, within these spaces, the *BioShock* games use a number of dark missives scrawled on surfaces to add a sense of danger to the game. Phrases like ‘Lamb is watching’ and ‘Steinman kills’, often combined with blood spatter, tell the gamer that the enemy is near and very, very dangerous (Figure 27. Irrational Games 2010; Figure 28. Irrational Games 2007; and Figure 29. Irrational Games 2013, screenshots by author). Once again the sublime is triggered through fear and the need to preserve the character (McIntosh 2015:43).

The shock factor gains an important role in these spaces, so objects and compositions of objects tend to be disquieting – including dead or mutilated bodies; organs on tables; evidence of violent death and more (Figure 30. Irrational Games 2007; Figures 31-35. Irrational Games 2013, screenshots by author).





Figure 27: Lamb is watching. Screenshot by author. 2017. *BioShock 2*. Irrational Games, 2010.



Figure 28: Dr Steinman. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.



Figure 29: Specimen morphology. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 30: Smuggler. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.



Figure 31: Bloodstain. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 32: Don't disappoint us. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.





Figure 33: Pub violence. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 34: Do you see us coming? Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 35: The torture of Chen Lin. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



These are many instances in which the *BioShock* games provide thrills and a sense of threat that can be very gripping, intense and immersive for a player. Moreover, by appealing to the sense of horror in the player, the *BioShock* games invoke psychological, emotional and physical responses in the player, which (as discussed in later sections of this chapter) can lead to such high levels of immersion and bodily response that the player is virtually present and reacting as though they were the avatar physically there.

## 5.2 Narrative

According to Joseph Nelis (2013:2,3), narratology stems from the Structuralist and Russian Formalist movements, and it studies the representational and structural aspects of narrative. He notes (2013:3) that French theorists like Roland Barthes and Gérard Genette have since rejected the “deterministic formulations in favour of analysing the structures at work beneath the surface of narratives”. Nelis (2013:12) draws on Roland Barthes to explain that meaning is created in narrative in the following ways: the narrative poses a question or an enigma for the audience to seek the answer to; it identifies actions and events within a story; and it holds connotations and connections with bodies of knowledge outside of itself. According to Nelis (2013:13), Genette’s approach focuses more on the concepts of time, mood and voice; thereby considering issues like the order (the sequence of events chronologically and textually) and voice (who narrates and what their role is in the story).

The narrative of a text is particularly powerful as an immersive element because it structures information in such a way as to keep an audience involved and wondering how the events will play out. Janet Horowitz Murray (1997:71) comments that as a story-telling medium, video-games are especially conducive to creating immersive narratives because their “spatial and participatory” features allow the audience to explore three-dimensional worlds and interact with items and characters within these worlds (Nelis 2013:4). The player gains agency within the narrative in ways that most other narrative mediums do not allow.

While computer games in general are capable of conveying narrative in new ways from the story-telling media that came before it, Reblin (2015:32) explains that “what set *BioShock* apart from the other shoot ‘em up of the day” when it first came out was its narrative. According to Reblin (2015:33), “a common criticism towards first-person shooters is their stories often taking the back seat to ultra-violence”, while “Ken Levine found a way to have both the story and the shooting ... re-inventing the first-person action RPG”. The narrative

itself in *BioShock* is thus generally argued to be very successful. The following section discusses the structural format of the *BioShock* narratives.

### 5.2.1 Narrative structure

*Robert: Why do you ask 'what?'*

*Rosalind: When the delicious question is 'when?'*

*Robert: The only difference between past and present...*

*Rosalind: ...is semantics.*

– Robert and Rosalind Lutece, *BioShock Infinite*, Irrational Games 2013.

Narrative structures usually differ somewhat from genre to genre in games. While the *BioShock* series makes use primarily of survival horror tropes and objectives (in which the player must usually escape a certain place and the events of the narrative follow the necessary steps to survive or get out), the narrative structure has most in common with that of a detective mystery in that timelines and temporality are manipulated to control the divulgence of information.

In his chapter entitled *The Study of Literary Formulas*, John G. Cawelti (1976:124) states that Edgar Allen Poe structured the formula for the detective story in the 1840s, and that since then many stories have made use of his formula. Cawelti also notes (1976:126) that suspense, identification (with the characters, especially the protagonist) and the development of a “slightly removed imaginary world” are the three techniques used most commonly in fictional literature of all genres. In a good detective story especially, says Cawelti (1976:126) the writer must “maintain a complex intellectual suspense”. Gordon Pradl (1984:3) states that in order to uphold this suspense and deliver information tactfully in small pieces, the mystery novel usually has two timelines.

According to Adam Ruch (2010:84), like a mystery novel, the narrative structure of *BioShock* is two-tiered: it creates two timelines – the here-and-now (which follows the current narrative as the player moves through it) and the past-leading-to-now (which describes the series of events that led to this point, giving crucial background information to allow the player to come to conclusions and put two and two together),<sup>25</sup> which converge to explain what really

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<sup>25</sup> Initially, the protagonist arrives in Rapture or Columbia and knows little to nothing about why they are there and what brought the characters to this stage of their life. Information about past events is gradually revealed to the player via recordings, commentary, diegetic objects and even posters. The gamer must use these clues to piece together what happened and to anticipate what is coming in the current sequence of events.

happened. This sense of mystery and intrigue can be highly immersive and can act to make the player more aware, perceptive, and gripped with the game world. The unknown and the eerily familiar, which the *BioShock* games present through similarities with the real world or even between Rapture and Columbia, also creates an uneasy and uncanny feeling for the player.

Ruch adds (2010:84) that this use of two timelines is also common among fictional worlds that have complex and rich back-stories which inform the events of the present narrative. He says (2010:84): “*BioShock*’s timelines, narratologically speaking, are *anachronies* in Genette’s terms – techniques of altering the flow of time in order to deliver story material”. Ruch says (2010:84) that this is done in order to create alternate realities for the player to consider. Ruch’s statements are more pertinent than he may have realised: the games make use of these anachronies to contribute to the theme of parallel universes and thus allows interrogation of plural identity in the very narrative structure of the games.

As such, the narratives of the *BioShock* games are linear in their gameplay structure – the player must complete events step by step along a single path – but the plot reveals information by jumping around in time to unfold the chronological events of the story piece by piece.<sup>26</sup> By doing this, the games create a more suspense-filled and player-driven way of discovering information, enhancing virtual ‘presence’. The player can progress through the game without picking up the pieces (for example, by not picking up the voice recordings, or clues in the surrounding environment) – the game leaves that decision to the player (Nelis 2013:36). If, however, players choose to continue to look for these clues, they will unfold the story on their own and the information becomes their own personal discovery. This enhances player participation and thus immersion: they are largely responsible for their own search for answers in the narrative. According to Nelis (2013:11), the creator, Ken Levine, wanted players to “pull content” rather than to push content at them so that players could create the story in their own mind as though they were really there. Nelis (2013:37,38) comments that for these reasons, *BioShock* seems to use Espen Aarseth’s (1997:91,92) aporia-epiphany model of ergodic literature:<sup>27</sup> the ‘aporia’ exists in the form of all the information the player

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<sup>26</sup> Gordon Pradl (1984:3) explains that while in everyday life, people generally convey a sequence of events in the order it happened, “in complex works of fiction, a distinction between “plot and ‘story’ evolves” in that the plot rearranges the timeline to reveal the story and allow the audience to “rediscover the original events”.

<sup>27</sup>Espen Aarseth specialises in computer games and electronic literature. His term ‘ergodic’ literature refers to any literature that demands “non-trivial effort” to understand and progress through (Nelis 2013:37).

finds which adds to the story, while the epiphany arrives when these are eventually replaced by the realisation of what has happened. The game thus encourages the player to continue in order to figure out answers, which is itself a very immersive feature. As such, explains Nelis (2013:38-39), *BioShock* uses Aarseth's concept of the 'labyrinth' – meaning that the narrative is simultaneously linear and open-ended.<sup>28</sup>

It must be noted that each *BioShock* game simultaneously has its own narrative and comprises a part of a larger story that exists beyond time itself, across timelines and universes. In a post on the official Irrational Games website before the release of *BioShock Infinite*, Ken Levine (I.G. Ken 2010) stated the following about how it fitted in with the narratives of the previous two games:

It is a sequel. But it's also not a sequel... When we completed the original *BioShock*, we felt we had said all we wanted to say with Rapture, but we weren't done with the idea that is *BioShock*. *BioShock* is so much more than a story of a single place or time.

The *BioShock* series, therefore manipulates temporality as a tool within the narrative, which exists beyond time, beyond a single universe. Despite the linear structure of the gameplay events and tasks, there is a distinctly non-linear story being told.

### **5.2.2 Ludonarrative synchronicity**

In addition to narrative structure and content, the extent to which the ludological elements and narrative elements of the games are effectively combined can also greatly affect immersion, and thus potential for virtual 'presence'. Reblin (2015:v) explores "the relationship between the narratological and ludological components in the *BioShock* trilogy that went into creating its unique experience as a player-driven narrative". Reblin looks, in particular, at the "ludonarrative synchronicity" of the games – meaning that she is interested in the moments in which the "narratological elements of the game converge with the ludological elements in a harmonious fashion" (2015:vi). The problem with this approach is that 'harmony', as Reblin calls it, can be a very relative and subjective issue. What appears 'harmonious' from one interpretation and experience of the game for one player, may be jarring and incoherent for another. It is important to take this into account when looking at narrative.

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<sup>28</sup>Aarseth's concept of the 'labyrinth' is, according to Nelis (2013:37) when a narrative is "both multicursal and unicursal at the same time, exhibiting linearity and open-endedness at once".

Firstly, while Reblin (2015:91) perceives a ludonarrative dissonance in the *BioShock* games, this study argues otherwise. According to Reblin (2015:91,92), *BioShockInfinite* has the biggest dissonance of the three games, because levels are “brutal warzones”. Reblin (2015:91,92) argues that it would have been better to program Booker to be able to “hide and sneak”, because she believes the game’s narrative essentially follows an escort mission.<sup>29</sup> However, unlike most video game escort missions, the NPC Elizabeth looks after herself, she cannot get hurt and there is thus no need to sneak. Within the narrative of *BioShock Infinite*, everyone is on the lookout for Booker so sneaking in a populous city would not be plausible. Nonetheless, Reblin is incorrect in that Booker *is* able to evade in some cases and, in less populated areas like the mental asylum, sneaking past enemies is possible. Moreover, the game is an FPS at heart and to compromise this would be to compromise its purpose and much of the fast-paced danger-related immersion. Lastly, senseless violence is an important part of *BioShock Infinite*’s themes and backstory. In this sense, the game design supports the narrative, and does not clash with it.

Secondly, Reblin (2015:91) feels that dissonance in *BioShock Infinite* especially arises from an inability to maintain immersion – firstly because Elizabeth sometimes looks “directly at the screen, breaking the fourth wall”. However, this study holds that Elizabeth breaking the fourth wall can instead be considered to enhance immersion. The fourth wall is a common term in cinema to denote the direction from which the audience is observing (Auter & Davis 1991:165). If the fourth wall is broken by a character speaking to the audience across this line, this immersion is often said to break because the audience is directly addressed and thus reminded of their place outside of the story space (Kubinski 2014:115). However, in games, the player is not a watcher, but an actor. The player *is* Booker and *is* there, in his body, able to move around in the space. If Elizabeth looks at the player directly, is it not a confirmation of ‘presence’ of the player in the game world? For this reason, this study argues that by breaking the fourth wall, *BioShock* enhances immersion and virtual ‘presence’, and players are directly addressed as the protagonist whom they are playing. Elizabeth’s role in the game is therefore not only companion, follower and aid but also a highly important narrative device: your relationship with Elizabeth guides the narrative, without your realising its significance until the end.

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<sup>29</sup> An ‘escort mission’ consists of the player guiding an NPC through a task or level. This can include transporting the NPC from point A to point B, or protecting the NPC as they complete certain actions. The fact that Booker’s initial goal is to collect Elizabeth and return to New York is an example of this.

Thirdly, Reblin feels that immersion is lessened in *BioShock* because there are too many quick-time events rather than allowing players to perform the action themselves. Reblin makes a valid point, in that *Bioshock Infinite* makes use of more quick-time events than the other two games – an alternative to cut-scenes in which the game does not become entirely like a movie in which the player is an observer but in which some measure of control is taken away, limiting virtual ‘presence’. Contrarily, it can be argued that the fact that the tasks are pointed in certain directions, and choices are limited within these, serves to reinforce a strong narrative, so as to enable the twist at the end of the story. The limitation of free choice in order to direct the narrative may lessen the virtual ‘presence’ of the player within the role, however if it were just open world, players might not experience the immersive impact of the narrative that they do in the *BioShock* series.

Furthermore, while linear programs are known to take some control away from the player, this is intrinsic to the idea of the *BioShock* universe(s): players think that they are in control, but they have been misled and are really following a predetermined path or narrative (discussed further under ‘themes’). It is a testament to the game design that it is not just the story that does this, the game structure itself reinforces the idea that the players think they are in control but they are being controlled or predestined. Predestiny (discussed in 5.4) and the illusion of choice and control are thus a theme that recurs in the events of the story as well as the structure of the games (discussed further under ‘choices’ and ‘themes’). In this sense, the ludology of the games and the narratives work together to reinforce each other.

Fourthly, according to Reblin (2015:95), *BioShockInfinite*’s attempt to retain things from the previous two games (such as vigors and salts, vending machines and the level featuring Rapture at the end) causes it to lose ludonarrative synchronicity, while Reblin (2015:93) states that the fact that there is no Little Sister system in *BioShockInfinite* is one way in which the ludology and narrative are synchronised. On the other hand, without maintaining these elements from the past two games, *BioShock Infinite* would lose a lot of the substance backing up the themes of inter-dimensional travel. It is these jarring elements which hint at the other timelines in play – they seem misplaced because they are: they come from another time and place, which the gamer only understands fully towards the end.

Finally, Reblin finds the nature of the avatar in *BioShock Infinite* problematic. Reblin (2015:93) compares the avatars of the three games as follows:

...in *BioShock*, Jack is you. In *BioShock 2*, you are subject Delta but have the option to ignore his back-story and play as you will. In *BioShockInfinite*, you are Booker and the game constantly reminds you of this. The amount of knowledge you have in regards to your avatar's background is not a cause for a break in immersion necessarily. The difference is in the amount of agency you have in controlling the avatar.

It is true that Booker Dewitt is handed to the players on a silver platter. The role is defined for the players, rather than giving the players free reign to create their own role. However, the role of Booker is so rich and developed that the player adopts it anyway: the player becomes absorbed in the character depth created for them, rather than their own. The characterisation of the avatar thus becomes immersive in a different way from when there is room to create their own character: the role takes the player out of himself instead of putting the in a space to recreate himself.

Due to the use of deep back-story and comprehensive lore for the city and the protagonist, the linear progression of the story is still able to hold intrigue. The player takes part in a complex narrative, but does not write it. If the player has a question, there is a comprehensive answer. Each character is written with depth, history, and motive. There are details everywhere – if one looks at the signs and listens to voxophone messages.

### ***5.2.3 Choices within the narrative***

“We all make choices, but in the end, our choices make us.”

– Andrew Ryan, *BioShock*, Irrational Games 2007.

As discussed in previous chapters, choice is important for immersion and virtual ‘presence’ within games because it allows the players to apply their own morals and decisions, allowing them to identify with the role; and because it makes them personally responsible for the outcomes of the game. The idea of choice is one that recurs throughout the trilogy in a number of ways and has already been investigated by many theorists. According to Reblin (2015:32), “*BioShock* did not just have a complex and intricate story, but also the narrative altered based on the player’s experience”. Reblin continues (2015:32): “the choices you made changed the game, and not just in an immediate sense”. Reblin explains (2015:33) that “*BioShock*’s ending depended entirely on how the player chose to play the game”, and while it was not the first video game to do this, it was highly effective.

The first two *BioShock* games each have a very linear progression but ultimately, the player decides the outcome of the game. The player's decisions have an impact on the story's ending. The choice between killing or sparing certain characters is the primary way in which choice appears and these later influence outcomes of *BioShock* and *BioShock 2*. *BioShock Infinite*, on the other hand does not have alternate endings and there are no choices a player can make that will change the outcome of the story. However, all three games do make opportunity for small choices. The player can make minor changes in weapons, tools and upgrades. In *BioShock Infinite*, coins in a Columbian shop are placed under a sign saying 'on your honour'. The choice whether or not the player steals the coins will not affect the game, but it allows the player to be a certain kind of character more akin to what they want to be.

Through the course of the narrative, choices are posed to the player and these contribute to small personalisations in the game. The first of these is the raffle which Booker wins at the Columbia fair, giving him the choice of whether to throw the first baseball at an inter-racial couple tied up on stage or to throw at the announcer. If the player chooses the latter option, the couple appears later to thank him for sparing them, but if the player chooses the former option, the announcer congratulates him later in the game. Elizabeth also asks Booker to choose which necklace he thinks she should buy – the one with a bird or the one with a cage. Whichever he chooses will appear on the handle of a key later.

While minor choices and options throughout the game help to maintain the illusion of choice, the theme of choice actually presents itself most prominently in the fact that all three of the protagonists do not actually have as much free will as what initially appears. The actions of Jack, Delta and Booker are predetermined: Jack is made to take his actions through Fontaine's use of the trigger phrases; Delta is compelled to move forward because of his chemical connection to Eleanor; Booker's actions are predetermined by fate and have been repeated over many timelines. Nevertheless, the fact that Subject Delta has a measure of free will and a mind of his own as opposed to being part of her 'family' is largely what frustrates Dr Lamb about him (Reblin 2015:68). In particular, the illusion of choice has been of interest to many theorists and gamers of *BioShock*.

While Reblin (2015:73) argues that the theme of choice plays out through the entirety of *BioShock 2* and not of *BioShock 1*, and that *BioShock 2* concentrates more on futility of choice, this study holds that all three games carry the theme of choice (and most especially



fate, futility and lack of choice) throughout the narrative. This is so because, in *BioShock 1*, for the whole game until killing Ryan, Jack is under the illusion that he has choice but is being compelled by Fontaine. Ryan points this out to him and yet he still has no choice but to kill him. After Jack has found out about Fontaine and seeks revenge, he is still under a number of Fontaine's triggers, limiting his actions. He never gets to choose whether to kill Fontaine himself.

In *BioShock 2*, the theme of free choice carries through in the sense that Lamb wants the entire Rapture family to be part of a collective mind in which their individuality and own choices become void. Eleanor is supposed to become the host of these collective minds but has no choice in this matter. Delta has no choice but to save Eleanor due to his own programming.

In *BioShock Infinite*, the issue of choice is carried through the game because the entire Multiple Worlds theory on which the game is based hinges on a universe splitting off and being created for every choice made. The futility of choice is in the cycle of Booker and Comstock and that the only way to save the world is to prevent the choice from ever being made. The choices by Booker in the game make only minor differences and do not change any of the outcomes. Booker's choices are also shown to be predetermined with the flipping of the coin that always lands on the same side and with the use of phrases like 'He doesn't row'. Once again, the illusion of control and deciding one's fate is particularly important in *BioShock Infinite*. Ultimately, *BioShock Infinite* ties all the games together by indicating that Columbia and Rapture are parallel universes and that while some variables may change there are inevitable constants (always a man, always a city, always a lighthouse) and that for every choice made, universes exist to cater for each possible outcome, alluding to the futility of choice.

Despite the linear nature of the games, the fact that players can bring their own morality into the game in some regards, even if minor, is important for the player to be able to identify with their character and for emotional investment. The *BioShock* series is not the first to do this but they certainly do it very successfully. Being provided such choices contributes to the personal nature of the game and adds to the players' investment of themselves into the character, and thus their virtual 'presence'.

### 5.3 Themes

Aside from a compelling narrative structure, the content must be substantial, rich, evocative and emotionally stimulating in order to hold interest and create meaning for the player.<sup>30</sup>

According to Ken Levine, a *BioShock* game must possess two very important principles:

First, it has to be set in a world that is both fantastical and yet grounded in the human experience. Second, it has to provide gamers with a large set of tools, and then set them loose in an environment that empowers them to solve problems in their own way” (Reblin 2015:4).

This means that for Levine, it was important that the players be amazed by the environment, but more important that the players be able to connect with what they saw – issues had to be profound, universal issues that the players could deal with on a philosophical and emotional level. It also means that for Levine, the capacity for choice was important, as previously discussed. Levine wanted the player to personally connect: to engage completely with the game’s narrative and to become fully immersed in the experience. Therefore, the thematic depth of the *BioShock* games is a significant part of their appeal, especially as a first-person shooter, and in the capacity for virtual ‘presence’. The main themes of *BioShock* and their significance are discussed below.

#### 5.3.1 *Utopia and dystopia*

“A city where the artist would not fear the censor; where the scientist would not be bound by petty morality; where the great would not be constrained by the small! And with the sweat of your brow, Rapture can become your city as well.”

– Andrew Ryan, *BioShock*, Irrational Games 2007.

Firstly, the story contrasts utopia and dystopia. Both Rapture and Columbia start out as havens to those whose worldview is not catered for by the society of the time. All those who move there do so with the greatest hopes of living within a perfect society, but the city eventually falls into ruin as its own ideologies cause their downfall. Rapture, the objectivist’s haven and scientific marvel, has crumbled under the force of political division and fallen victim to its own devices. Columbia – the flying city-state built as a testament to American superiority, becomes an Eden to those hoping to escape the “Sodom below”. Both cities, having neglected and mistreated the lower class on whom they depend, hasten to ruin as their leaders resist the death of the values on which they built their city.

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<sup>30</sup> Here the study is differentiating between narrative structure and story substance – the themes, intellectual and emotional content which add to the story and to immersion in different ways from the narrative structure itself.

The contrast between the first experience of Rapture and Columbia – between dystopia and utopia is a powerful one. The player at first sees the two cities as complete opposites and only later is brought to understand how similar the two actually are (symbolic of the parallel universes theme and the futility of choice). Aside from the use of lighting to create the feeling of utopia and dystopia in Columbia and Rapture respectively; the content, back-story and objects in the diegetic game space aid this notion. While Rapture is filled with rubble, filth, protest posters, bloodstains and more, Columbia is initially presented with flowers, parades, cleanliness, playing children, performing bands and cheer. Unlike Rapture, which remains more or less constant throughout the player's experience of it, Columbia undergoes significant change as the player moves through the game. Its dark underbelly becomes more and more evident until the entire game space becomes a war-torn nightmare. On one hand it seems almost a pity when Columbia is in ruin and yet the player must face the circumstances that brought this about and the inevitability of it all, as part of the emotive and immersive experience.

The environments of Columbia and Rapture thus carry much of the story substance. Throughout the navigation of these cities, each level contains a twisted story that contributes to the history and character of a failed utopian dream. Aside from being an important carrier of the theme of utopia and dystopia, the environment itself is life-like (and thus immersive) because it possesses many of the features and details of a real town. The player can navigate through bars, boot-shiners, hospitals, rail systems, dining places, apartments: they possess everything one would expect from a fully functional and developed city. This adds to the believability of the environment and the game experience, and provides important information for the narrative.

### **5.3.2 Slavery**

The comparison between man and slave appears throughout the trilogy. In *BioShock 1*, Andrew Ryan expresses that a man chooses and a slave obeys, so as to comment on the way in which Jack has been made a slave to Fontaine because his choices are not his own. In *BioShock 2*, Subject Delta is a slave to scientific design, to the pheromones which control him, and to his programming as a Big Daddy. Booker Dewitt is a slave to destiny. *BioShock Infinite* also deals with issues of actual slavery by showing the treatment of people in the lowest classes of Columbia.

### **5.3.3 Race and class division**

In dealing with slavery, the *BioShock* games also deal with race and class issues. The treatment of Andrew Ryan and Father Comstock of their subjects in particular shows cruelty and prejudice. While Rapture's lowest classes are disenfranchised and neglected, the servants of Columbia are physically and mentally made to feel worthless, used as cheap labour, falsely accused of crimes and stoned for inter-racial relations. The *BioShock* games show the plight of the economic and racial underclasses.

### **5.3.4 Religion and anti-religious sentiment**

The *BioShock* games can be interpreted as anti-religious, as organised religion is incorporated in such a way that it seems cultist, extremist and closed-minded. Those who appear religious are often those who commit the greatest atrocities. Examples of this include the Fraternal Order of the Raven, the followers of Dr Lamb, Father Comstock's followers, and those of Comstock's wife. Furthermore, the marginalised underclass shows sentiments like 'God is not here' and has 'forsaken' them. In addition, Booker Dewitt who wants to be moral and hates his sins is the one who rejects Baptism, saying it will never erase what he has done, while the version of him who becomes the tyrannical Father Comstock and wants to destroy the world is the one who accepted baptism. Throughout the games, shrines to various leaders are made, likening them to deities, showing the power-hunger of humankind. The idea of the death of the 'self' (as encouraged by Dr Lamb) is in itself an anti-Christian notion.

### **5.3.5 Parent-child relationships**

Another repeated theme is the parent-child relationship. The relationships between Booker and Elizabeth, Comstock and Elizabeth, Big Daddies and Little Sisters, Ryan and Jack, Fontaine and Jack, Tenenbaum and the Little Sisters, Delta and Eleanor, Lamb and Eleanor, Lamb and the family, Elizabeth and Lady Comstock are just some of the many examples in which this relationship is interrogated. There are regularly tensions between characters and their biological or adoptive parents. For example, the games play on sensitive family relationships. The lost father-son relationship between Jack and Andrew Ryan is a sad issue, and is compared or contrasted with the way in which Jack deals with the Little Sisters (especially in the game ending where he takes Little Sisters to the surface and raises them). Jack may become a father to the Little Sisters in one of the endings. Similarly, the second and third games call on the player to be paternal towards Eleanor (because Delta is her Big Daddy, chemically assigned to her alone) and Elizabeth (who turns out to be Booker's own

daughter). The relationship between Elizabeth and Lady Comstock is also a difficult one, fuelled by mutual resentment – similar to the complex relationships between Dr Tenenbaum and the Little Sisters, as well as Eleanor and Dr Lamb. The games often deal with patricide, in that Jack must kill Andrew Ryan, and Elizabeth must kill Comstock and Booker.

### 5.3.6 *American identity*



Figure 36: Founding father masks. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

The *BioShock* games also deal with issues of American identity. Ken Levine (I.G. Ken 2010), stated that Columbia is “a creation of an America transforming from a regional agrarian collection of states into a world power with global reach.” The name ‘Columbia’ refers not only to the angel who appeared to Comstock but to the female personification of America. Booker Dewitt’s demons stem predominantly from his violent actions in historical events such as the battle of Wounded Knee and the Boxer Rebellion. The founding fathers are also a regular theme: in the Comstock Rehabilitation Centre, the inmates wear masks of founding fathers (Figure 36. Irrational Games 2013, screenshot by author); and when Booker first enters Columbia, people are praying to the founding fathers. The Fraternal Order of the Raven and other characters regularly demonise Abraham Lincoln for having freed slaves and the *Vox Populi* put Lincoln masks on their robotic war-machines.

The *BioShock* games are renowned for dealing with a rich array of subject matter. As such, the themes within these games contribute to a source of interest, emotional salience and immersion for the gamer. The most important theme, however, surrounds parallel universes and resultant plurality of identity. Due to the significance of this theme, it warrants the separate and more in-depth discussion below.

#### **5.4 The ocean is but a mirror: parallel universes, multiple selves and plurality of ‘self’ as a theme in the games**

*“One man goes into the waters of baptism. A different man comes out. Born again. But who is that man that lies submerged? Perhaps that swimmer is both sinner and saint until he is revealed unto the eyes of man.”*

– Zachary Comstock, *BioShock Infinite*, Irrational Games 2013

This section discusses how the idea of parallel universes in the *BioShock* trilogy ties into the ideas of parallel selves, first by looking at the reasons for the use of paralleling/doubling between the cities of Rapture and Columbia as a narrative device, and secondly by explaining what this means for the characters within the game and thus the significance for the player.

##### **5.4.1 *Down in a bathysphere and up in a rocket: parallels between Rapture and Columbia***

The cities of Rapture and Columbia, despite being aesthetically very different, display certain striking similarities. The player’s introduction to each world begins with an approach to a lighthouse in the middle of the ocean – the first (and later extremely significant) sign that the games may run in parallel universes. It is partly because of the fact that Rapture and Columbia are parallel that the characters within the cities can have their counterparts in the other world, opening up the idea of multiple selves and plurality of ‘self’. A full comparison of the similarities between the two cities can be found in Appendix B.

The fact that there are so many parallels and similarities between the worlds of Columbia and Rapture, as well as the characters within them, helps to reinforce the idea that identity is not singular, but plural. Identity is seen as something flexible and fluid. The notion of plural identity is taken in a largely literal sense in these games and recurs as a theme throughout. The effect of this on the player is that it encourages the player to think this way about their own identity, thereby encouraging the player to see the ‘self’ as plural.

### 5.4.2 *Parallel universes*

According to Ken Levine (I.G. Ken 2010), the game-makers were done with the story of Rapture, but not with the story of *BioShock*. The construction of similarities between Columbia and Rapture may have been in part to tie the seemingly different worlds together within one game franchise, but function in the narrative to subtly add to the fact that people in the story had crossed into different timelines, later informing what had happened to Booker Dewitt, the protagonist. The events that lead to Booker's arrival in Columbia are inseparable from issues of multiple worlds and multiple selves across these universes. *BioShock Infinite* makes use of Hugh Everett's Multiple Worlds Interpretation (MWI) of quantum mechanics<sup>31</sup> in order to link the worlds of Rapture and Columbia together, as well as unify characters across these timelines.<sup>32</sup>

The surface of the ocean acts like a mirror between the parallel universes of Columbia, the city in the sky, and Rapture, the city at the bottom of the sea; just as the water of baptism separates Booker from Comstock. The doubling of cities, features and characters acts to imply multiple versions of a single city and a single person. If any doubt is shed on the meaning of the similarities between the characters and cities (discussed in Appendix B), they are quickly expunged when Booker Dewitt, like Jack and like Andrew Ryan, is able to operate the genetically-coded bathysphere system upon travelling across universes to Rapture at the end of *BioShock Infinite*: a key moment which ties the three games together and makes the MWI applicable to the three as a whole.

Resultantly, in the case of the *BioShock* games, a single person can exist over multiple timelines at once – in some worlds similar to each other and in others very different. It is revealed to us at the end of *BioShock Infinite* that Booker Dewitt and Zachary Comstock are the same man, that the Lutece 'twins' are in fact the same person who communicated with their other 'self' across universes, and that Elizabeth exists in multiple timelines and all versions of her come to the same conclusion that Booker must die to kill Comstock. With the subtle hint of Booker's bathysphere operation, we also come to realise, at the culmination of

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<sup>31</sup> MWI refers to the notion that for every potential outcome of a situation, a universe is created in which that outcome is the one that occurs. This means that for every choice, a universe splits off for each potential outcome (Chu 2015:sp). When Booker Dewitt decides whether or not to be baptised to clear his sins, a universe is created for where he goes through with it and becomes Father Zachary Comstock, and one is created for his decision to reject the baptism, saying it will never erase what he has done.

<sup>32</sup> This is done by using the Lutece twins and their scientific work, but also through the use of parallels, constants and similarities to connect the seemingly separate worlds of Rapture and Columbia.

the three games to this point, that Booker Dewitt is Zachary Comstock, who is Andrew Ryan. That Rosalind Lutece is Robert Lutece; Fink is Fontaine; Daisy Fitzroy is Atlas; Elizabeth is Eleanor; the Big Daddies and possibly Delta are Songbird; Suchong is Chen Lin and finally, Columbia is Rapture.<sup>33</sup>

These similarities and differences are mediated and modified within the boundaries of the “constants and variables” identified by Elizabeth: “There’s always a lighthouse, there’s always a man, there’s always a city”. Infinity is shown to the player in a final level called ‘The Sea of Doors’, in which Elizabeth leads Booker through lighthouses, indicating that each light he sees is not a star but a door to another world (Figure 37. Irrational Games 2013, screenshot by author). Leading Booker through the lighthouses (Figure 38. Irrational Games 2013, screenshot by author), players actually see other versions of themselves from other universes doing the same. Within the parameters presented to the player, the potential for possible ‘other selves’ is infinite.

According to McIntosh (2015:19), Burke notes that “infinity has a tendency to fill the mind with that sort of delightful horror, which is the most genuine effect and the truest of the sublime”. McIntosh (2015:19) explains that the infinite simultaneously creates a sense of horror and awe because of its vastness.

As such, the very use of parallel universes, infinite possibilities and notions of the universe evokes the sublime and resultantly immersion and virtual ‘presence’ for the player. Within the game, the player is confronted with the enormity of time, space and possibility, and according to Francis (1999, in McIntosh 2015:20), “by holding the idea of such vast things within itself, [the ‘self’] also partakes of that vastness”. By presenting infinity to the player, the player’s own identity is opened up to all possible versions of itself.

The notion of ‘self’ here is integral: there is not just one ‘self’, one version of a person, but many – for each possible outcome of the character’s life and that of the world. The *BioShock* games thus seem to support Lester’s (2015:142) notion that identity is fluid and plural, as well as Sherry Turkle’s (1994:164, 1997:77, Mainwaring 2016:sp) belief that computer games enable us to try out other identities.

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<sup>33</sup> Jack and Delta cannot be the same person; and Lamb and Comstock cannot be the same person because they all existed in the same universe, but there are similarities between them, which unite the three games.





Figure 37: Infinite doors. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 38: All different, all similar. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

### 5.4.3 *'Split' personalities*

There are other conveyors of the theme of plurality of 'self' within the games. Split personality appears in the sense that characters may behave in a certain way and then suddenly change as though a switch had flipped in their minds. In this way, the 'self' is inconsistent and fragmented. An example of this can be seen in the Splicers of Rapture: they

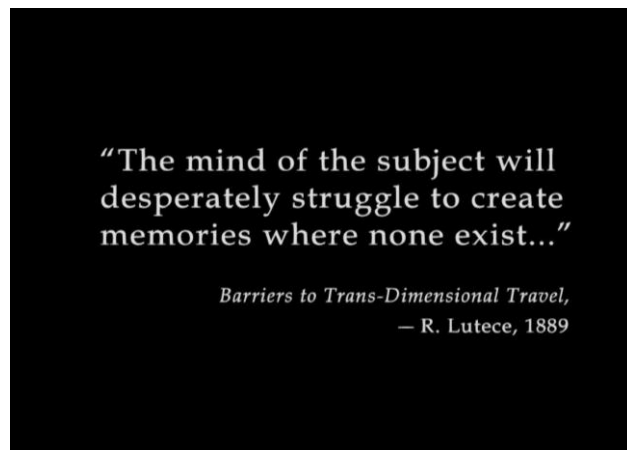
will attack the player and as the character dies, they may wail that it was an accident or that they never meant to hurt anyone. The effect of this is that the player never knows what to expect and is left with unease, and even a sense of the uncanny.

In addition, the parallel characters can be seen as multiple selves and the two parallel cities can be seen as parallel universes exhibiting similarities and differences: "...all different, all similar" (according to Elizabeth in the Sea of Doors scene of *BioShock Infinite*). The 'self' is shown to exist in a variety of forms over a variety of potential timelines and outcomes, referencing issues of plurality of 'self'. Thus, players are told that they can be anyone and simultaneously are everyone they could be. Yet, the ending of *BioShock Infinite* suggests to the player that "even if you played Jack as a moral man, somewhere else he was harvesting all those Little Sisters" (Reblin 2015:90), speaking to the issues of multiple selves but also to the futility of choice. The player is then told that with all the possibility in the universe to be whoever they choose, the choice is pointless. The linearity of the game in this sense, combined with the minor choices available in *BioShock Infinite* reinforce this notion.

#### 5.4.4 *Reawakening*

Secondly, the ways in which the protagonists, Delta and Booker especially, reawaken after death (for example, if the player loses in a fight) also recalls notions of multiple selves, multiple timelines, and multiple chances to relive a moment. This is aided by the use of Vita-chambers in the first and second games as checkpoints where the player can restart from if killed, and Elizabeth's revival of Booker if he falls in battle. The fact that Subject Delta also reawakens at the beginning of *BioShock 2* after many years, presumably dead, is another example of this. The 'self' does not occur just once but repeats.

#### 5.4.5 *Fabricated memories*



**Figure 39: Barriers to trans-dimensional travel. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**

Thirdly, in all three of the games, the protagonists have experiences with fabricated memory, stemming from different versions of themselves from the one they know. The 'self' Jack knows

himself to be – the memories that have been created for him in order to assimilate into a family outside of Rapture – is different to the ‘self’ that is where he really comes from and that is Fontaine’s property. Jack’s decisions are in fact those of Fontaine, which he thought were his own. This echoes in the situation of Booker, who progresses forward with a fabricated set of memories – a side-effect from his travel across timelines (Figure 39. Irrational Games 2013, screenshot by author) along a path he believes he is choosing but which in fact occurs in a predestined historical cycle, laid out for him by the Luteces and eventually changed by Elizabeth.

Booker also experiences memories from his old life but is left jarred because in crossing between the universes he has fabricated memories to align with the new world he finds himself in. Lastly, those characters who Booker shoots in some universes that are alive in others remember being dead and experience severe reactions to the memory, which in fact never happened to them but to a version of them in a different timeline.

This concept of fabricated memories versus real memories speaks to plurality of ‘self’: there is a ‘self’ and a set of memories the character has come to believe, as compared to their real identity and what really happened to them. In these games one can have a complete misconception about one’s own identity and who one is, in terms of the character one enacts in the game. The games thus send the message that even when the player thinks they have defined their identity, they may be mistaken. The rigidity of identity is questioned. As a narrative device, these misconceptions of identity help to create the twist and reveal at the end of the game. They also act to enhance the sense of abject: according to McIntosh (2015:39), it is “in the moment that the game character realises that nothing about himself, memories or even what he sees can be trusted, that he breaches the abject within himself”.

#### **5.4.6 Plurality within a single identity**

*[On the resurrection of Lady Comstock]*

*Robert: Like us all, Lady Comstock exists across time.*

*Rosalind: She is both alive and dead.*

*Robert: She perceives being both.*

*Rosalind: She finds this condition... disagreeable.*

– Robert and Rosalind Lutece, *BioShock Infinite*, Irrational Games 2013.

Fourthly, the games suggest that many (sometimes clashing) identities can exist within a single person. For example, attention must be given to Dr Lamb’s quest to end Andrew Ryan

and thereby end the 'self'. Lamb's quest to create a single identity, blended from all the memories in Rapture can be considered an example of plurality of 'self' within a single person, and the way in which it has become possible to see the 'self' as something that can exist manifold within a single person. Lamb's idea of 'rejecting the self' refers predominantly to a rejection of individual identity, which results in selfishness, and taking on plural identity – the identity of the family – of which Eleanor is to be the ultimate embodiment.

Another example is the Big Daddy, who as a character holds a number of identities: he is man, machine, father, soldier, human and robot. He struggles to differentiate between things he really cares about and things he is programmed to care about: there is a 'self' driven by free will and a 'self' driven by the force of his genetic coding. The occurrence of multiple conflicting identities happens in the case of each of the protagonists that the player is offered. A third example is the fact the Booker is violent and relies on this yet hates himself for it, and it is his very rejection of this part himself that caused him to become Father Comstock in other timelines.

#### **5.4.7 Metamorphosis**

Fifth, plurality and fluidity of 'self' is visible in the notion of metamorphosis of identity. An example of this is fact that Lamb's propaganda uses the metaphor of metamorphosis – often depicting butterflies to suggest that the Rapture family will be reborn when their identities and memories are stored within Eleanor (a term commonly painted on the walls by her followers). Metamorphosis also speaks to the way in which Booker Dewitt was reborn as Comstock (the version of Booker's 'self' that chose to be 'cleansed' of his past sins in baptism) and the ways in which the protagonists are all 'reborn' in one way or another – be it through the use of Vita-machines or Elizabeth's revival, or through issues within the narrative like Delta's forced suicide after which he reawakens. Metamorphosis is thus a symbol in the narrative to suggest the growth, change and rebirth of identity.

#### **5.4.8 Predestiny**

*Booker: I don't understand.*

*Elizabeth: We don't need to, it'll happen all the same.*

*Booker: Why?*

*Elizabeth: Because it does. Because it has. Because it will.*

- Booker and Elizabeth, *BioShock Infinite*, Irrational Games 2013

Lastly, because the games suggest that the worlds of Rapture and Columbia interact and that they are the worlds created by the same man on alternate timelines, they bring in a sense of inevitability. Some things will remain constant throughout all the possible timelines. An example of this is the fact that in each timeline, the Lutece twins ask Booker to flip a coin and tally the results, showing that Booker is fated to make the same ‘choices’ and follow the same predestined path. It is also a hint to suggest ‘multiple selves’ using all the other ‘Bookers’ that came before: for every mark on their board, a Booker Dewitt in a parallel universe somewhere has agreed to flip the coin and achieved the same result.

Similarly, predestiny is brought in when Robert Lutece speaks about Booker, saying that “He **doesn’t** row” (emphasis is the author’s own) indicating that he never agrees to help row in any universe where he has been in this boat, and again shortly after that when Robert and Rosalind exchange that “He is not moving”, but “He will...eventually”, and “I suppose he does”, to show that in every universe, Booker has eventually moved. This is a representation of the same sense of predestiny and to show how many times an alternate ‘self’ of Booker Dewitt has existed – reinforcing ideas of plurality of ‘self’. These events also act as a form of ‘foreshadowing’ to act as clues for the player to unfold in the mystery narrative structure.

Hand in hand with notions of inevitability and predestiny through these parallel universes, the *BioShock* games indicate that history keeps repeating itself. The evidence of this is partially because of the way in which Booker is once again killing innocents despite having rejected that part of his past, and partly because of the notion of multiple timelines occurring in cycle,<sup>34</sup> but also because of the alternate timelines in which certain events occur as ‘constants’ across all the universes. In addition, events repeat in that Andrew Ryan founded Rapture because he did not like the oppression and rules set out by those in power to limit people and yet his rule has resulted in exactly such limitations and he becomes a controlling tyrant. Similarly, Zachary Comstock founded Columbia because he did not like the immorality of the countries below and yet his city embodies immoral treatment of people based on prejudice and is just as bad as the world it rejected. His prejudice and militaristic control of Columbia is not only just like Ryan’s rule (his parallel counterpart), suggesting that

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<sup>34</sup> The cyclical notion of history in the *BioShock* games is primarily expressed through the fact that every time Booker kills Comstock, another universe exists in which he does not and the Luteces must bring Booker across a timeline to kill him once more. The only way to prevent the cycle is to prevent Comstock’s birth – i.e. to never let Booker make the choice of whether to be baptised at all.

the events will always repeat, but are a repetition of his treatment of Native Americans which led him to accept baptism and rebirth as Father Comstock to begin with.

The narrative implications of this is that the ending of the trilogy as a whole is left open because any number of the events and problems resolved throughout gameplay may recur in another universe. The futility of the player's actions is brought to light and the vastness of the infinite and resulted sublime is implicated once more, possibly enhancing immersion.

#### **5.4.9 Intertextuality**

The use of Hugh Everett's Multiple Worlds Interpretation of quantum mechanics is one way in which the games use intertextuality to build on the body of ideas within the game and to expand the lore beyond the borders of the game. The name Dewitt is not an accident: the name 'Booker Dewitt' is a reference to a scientist who has worked on the Multiple Worlds Theory, Bryce DeWitt, who recharacterised Everett's 1957 Relative State Formulation as the Many Worlds Interpretation (Murphy 2007:1). The fact that the games have parallel features, characters, and stories, and that the characters (and the player) can access different worlds through tears and through lighthouses in the Sea of Doors is an extension of this idea.<sup>35</sup>

Additionally, many of the main characters and objects are named after literary references – which adds a layer of meaning and intertextuality. Andrew Ryan is a reference to Ayn Rand, of Objectivist Randian Philosophy, who wrote a book called *Atlas Shrugged*, which is the reference that Atlas the character comes from. In Ayn Rand's *Anthem*, a world is presented in which the word 'I' is forgotten and collectivism is the main social structure – a possible source of ideas for *BioShock 2*. These references also add a level of meaning to the city itself by suggesting its possible fate. Reblin (2015:34,35) details the following connections between the texts:

Levine put his “useless liberal arts degree” to work and created a narrative influenced by a wide-range of “utopian and distopian [sic]” writers such as Aldous Huxley, George Orwell, and especially Ayn Rand. Rapture's founders based their tenants on the Randian philosophy of Objectivism and its core principles: individualism, freedom, rationality, and capitalism. The plot of *BioShock* shares multiple parallels to that of Ayn Rand's 1957 novel, *Atlas Shrugged*. Andrew Ryan's name a partial anagram for Ayn Rand, he shares her disillusionment in America after her escape from Russia, and he is also Rapture's

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<sup>35</sup>Reblin states (2015:75) that Comstock and Booker have their counterparts in the real world. Other characters such as Atlas and Ryan have their counterparts in literature.

John Galt. In *Atlas Shrugged*, Galt's Gulch is a "capitalist utopia... where the great titans of the era have been hiding. Here reside the preeminent industrialists, financiers, builders, jurists, scientists, composers, and artists who have vanished over a twelve year period". Dagny Taggart, the novel's protagonist, does not discover the hideaway until she is involved in a plane crash that just happens to occur near the location, similar to the opening of *BioShock* and Jack's happenstance upon Rapture.

The use of intertextuality in the *BioShock* games may be part of director Ken Levine's attempt to make the player "pull information" and construct the story in their own mind (Nelis 2013:11), giving them mysterious hints rather than outright details, or to give insight into the philosophies that informed the games' creation. The use of this intertextuality fulfills the 'reference' aspect of what Roland Barthes believes a good narrative requires (Nelis 2013:12).

Their effect on the narrative, is not only that they provide hints for the mystery narrative, and parts of the aporia that are later put together into the epiphany (Aarseth, in Nelis 2013:37,38,39); but that they also turn the games into evocative objects (Turkle 2005:3,82), creating points of interest and depth for the player to take away and ponder. Lastly, by using references from other texts, the games act to extent the connected parallel universes idea to outside the game itself. In the same way that Columbia borrowed research from Rapture, the two worlds borrow from our own. For the player, this can enhance the plausibility of the ideas posited in the games and blur the line between the game-world and their own.

## **5.5 Conclusion**

The messages of these concepts within the games are therefore that identity can be infinitely replicated; can be misleading or false; that identity can be manifold or have many aspects within a single person; that there can be many versions of what seems like a single person or identity; and that identity can change or undergo metamorphosis.

In these ways, plurality of 'self' becomes a theme in the *BioShock* trilogy and becomes a feature of the game which encourages plurality of 'self' in the player, because (due to the parallel universes and multiple versions of each character across the games) even if the gamer plays just one of the three games – taking on the role a single protagonist – the lore of the game implies they are taking on more than one character by extension: by playing the role of Booker Dewitt, one takes on not only his identity but that of Andrew Ryan and Father

Comstock. The player is actually encouraged by the game to have multiple identities and to believe that others have plural identity too.

Chapters 4 and 5 have centred on the ways in which the technical/ludological and narratological/thematic features of the *BioShock* series enhance immersion and virtual 'presence', and how the themes of the games encourage thinking of identity as fluid and multiple. Chapter 6 takes the findings of Chapters 4 and 5 and summarises them into the final argument for how the *BioShock* games encourage plurality of identity in the gamer.



## CHAPTER 6: PLURALITY OF ‘SELF’ IN THE GAMER: HOW THE *BIOSHOCK* GAMES ACHIEVE THE NECESSARY CHARACTERISTICS FOR VIRTUAL ‘PRESENCE’

Having discussed the ludological and narrative features of the *BioShock* games (Chapters 4 and 5) and how they have been structured to enable high levels of immersion, this chapter serves as a summary of the total effects of these techniques and concludes the reasons why they allow *BioShock* to so successfully enable virtual 'presence' and plurality of identity.

The chapter begins by looking at how features that allow high immersion can lead to virtual 'presence', then looks at how virtual 'presence' can enable plurality of identity. Finally, the chapter notes how the themes and narratives of the *BioShock* series compound the plurality of identity which the games enable.

### 6.1 Virtual 'presence' in the *BioShock* games

For the player to gain a sense of plurality of 'self' through playing a video-game character, and in order for this to be compounded by the narrative and thematic connections between the characters and game worlds, the technical aspects of the game itself must be immersive to the point that virtual 'presence' in the game is possible.

Mark Ward (2010:265) argues that “the digital technologies and audio-visual designs of videogames seek to immerse and engage the human *perceptual* and *emotional* systems, by creating an ‘emotion-machine’... that intensifies the player’s sense of *involvement* and *implication* in the scenes under negotiation.”<sup>36</sup> Mark Ward (2010:265, emphasis in original) states that “aside from the genre hallmarks of the *first-person shooter*, *BioShock* is notable in its attempt to engage its audience... through *psychological* and *perceptual immersion* and *emotional salience*”.

What Mark Ward has drawn on here is the combination of various elements used by games in general and *BioShock* in particular to draw the player into the game world and experience a

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<sup>36</sup> The term ‘emotion machine’ was coined by Ed Tan for analysing film (Ward 2010:265) and refers to the way in which film is able to illicit an emotional and involved reaction from an audience. Ward (2010:265) applies this term to games to comment on the level of personal involvement that they demand from the player. Whether this means that an audience creates alternate ‘selves’ while watching film is debatable.

sense of immersion and involvement there.<sup>37</sup> As such, the *BioShock* gamer may begin to feel present in the game world as the character they control, and thus experience a plurality of ‘self’.

The *BioShock* games, like many others, make use of a variety of techniques to increase the level of immersion the player experiences. These have been analysed in detail in Chapters 4 and 5, and the immersive significance of the techniques used can be summarised as follows.

### **6.1.1 Kinaesthetic-visual matching**

As the player moves, the character moves. The player moves the mouse, and the player’s view changes as though with the turning of their head. Through the instantaneous response of the avatar to actions of the player, the player identifies intimately with the character. Axel Stockburger (in Ward 2010:272) quotes Brenda Laurel as having stated that videogames can create immersion through the “tight linkage between visual, kinaesthetic and auditory modalities”.

Robert Mitchell (2002:2) argues that kinaesthetic-visual matching is the “recognition of similarity between the feeling of one’s own body’s extent and movement... and how it looks (vision)”. Kinaesthetic-visual matching is thus the process by which the players are able to identify something they see as themselves by noticing parallels between their own action or movement or tactile stimulus and that of the character. The player’s actions with input devices such as keyboard and mouse are reflected on screen in the actions of the character. This makes it possible for the gamers playing an RPG to identify themselves with the character and to see the character as a sub-self, or aspect of ‘self’, or alternate ‘self’ which they can explore and live out. The RPG format of the game enhances the extent to which the player can take on the role of the avatar, while the first-person perspective places that player within the body of the character they are playing. A physiological response may arise from this connection and the player may experience virtual ‘presence’ as the character.

The *BioShock* series has made use of an RPG format to provide the player with a role to fill: the virtual identity to take on, opening them up to be virtually present – as that character. The

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<sup>37</sup> Being immersed in the game world is different from immersion in a film in that the player takes on a character within the game space and has agency there. While a viewer can be immersed in a film, they do not usually have agency in the film’s setting. The instantaneous response of the avatar and environment to actions of the player is something that video-games offer for immersion and virtual ‘presence’ that film does not.

designers used a first-person perspective to create the illusion that the player is moving around within the game space in the body of the avatar, immersing them in that role. In using shooter-style gameplay, the games provide immersive challenges, as well as a sense of urgency and threat which can be highly immersive for a player. The shooter game style also carries the complex and immersive narrative. As noted in chapters 2 and 3, FPSs and RPGs are seen as the most immersive kinds of video-game because of their kinaesthetic-visual matching potential and their provision of a role for the player.

### **6.1.2 Plausibility and suspension of disbelief**

The *BioShock* series makes use of user-friendly, intuitive and commonly used controls so that the interface does not create a separation between player and game, but rather unites them seamlessly. Similarly, the graphic user interface is simple and intuitive, providing all necessary information about the character's status without becoming a distraction or reminding the player that they are gaming. The *BioShock* games use a standard FPS interface – one that any regular gamer would find instinctive and easy to use, thereby increasing immersion and reducing the possibility of the interface being distracting. There is regular use of indicators like knocking and overlays to add tension and provide information without distracting the player from the game space. The reloading action of firearms is a necessity and is seen through the first-person perspective as though it were the player's own hands, encouraging the perception that the player *is* the protagonist. In these ways, it becomes easier to play without being reminded of the interface between player and world, enhancing immersion and virtual 'presence'.

The in-game requirements and tasks are plausible and sufficiently challenging without being too difficult to maintain flow. Upgrades must be found within the diegetic game space, as though the player were there. Information regarding the game world must also usually be found within the game world. Lastly, the game is believable in that there is auditory and visual fidelity to real life textures, light and water. Movement, gesture and emotion are also animated in such a way as to be realistic, and the behaviour of AIs is varied and lifelike. In these ways, the *BioShock* game worlds of Rapture and Columbia are sufficiently believable for the player to buy into,<sup>38</sup> and the interaction with the game is smooth enough that the

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<sup>38</sup> This is not to say that fantastical worlds cannot be immersive or convincing. Instead, it can be argued that if a game-world positions itself as Earth or a similar environment, an audience will likely have certain expectations for the behaviour of light, water, sound and bodies. These must be subverted with sufficient explanation.

player's immersion is not disturbed. It thus becomes possible for the player to become virtually 'present' within the game space.

### **6.1.3 *Sustained interest and attention***

Once the player can operate in the game world without being reminded of reality by the interface or lack of accuracy of sights, sounds, movement or behaviours, their interest in the game world must be maintained in order to keep the player immersed.

The *BioShock* games exhibit aesthetic variety and richness, at times invoking feelings of beauty, sublime, the uncanny or the abject. The game space supports the narrative and themes, and the architecture of levels is conducive to the horror and action events that take place. The first-person shooter aspect of the games keeps the urgency and sense of danger high, maintaining interest-related and self-preservation-based immersion. There is ludonarrative synchronicity throughout most of the series and where it is lacking the game supports the themes instead. The story is complex and uses anachronies and multiple timelines to keep a sense of mystery and to support twists at the end, yet the narrative is linear enough to maintain flow. Cut-scenes and quick time events are limited as far as possible to uphold immersion. Gameplay is designed to be single-player, enhancing immersion and keeping the player's attention inside the game space. Themes are universal and evocative, so that the story content maintains interest and makes the player think and contemplate issues. The gamer is presented with notions of the infinite, thereby inspiring awe, the sublime and wonder; and is made to be involved in the game on a highly philosophical and existential level.

For these reasons, the *BioShock* games uphold a sense of being virtually present by keeping the player's interest in the game at a high level.

### **6.1.4 *Personal involvement***

Lastly, in addition to keeping the player involved in thought through weighty themes, the player's personal investment in the game is encouraged through the use of options to personalise the avatar and gameplay style so that the gamer can identify better with the role they are taking on. The player is also faced with choices and moral conundrums that make them personally responsible for outcomes and create the illusion of free will. Despite that there is little room for character creation or development within protagonist roles being

played, the roles offered are so rich and developed that the player adopts them anyway to find out more: the player becomes absorbed in the character depth created for them, rather than their own. The characterisation of the avatar thus becomes immersive in a different way from when there is full space for the player's own character creation: the role takes you out of yourself instead of putting you in a space to recreate yourself. Moreover, the game becomes partially about finding out who you are and where you came from, rather than making it up – adding to mystery and suspense, as well as an epiphany at the end.

The characters and environments that the player is exposed to are also designed to encourage emotional involvement from the player. An emotional connection is enhanced, making the player care about the characters and events. Lastly, the player must actively seek information in order to understand the story, making the player personally responsible for putting the story together.

For these reasons, the player is personally involved in the game, implicated in the outcomes, has a hand in developing the story and leaves repercussions through their actions. The game confirms the player's 'presence' within it, enhancing their experience of having been that character in that space. The fact that the player is given a role in the narrative and action of the game means that they are urged to project themselves into the game space and to fill the role offered to them (in some cases adjusting it to their own requirements).

### **6.1.5 Conclusion**

As noted in Chapters 2 and 3, virtual 'presence' occurs with extremely elevated levels of immersion in a game.<sup>39</sup> The *BioShock* series has thus enabled virtual 'presence' for the gamer in having used the above techniques. Through a combination of immersive features, the player may find themselves experiencing a sense of 'being in' the game: of becoming the protagonist, at least for short periods of time. By accepting the role of the avatar, projecting oneself into that character and taking on another identity, the player gains plurality of 'self'. This is because the player is simultaneously the person in the chair and the character in the game. The player retains their own identity but places it on hold to live out that of a game character.

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<sup>39</sup> Immersion does not always necessarily lead to virtual presence. However, high levels of immersion may enable this to happen. It is clear in chapter 4 and 5 that *BioShock* meets a number of the criteria for immersion.

## 6.2 How plurality of ‘self’ in the gamer is reinforced by the *BioShock* games

In using immersive features to achieve virtual ‘presence’, the game brings the player into the role of their character. The player believes it and takes it on, and buys into the character’s behaviours, personality and history upon ‘total’ immersion. The *BioShock* games encourage plurality of ‘self’ by using the techniques identified in section 6.1: kinaesthetic-visual matching, plausibility and suspension of disbelief, sustained interest and attention and personal involvement.

The *BioShock* series uses these techniques to encourage the gamer to be immersed to the point of virtual ‘presence’, meaning that they will have an online and offline ‘self’, a real and virtual ‘self’, the ‘self’ that is the player’s own identity and the ‘self’ that is the identity of the character. Thus identity becomes plural for the player once virtual ‘presence’ has taken place.

By doing this, the series encourages exploration of different versions of oneself, and of different situations and alternate worlds, as discussed by Sherry Turkle. It thus encourages gamers to understand that the very nature of a ‘self’ is plural and fluid as opposed to rigid. It does this, not only by allowing the gamer to experience and explore different identities, but by using the theme of plurality of ‘self’ to entertain and provoke thought throughout the games. The gamer does not retain the identity of the character upon leaving the game but may retain the realisation that their identity is not static.

In the case of *BioShock*, the protagonist is eventually shown that they are one of many versions of themselves. Thus, if the player has accepted the role of Booker Dewitt, they must come to accept the fact that in ‘being’ him, they have even more identities – unlimited and infinite identities, some of which they have encountered and even played, and others which they have not. Virtual ‘presence’ in a game makes the identity of the player plural, but due to the nature of the narrative and the theme of multiple parallel worlds, the player can be anyone that falls into the variables specified in *BioShock Infinite*: any one of many possible outcomes. The ludology and technical aspects of the game thus enable the player to take on the identity of the protagonist whose role they accept, but the narrative and themes at work compound this by adding further identities that must come with the one the player has already accepted. The story presents the player with multiple identities and suggests that they are all their own on the basis that they have accepted the identity of the protagonist. In addition, the

fact that some in-game characters have real-world and literary counterparts extends the idea of plural identity beyond the borders of the game.

Moreover, throughout the games, the themes and narratives have not only added possible identities for the player but made the very idea of fluid and flexible identity in real life believable. The games encourage players to think of the ‘self’ as fluid and plural, as argued by Sherry Turkle (1994:164, 1997:77, Mainwaring 2016:sp). Lastly, the player exits the game but takes away the experience of what it is to be someone else, and to have all the possibilities of who they can be opened to them. Although the player has gained this understanding within the game’s context and only with a scripted character, the player may still, through their experience, come to understand their own identity as something interchangeable and multifaceted. The in-game references to real scientific studies may even bring the player to consider the role of Multiple Worlds Theory in their real-world existence. For these reasons, the *BioShock* games, not only enable but encourage plurality of identity.

## CHAPTER 7: CONCLUSION

The primary goal of this study was to investigate plural identity as a phenomenon that can be enabled through games in general and the *BioShock* series in particular. To this end, this study looked at the technical, ludological, thematic and narrative features of the *BioShock* trilogy to establish the ways in which it can enable virtual ‘presence’ for the gamer and a resultant sense of plurality of self.

Firstly, the study found that the *BioShock* games have proven to be highly immersive – due to the observation that they achieve a number of qualities deemed by theorists of the field to enhance immersion. These features include (but are not limited to) an RPG format (Waggoner 2009:12-13) which allows the player to take on the role of the character they control; an FPS perspective (Rouse 2009:21), forcing the player to see through the character’s eyes as though it was their own body moving around the game world; use of the horror genre (2009:20) to bring about experiences of the sublime, uncanny, abject and survival instinct; an intuitive game interface (Brown and Cairns 2004:1300), thus preventing distraction by the tools or HUD; a sense of flow when in play (Jennett *et al* 2008:642); emotional and intellectual involvement for the player (Brown and Cairns 2004:1299) by using characters, themes and visual compositions to evoke certain emotive responses and thought; challenge appeal (Adams 2004 in Babu 2012:12) by creating objectives which are sufficiently demanding and exciting without being unattainable; a narrative that is conducive to high immersion (Babu 2012:12) in that the games allow the player to ‘pull’ information and construct the story on their own as well as the use of multiple timelines to manage how information is divulged for mystery; and realistic and interesting audio and visuals (Ermi and Mäyrä 2005 in Babu 2012:12-13) to make the game world believable and gripping. Together, these features and their related concerns combine to create a gaming experience that is likely to immerse the player, hold their interest and allow suspension of disbelief.

Secondly, the study found that because the *BioShock* games have achieved so many of these characteristics for immersion, they are capable of enabling the player to feel virtually ‘present’ within the game world. When this happens, the game supports plurality of ‘self’ in the gamer by encouraging them to take on the identity of the avatar and fulfil that character’s role in the game. Therefore, in being an immersive computer game series, *BioShock* gives the gamer a second ‘self’ to live out in the form of their respective avatars. Games such as these allow the player to imagine a disparate sub-self, or alternate self, and this enables the player



to live out a part of themselves or a different identity other than the one they live on a day-to-day basis.<sup>40</sup>

Thirdly, the study found that the use of parallel worlds in the themes and story of the *BioShock* trilogy act to compound their technical ability to encourage plural identity through immersion. While it is the other immersive characteristics which help the player to become virtually 'present' within the role of the avatar, it is the thematic content of the *BioShock* games that takes the player from experiencing one alternate identity at a time to experiencing many simultaneously (for example, while you are Booker Dewitt, you are inherently Zachary Comstock).

Lastly, the study found that the fact that multiple selves and plural identity are such integral themes throughout the trilogy encourages players to understand the 'self' as multiple in a larger sense and to think about their own identity as plural beyond the game. The games can thus be an example of how the idea of fluidity of 'self' has grown in popularity in contemporary visual media like games and film, suggesting that Western cultures have come to understand the 'self' as such. For this reason, it can be suggested that the way in which *BioShock* interrogates multiple selves and encourages the player to do the same in and beyond the gaming experience can be seen as a symptom of greater social trajectories in the understanding of identity. This is discussed further as follows.

### **7.1 Ways in which representation of the 'self' in *BioShock* is symptomatic of greater societal trajectories**

Sherry Turkle states that we are increasingly viewing the 'self' as multiple and plural. *BioShock* provides evidence for her statement and may indicate a current cultural trend when looked at in a wider context of visual media, suggesting fascinating things about our *zeitgeist*. The study described the ability of the computer game to enable identity exploration and assimilation, and suggested that the nature of the *BioShock* games makes them particularly conducive for this.

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<sup>40</sup> It must be noted that the phenomena of being immersed and of being virtually 'present' are not unique to *BioShock* or even unique to games. However, this study argues that the plurality of identity obtained by taking on an avatar through virtual 'presence' is unique to games.

The ‘self’ in *BioShock* is a plural and multiple self, thereby stimulating plurality of ‘self’ in the viewer, because if they take on the protagonist’s identity in the game world there are other identities that come with it as a ‘package deal’. The *BioShock* series interrogates the ‘self’ in such a way as to suggest that the ‘self’ is not whole and consistent but segmented, fluid and interchangeable. Not only do the tendencies of the *BioShock* games to encourage plurality of identity reinforce statements made by Sherry Turkle about the very nature of gaming but they provoke thought about contemporary Western cultural trends and current paradigms regarding the self.

The *BioShock* series is only one of many contemporary examples in which the ‘self’ is shown to be plural or fluid. Such recent examples include films like *Predestination* (2014), *Catfish* (2010), *Split* (2016) and more. In such films, characters are shown to have many identities. Yet film is not the only area in which the ‘self’ is represented in this way: the rise of social media identities in applications such as Facebook has shown identity to be something that a person can construct, have many versions of and switch between.

Similarly, online multiplayer games such as *Second Life* and *World of Warcraft* give the player an entire online world to traverse, with infinite possibilities for who they can be in this ‘space’. The online self can be entirely different from the real-world ‘self’. Yet the ‘real-world’ identity of a person is fluid in its own right: people behave differently in different company and in different circumstances. With these and other examples in mind, it becomes clear that identity is far more fragmented and plural than unitary.

As such, this study not only argues for a pluralised view of the ‘self’ in gaming, but for a pluralised view of the ‘self’ in reality as well, and points to identity’s ability to split, change, switch and warp. Like Lester’s work, (2015:2-7), this study encourages a “multiple-self theory of the mind” for studies of behaviour, and suggests extending this to interpretations of our interactions with visual media.

## **7.2 Summary of chapters**

This research dissertation was structured as follows:

1. Introduction – This chapter introduced the idea of the computer game as an evocative and entrancing (Turkle 2005:3,82) means of identity exploration, which allows the user to enact and assume the role of the character they take on. The introduction provided the

background, need, scope, and aims for the study as well as a literature review, for the purpose of locating the argument within the field of Visual Studies. Finally, the chapter introduced the *BioShock* games as the subject of this study, based on their potential for high levels of immersion first-person shooter games; their thematic interrogation of multiple selves; the fact that “*BioShock*’s creator, Ken Levine’s stated goal was to build a game in which the players were not an observer of narrative, but a participant” (Reblin 2015:vi); and due to the benefit of the three related games providing “multiple points of comparison and correlation that appear in all three games” (Reblin 2015:vi).

2. Concerning identity and virtual presence – This chapter discussed what it means to have identity and to be virtually ‘present’ through immersive gaming. It began by discussing notions of identity inside and outside of the game world. The chapter also discussed what is understood by the terms ‘identity’, the ‘self’ and ‘multiple selves’ in order to clarify these integral concepts before proceeding. It then looked at the way that the ‘self’ of a player is channelled into a game character (either an avatar or an agent), in order for the person to have an identity within the game world. It then considered the ways in which a player who feels immersed in a game may experience a sense of presence within the game world, and how this can be considered to enable plurality of ‘self’. Chapter 2 thus looked at a number of theorists in order to determine what contributes to such high immersion as would enable virtual presence.
3. Providing an analytical framework for reading the *BioShock* trilogy – This chapter took the varying immersive characteristics suggested by the theorists in Chapter 2 and synthesised them into a single analytical structure to apply to the games at hand. It discussed these contributing factors for immersion and virtual presence in greater detail, in order to clarify what features of a game would encourage immersion and virtual presence, and which would detract from these. Such factors include game format, genre, ease of use, challenge appeal, aesthetic appeal, sensory fidelity, narrative, and social appeal, among others.
4. Ludological and technical features of *BioShock* which enable virtual ‘presence’ – Due to the fact that the analysis of the *BioShock* games themselves began with this chapter, it started with a synopsis of each game to familiarise the reader with some of the topics and characters discussed. The chapter then used the framework outlined in Chapter 3 to look

at the ludological and technical features that the *BioShock* games exhibit which would serve to encourage immersion and virtual ‘presence’. The chapter concluded that the majority of the technical and ludological elements of the *BioShock* games operate together to encourage immersion to be strong enough that virtual ‘presence’ can take place.

5. Narratological and thematic features of *BioShock* which enable virtual ‘presence’ – This chapter used the framework outlined in Chapter 3 to look at the narratological and thematic features that the *BioShock* games exhibit which would serve to encourage immersion and virtual ‘presence’. In doing so, the chapter not only considered narrative and themes as immersive and evocative tools, but looked at the effects of the ‘sublime’, ‘uncanny’, and ‘abject’ within the *BioShock* games. Furthermore, this chapter analysed the recurring notions of multiple identity and parallel universes in the *BioShock* games. The chapter concluded that together these features not only encourage high enough levels of immersion to allow virtual ‘presence’ but encourage the gamer to think of identity as something flexible, fractured and segmented rather than whole and singular.
6. Plurality of ‘self’ in the gamer: how the *BioShock* games achieve the necessary characteristics for virtual ‘presence’ – This chapter summarised the total effects of the *BioShock* games in encouraging plurality of identity for the user through virtual ‘presence’ and evocative content. Having accounted for the immersiveness of the *BioShock* games by having looked at the features they possess in Chapters 4 and 5, this chapter explained how this culminated in the player experiencing a ‘presence’ within the game world. The chapter discussed what this means for the identity of the player, and how this phenomenon means that the gamer takes on the role of the character they are playing, as a second ‘self’, an alternate identity. It then commented on how this is compounded by *BioShock*’s use of multiple selves in the narrative because if the player takes on the avatar’s identity, they are taking on the character’s counterparts across timelines as well.
7. Conclusion – This chapter summarised the findings of the study and brings the arguments made to a close. It also commented on Turkle’s notion that contemporary society is increasingly coming to see identity as fluid and plural, and how this study’s findings seem to support that statement. It outlined the structure that this study followed

and suggests contributions made by the study. Finally it considered the limitations that have been in place through the course of this study and recommends further avenues for research, in the hopes that these may be of use to scholars from here onward.

### **7.3 Contributions of the study**

The study provided a framework for looking at immersion in such a way that is inclusive of many approaches that predate it. This framework is one that encompasses a number of approaches and definitions of immersion, and can be used in other studies to look at immersion in games. As such, the first contribution of this study is the addition of a solid analytical framework for immersion that can be used in other studies of other computer games hereafter.

The study also contributed to understandings of the *BioShock* trilogy, which are very popular games, and added to the body of work which may contextualise their popularity and relevance in contemporary Western society. Specifically, the study looked at the ludological, narrative and thematic features of computer games in general, and *BioShock* especially, that may allow for the player's identity exploration. This study can therefore serve as a guide to more studies on *BioShock*, or even other similar games.

Lastly, and perhaps most importantly, the study added to research on the relationship between identity and gaming. The study looked at some of the ways in which identity is fluid, and how identity can be explored, moulded, swapped and tested, within video games. As such, it acts to confirm the beliefs of Sherry Turkle that we in contemporary Western society are increasingly seeing the 'self' as plural, and that this can be influenced by computer game technology.

### **7.4 Limitations of study**

The first, and possibly the greatest, limitation of this study is the highly subjective nature of game-play and of immersion itself. The study attempted to create as accurate a framework as possible for determining immersive potential in games, with the aim of determining whether presence and plurality of 'self' is possible as part of that gaming experience, but did so fully knowing that what is immersive and gripping to one gamer may not be as much so to another. The study's interpretative nature also means that there is inherently some measure of bias.

While fairness was sought in all aspects of this study, the author's own interpretation of the *BioShock* trilogy may be different from that of someone else's interpretation.

Another limitation is that despite the significant effort that went into making the nature of the *BioShock* games clear to the reader, one can only truly understand the nuances of any game upon playing it. Additionally, discussion of the technical features of the game and its characters may become confusing at times if readers are not very familiar with the *BioShock* games.

A third limitation to this study is the fact that, generally speaking, immersion itself is seen as a very positive feature in gaming. Thus, when describing ways in which the *BioShock* trilogy is immersive, this thesis may appear biased and may seem too promotional of the games. The author took many measures to ensure that the analysis was fair and that observations are justifiable by the features the games possess.

Furthermore, the nature of this study required it to cover a number of topics and issues, resulting in the fact that each topic or feature could not be dealt with in as much detail as it could in a study which requires discussion of fewer elements.

Lastly, all of the potential for immersion and virtual 'presence' that *BioShock*, or any other game, can provide becomes void if the gamer does not enjoy the game type under discussion or enjoy the game itself. If the player feels this way upon interacting with the game, they would never achieve the first responses necessary for immersion: interest and attention. This would mean that the theories discussed here are not applicable to that player's case.

### **7.5 Suggestions for further research**

Firstly, it may be of value to take this study a step further by interviewing gamers about their experiences of the game and most especially of immersion, virtual 'presence' and plurality of 'self' when playing. In addition, it may be of value to use such interviews to determine whether it is ludology or narrative that has a greater impact on immersion in order to help focus the use of the term in gaming discourse. This study could also be followed up by research on what makes game characters 'real' enough to take the role of; and research on what the implications are of seeing the 'self' as plural.

On a different note entirely, there are a number of philosophical, intellectual and social issues that the *BioShock* series raises, which may be of interest for future study when looking at these games or others. Some of these are: the diegetic writings on the walls and the use of text in *BioShock* to make meaning in the game world; religious references in the *BioShock* games and what they may suggest as examples of contemporary Western views of spirituality; the imperfect protagonist and how gamers may identify more with flawed characters than a perfect hero; the use of literary references in the *BioShock* trilogy; the architecture of level design in the *BioShock* trilogy and the levels' resultant contribution to linearity of narrative.

## **7.6 Closing statements**

This study argued for the 'self', or identity, to be seen as something that is dynamic and manifold. While there are many other kinds of media in which the viewer can become immersed enough to feel as though they are 'there' inside what is seen (such as film); it can be argued that of all of these, computer games give the viewer the greatest sense of agency within that fictional 'space'. Because of the way in which computer games allow the player to substitute the real world and its stimuli with that of the game world through immersion, and especially through kinaesthetic-visual matching and sensory fidelity, computer games (especially RPGs and FPSs) have heightened potential for a player to have a new identity in the game-space in the form of the role being played.

The *BioShock* games have exemplified this phenomenon in similar ways to most FPS games, yet their thematic and narrative features compound this potential for plural identity by providing many 'selves' in each playable character. The study achieved its aim of exploring how multiple and plural selves are enabled in immersive gaming, and especially in the *BioShock* series. Its findings have been as expected: computer games are, as Sherry Turkle (1994:164, 1997:77, Mainwaring 2016:sp) suggests, able to give the player a space in which they can try out different identities; and the *BioShock* games are especially capable in this regard.

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## **APPENDIX A: FULL SYNOPSIS OF THE BIOSHOCK GAMES**

*BioShock* (Irrational Games 2007) and *BioShock 2* (Irrational Games 2010) take place in a dystopic art-deco underwater city called Rapture. According to the game lore, Rapture was built and founded in the 1940s on principles of producing science, art and industry that are entirely free of moral, religious and political constraint. In order to maintain this system, contact with the surface world is forbidden (*BioShock* 2016; *BioShock* 2017).

Rapture's founder, Andrew Ryan, is an ambitious but elitist and tyrannical man. The civilians have predominantly become mutated and crazed as a violent side-effect of genetic experimentation with a chemical called ADAM – genetic material extracted from sea-slugs. This chemical gives its users superhuman powers by altering their DNA. Before the game begins, Ryan's authority is questioned and desired by Frank Fontaine – who had created illegal trade routes with the surface and who enlisted a woman named Dr Brigid Tenenbaum to help him create a cheaper, mass-produced ADAM source via the implantation of the sea-slugs into orphan girls, who became referred to as 'Little Sisters'. Tenenbaum later regrets this and seeks to protect the little girls she doomed (*BioShock* 2016; *BioShock* 2017).

Fontaine also amassed the disenfranchised and marginalised poor of Rapture and lead a coup d'état against Ryan. He was thought to have been killed in the violence, whereafter Ryan seized his assets, including the facilities in which the Little Sisters were being produced and stored. A man named Atlas then takes Fontaine's place as the leader of the revolution and attacks Fontaine's facilities which Ryan had seized. Andrew Ryan reacted by developing creatures called 'Big Daddies' (Figure 40. Irrational Games 2007 screenshot by author): men who have undergone gruesome surgical attachment into metal suits, and who are made to instinctively look after and defend Little Sisters.

Ryan also develops battalions of 'splicers', or genetically enhanced humans (Figure 41. Irrational Games 2007, screenshot by author), which he controls by releasing pheromones through the air vents of the city. A city-wide assault on Ryan's forces takes place on New Year's Eve 1958, leaving Rapture in ruin. It is at this point in the timeline that the *BioShock* game begins (*BioShock* 2016; *BioShock* 2017).





Figure 40: Big Daddy. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.



Figure 41: Splicer. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.

### ***BioShock 1***

In 1960, the protagonist, Jack, whose character the player is assigned, crash lands in a plane near a lighthouse: the monumental entrance point to Rapture (Figure 42. Irrational Games 2007, screenshot by author). A small spherical submarine called a bathysphere plunges him down through a shaft from the bottom of the lighthouse into the heart of the city. The disaster that has befallen Rapture is evident (Figure 43. Irrational Games 2007, screenshot by author).



Figure 42: Rapture lighthouse. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.



Figure 43: Devastated Rapture. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.

Upon arrival, a man named Atlas connects to Jack through a radio system and navigates him through the enemy-ridden wreckage of Rapture. Jack comes across a Little Sister and her destroyed Big Daddy; and while Atlas tells him to kill her and take her ADAM for himself, Tenenbaum overhears and asks him to spare the little ones, giving him a plasmid that will save the Little Sisters, and offering to reward him with less ADAM for his good deeds. The choice is left to the player (*BioShock* 2016; *BioShock* 2017).

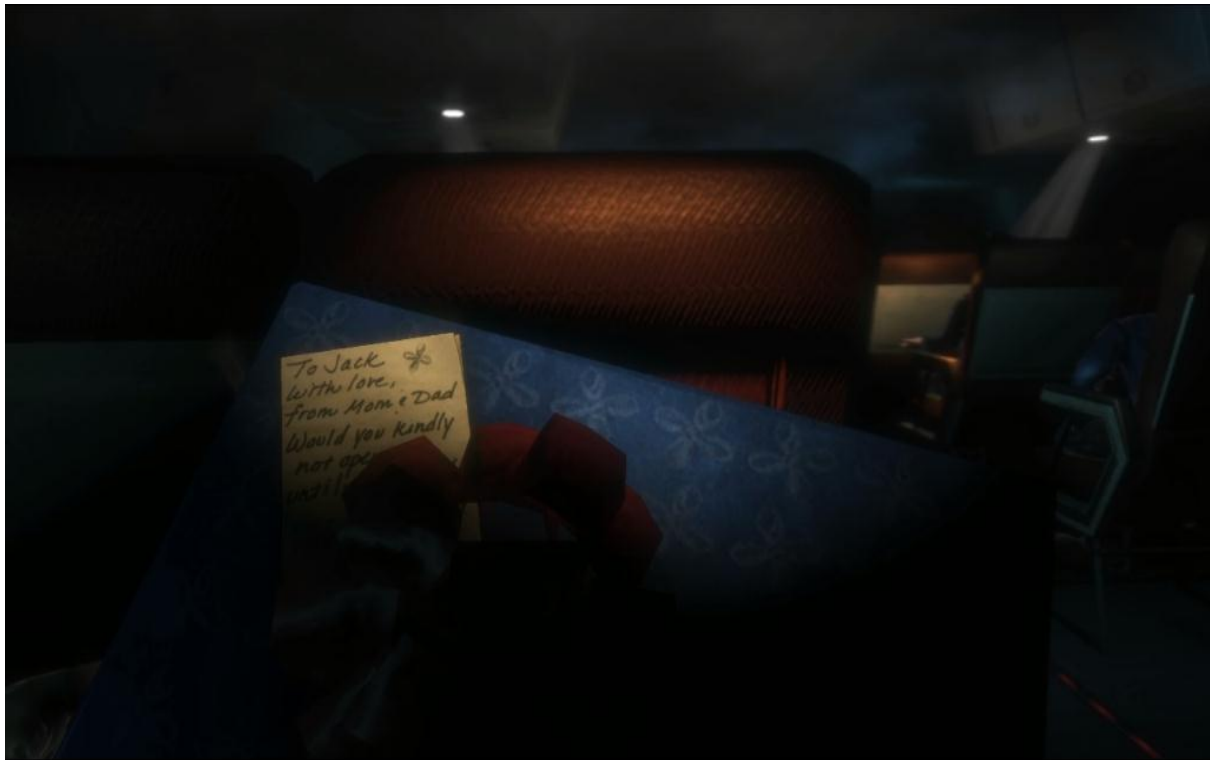
Atlas tells Jack that Ryan holds his family hostage and begs for his aid in rescuing them. Upon arrival at the dock where they are being held, the area is blown up and Atlas's family destroyed. A revenge-fuelled Atlas sends Jack through several trials to get to Ryan's residence. Finally, Jack reached Ryan (Figure 44. BioShock wikia, Central control – Andrew Ryan, s.a.), and Ryan reveals that Jack is his own illegitimate son, whom Fontaine had taken from his mother and, after a series of genetic modifications including creating false memories and enabling fast aging, sent to the surface world to await the perfect time to strike. Ryan explains that Jack is Fontaine's secret weapon because having Ryan's genes would allow him to bypass genetically coded barriers that would otherwise only have been controlled by Ryan himself. An example of this is the bathysphere system, which Ryan had placed on lockdown and which Jack was able to use (*BioShock* 2016; *BioShock* 2017).



Figure 44: Andrew Ryan. BioShock Wikia. Central Control – Andrew Ryan, [s.a].



After revealing these things to Jack, Ryan chooses to meet his death and makes it clear to Jack that the phrase “would you kindly”, so often used by Atlas in his requests from Jack, is a trigger that forces him to carry out the request. It becomes clear to Jack that he crash landed the plane at the lighthouse himself, after reading a note with this phrase (Figure 45. Irrational Games 2007, screenshot by author). Atlas’s secrets are revealed, he tells Jack that he is in fact Fontaine, and sends security drones to kill Jack.



**Figure 45: The flight. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.**

Jack awakens, having been rescued by Tenenbaum and the Little Sisters. Tenenbaum removes Fontaine’s control over his mind and helps him to reach Fontaine (Figure 46. Irrational Games 2007, screenshot by author). Jack fights Fontaine and at the very last, the Little Sisters help Jack to kill him. The ending differs depending on how the player treats the Little Sisters throughout the game: if none are killed for ADAM, Jack takes them to the surface with him to live as a family. If Jack has used more than one of the girls for ADAM, the game shows the wreckage of the crash-landed plane being found by a submarine carrying nuclear missiles and it is attacked by splicers under Jack’s control, suggesting that Jack seeks to take control of the world (*BioShock* 2016; *BioShock* 2017).



Figure 46: Fontaine. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.

## ***BioShock 2***

*BioShock 2* (Irrational Games 2010) starts on the night of Fontaine's coup – New Year's Eve 1958. The protagonist, Subject Delta, is a Big Daddy. The story begins with Delta on guard with his little sister, until Dr Sofia Lamb, who reveals herself as the mother of the little girl, Eleanor, uses a plasmid on Delta to force him to shoot himself so she can take Eleanor back (*BioShock 2* 2016; *BioShock 2* 2017).

Delta appears to be dead, but is reawakened a decade later by Little Sisters, at Eleanor's request to Rapture in ruin (Figure 47. Irrational Games 2010, screenshot by author). Delta continues to have a link with Eleanor. Dr Lamb, who had been a political opponent to Ryan, is now the leader of Rapture, 8 years after Ryan's murder by Jack. Delta is found by Dr Tenenbaum, and she tells him that he must reunite with Eleanor in order to survive. With the aid of Augustus Sinclair, a friend of Tenenbaum, Delta is led to Dr Lamb (*BioShock 2* 2016; *BioShock 2* 2017).

Much like the player chooses whether to spare or harm the Little Sisters in *BioShock 1*, Delta can choose to spare or harm certain key characters – Holloway, Poole and Alexander. As he progresses, trying to reach Eleanor, Dr Lamb's plan for her becomes clear: Eleanor is to undergo a process using genetic memory in ADAM whereby she will become a host of all the

memories of all Rapture's citizens, so as to eliminate 'the self' (Figure 48. Irrational Games 2010, screenshot by author) and make each citizen a part of a single identity unit – the 'family' (*BioShock 2* 2016; *BioShock 2* 2017).



**Figure 47: Fallen, fallen is Babylon. Screenshot by author. 2017. *BioShock 2*. Irrational Games, 2010.**

When Delta reaches Eleanor, Lamb seizes him and breaks the link between him and Eleanor and Delta begins to die. Eleanor, in an effort to save Delta, turns herself into a Big Sister and frees him. They flee towards an escape vessel prepared by Sinclair, but upon arrival they find that Dr Lamb has turned Sinclair into a Big Daddy called Omega. A battle ensues between Delta and Omega and the Rapture citizens, and Delta attempts to fight them off to give Eleanor time to prepare the escape vessel. Delta and Eleanor manage to escape, but Delta is fatally injured (*BioShock 2* 2016; *BioShock 2* 2017).

Similarly, to *BioShock 1*, the game has more than one ending and the actions of Delta towards Holloway, Poole and Alexander change the outcome. If Delta has spared these characters, Eleanor will save Dr Lamb but if Delta has not spared them Lamb will be left to die in the flooding space. Furthermore, if Delta saved the Little Sisters he accompanied through the game, he will die happily in Eleanor's arms, surrounded by sun and warmth, Eleanor takes Delta's memories and takes the Little Sisters with her out of Rapture. However, if Delta harmed the Little Sisters, Eleanor will take his ADAM and seek to control the surface world. If Delta has saved only a few of the Little Sisters, the player is given the choice between

Eleanor taking Delta's ADAM and taking over the world or Delta preventing her from taking his ADAM, whereupon Eleanor will merely mourn his death and make her own way (*BioShock 2*, 2016; *BioShock 2*, 2017).



Figure 48: End of the 'self'. Screenshot by author. 2017. *BioShock 2*. Irrational Games, 2010.

### ***BioShock Infinite***

*Robert Lutece: "One undertakes an experiment knowing one could fail."*

*Rosalind Lutece: "But one doesn't undertake an experiment knowing one has failed."*

– Robert and Rosalind Lutece, *BioShock Infinite*, Irrational Games 2013.

*BioShock Infinite* (Irrational Games 2013) is set in the city of Columbia – a city which floats in the sky (Figure 49. BioShock Wikia, Columbia storyline, s.a). Similarly, to how Ryan founded Rapture to escape the oppressive systems of surface world, Father Zachary Hale Comstock has founded Columbia in order to escape the immorality of the 'Sodom below'. Long before the events of the game, Comstock manipulated the United States government into building Columbia as an impressive component of the World's Fair 1893, in order to show the world the power of the United States (*BioShock Infinite* 2016; *BioShock Infinite* 2017). The city wandered around the world, but was seen as U.S. property. In 1901, Columbia defied the U.S. government by intervening in – and ending – the Boxer Rebellion in China, whereupon it was revealed that Columbia was not only a floating city, but a battleship. The U.S. government ordered Columbia's return, but Columbia seceded from



American governance and disappeared high into the clouds. Much like Rapture, Columbia was now separate from any potential outside influence and became a theocratic police state under Comstock's rule. Comstock was worshipped in Columbia as a Prophet, and the Founding Fathers of the United States were worshipped as deities in this pseudo-Christian "utopia" (*BioShock Infinite*, 2016; *BioShock Infinite*, 2017).



Figure 49: BioShock Wikia. Columbia Storyline, [s.a].



Figure 50: The Columbia lighthouse. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



The events of the game also begin at a lighthouse in 1912 (Figure 50. Irrational Games 2013, screenshot by author) – this is chronologically before the events at Rapture, but is often seen as a parallel universe to Rapture. Approaching the lighthouse, the protagonist, Booker Dewitt, is being rowed to the shore by a man and a woman, who state that he “doesn’t row” – as a fascinating reference to the other dimensions in which he never helps row despite any other variables (*BioShock Infinite* 2016; *BioShock Infinite*, 2017).

Booker Dewitt, a discredited former agent of the Pinkerton National Detective Agency – an alcoholic and a gambler, who is deeply traumatised by his own actions at the Battle of Wounded Knee, is sent to Columbia to collect Elizabeth, a girl imprisoned there since childhood, in order to work back his debts. Elizabeth is held in a tower, guarded by Songbird – an avian metal monstrosity reminiscent of the Big Daddies, who has served the role of friend and keeper, but who will violently protect her and is designed to express a sense of feeling betrayed should Elizabeth try to leave (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Booker enters the lighthouse and climbs to the top, where he enters a rocket that shoots him up to Columbia. Columbia at first glance is a paradise, but as the player moves through it, it is shown to be a racist, elitist community. The lower class of Columbia – members of minority races used as slaves and cheap labour – are rallying under Daisy Fitzroy, a woman who had worked in the Comstock house until she was falsely accused of the murder of Lady Comstock. Daisy, and her *Vox Populi* originally sought to give equal rights to all Columbia’s citizens but the extent and length of their struggle has resulted in the use of extreme violence and in a sense of loathing (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Furthermore, Columbia is increasingly experiencing ‘tears’ in space-time, resulting from scientific experiments of Comstock and the Lutece twins (Figure 51. Irrational Games 2013, screenshot by author). Robert and Rosalind Lutece, the man and woman who rowed Booker to the lighthouse, help Booker and Elizabeth through the narrative, appearing as omnipresent and omnipotent. While they are referred to as twins, they are in fact the same person, who with experimentation with parallel universes was able to contact and meet his other selves. Rosalind Lutece is shown to be the version from Comstock’s timeline, whose scientific research has enabled the city to float (*BioShock Infinite*, 2016; *BioShock Infinite*, 2017).



Figure 51: The Luteces. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 52: Tear. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

These tears (Figure 52. Irrational Games 2013, screenshot by author) in the space-time continuum are used as windows into parallel timelines, and the player can use these to add to or remove something from their environment, moving things backwards and forwards between universes. It is revealed that most people who encounter these tears have mild curiosity about them, while others abuse them to gain knowledge about technological advancements that have been created 'elsewhere'. Elizabeth, the girl who Booker captures is

revealed to be able to open and manipulate these ‘tears’, which often is beneficial to Booker through the course of the game (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Upon noticing that Booker bears a scar on his left hand in the shape of the letters AD, the authorities deem he fits the prophesised description of the “False shepherd” who will “lead the Lamb astray”. Booker is chased by police and becomes a wanted man. Chased down by authorities, Booker obtains Elizabeth and the two are pursued by Songbird until they board an airship. Booker convinces Elizabeth he will take her to Paris, but intends to return to New York to hand her in. When Elizabeth realises this, she knocks Booker out. Booker reawakens to find that Daisy and her *Vox Populi* have captured the airship. Daisy coerces Booker into helping the *Vox Populi* obtain weapons from the weaponsmith so as to have control of the airship returned to him (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Booker and Elizabeth seek out the gunsmith, who is found to be dead. The two enter a tear in which they are able to obtain the weapons, but in which Booker has been a war-hero with the *Vox Populi* and has died for the cause. Upon seeing Booker in this universe, Daisy says that he is "either an impostor, or a ghost," and orders her men to attack. In the midst of the struggle, Elizabeth murders Fitzroy to stop her from killing a white child (*BioShock Infinite* 2016; *BioShock Infinite* 2017, Figure 53. Irrational Games 2013, screenshot by author).

Meanwhile, Columbia is becoming increasingly war-torn (Figure 54. Irrational Games 2013, screenshot by author) as the narrative progresses and the *Vox Populi* gain power. When Elizabeth and Booker finally reach an airship, they are attacked once more by Songbird and plunge back onto Columbian ground. As the two proceed, they find that Comstock had hired the Lutece twins to build a "Siphon" device to limit Elizabeth's powers – a massive structure built into the design of Elizabeth’s tower prison.



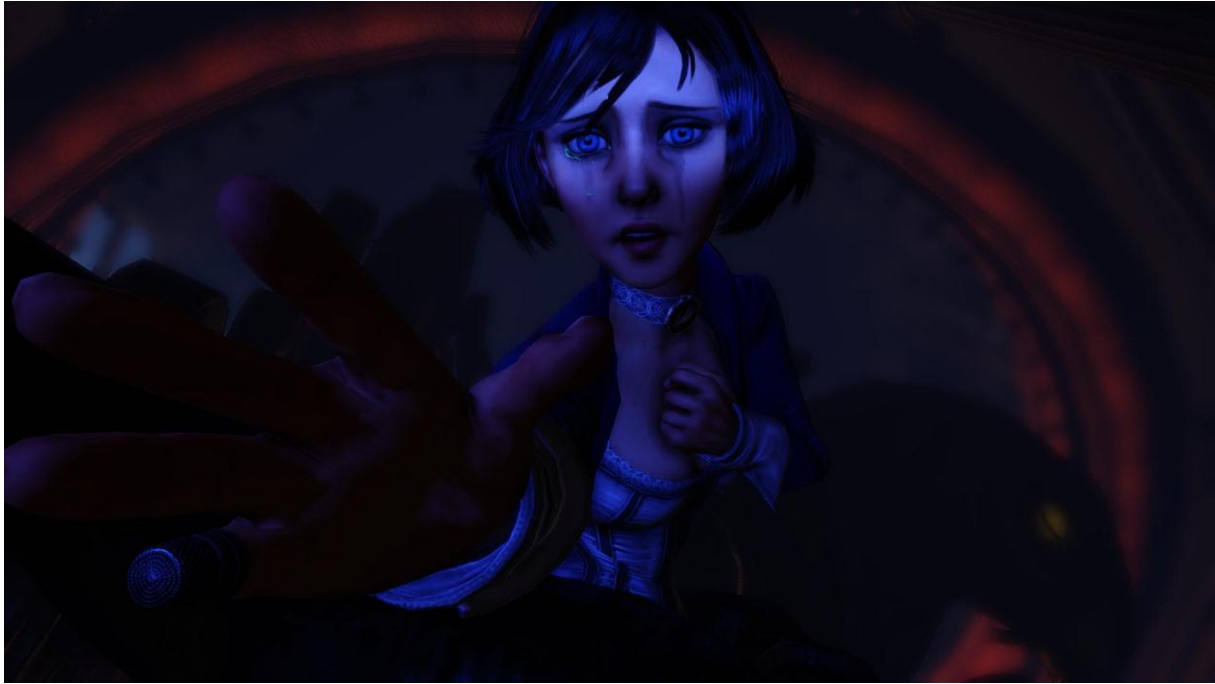
Figure 53: Daisy Fitzroy about to kill a founder child. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 54: Columbia in ruins. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 55: Singbird's attack. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



**Figure 56: Elizabeth is taken. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**

They also learn that Elizabeth is Comstock's adopted daughter (Comstock was made sterile from exposure to the Lutece's experiments and machines), who will inherit rule of Columbia. Lastly, they learn that Comstock framed Fitzroy for the murder of his wife, and had killed her and (in some universes) the Luteces to hide the truth of Elizabeth's adoption to cement her right to rule (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Elizabeth is eventually taken by Songbird (Figures 55 and 56. Irrational Games 2013, screenshots by author), and Booker pursues them but finds himself in a foreign and snowy milieu – a mental facility. Booker realises he is now in the year 1984, brought there by an older Elizabeth belonging to this timeline. In this universe, Booker has not been able to reclaim Elizabeth and she has been subjected to brainwashing until she becomes an unquestioning tool for Comstock's legacy. This Elizabeth has used the Columbia battleship to make war on the rest of the world, resulting in its end (Figure 57. Irrational Games 2013, screenshot by author). The elderly Elizabeth teaches Booker how to control Songbird and sends him back to 1912 to save Elizabeth and the world from this fate (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Booker is returned to his universe and succeeds in liberating Elizabeth. The two fight through Comstock's forces to reach and kill him. When they reach Comstock's lair, Comstock and



Booker argue: Comstock yells at Booker to tell Elizabeth how her finger was damaged, and Booker insists he does not know until he becomes livid. Booker kills Comstock by smashing his head into a baptismal font and drowning him in it. Booker turns to Elizabeth, saying he really does not know about her finger and she tells him he has merely forgotten (*BioShock Infinite* 2016; *BioShock Infinite* 2017).



**Figure 57: The end of the world. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**

In the midst of an all-out battle against the *Vox Populi*, the two take control of Songbird and use him to destroy Elizabeth's tower, containing the Siphon. The destruction of the Siphon leads to the Elizabeth's powers being completely unrestricted, and she transports herself, Booker and Songbird to Rapture. While Booker and Elizabeth appear within the bathysphere terminal, Songbird appears outside and is compressed by the water pressure at the bottom of the sea. Elizabeth comforts him as he drowns (Figure 58. Irrational Games 2013, screenshot by author) (*BioShock Infinite* 2016; *BioShock Infinite* 2017). There, Booker is able to operate the bathysphere system, and the two take the bathysphere to the surface at the lighthouse. At the surface, they see millions of lighthouse lights and Elizabeth tells Booker that they are doors to millions of alternate worlds (Figure 59. Irrational Games 2013, screenshot by author), determined by constants and variables, and that they come from just one of an *Infinite* number of possible timelines, depending on the choices made by those within it (*BioShock Infinite* 2016; *BioShock Infinite* 2017).



Figure 58: Songbird's death. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 59: The sea of doors. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.



Figure 60: Always a lighthouse. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

Leading Booker between these worlds (Figure 60. Irrational Games 2013, screenshot by author), Elizabeth shows him that on October 8, 1893, Robert Lutece came to see him at the order of Comstock, asking that he "give us the girl and wipe away the debt," referring to Booker's baby girl, Anna DeWitt. Comstock, who was sterile and needed an heir, approached a version of himself on a different timeline to obtain a child of his own descent, and offered to pay for Booker's gambling debts on the condition that Booker give him his daughter (Figure 61. Irrational Games 2013, screenshot by author) (*BioShock Infinite* 2016; *BioShock Infinite* 2017).



**Figure 61: Robert Lutece taking Elizabeth. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**



**Figure 62: Elizabeth is lost. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**



Booker agreed to this, but upon seeing his child taken ran after Comstock and Lutece to get her back. He narrowly misses them as they slip through a tear to their own universe, and Anna's little finger is cut off as the tear closes on it (Figure 62. Irrational Games 2013, screenshot by author). The resultant fact that part of her existed in two separate universes at once is what gave Elizabeth the ability to make tears in the first place and to control time and space (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Robert Lutece was angered by what Comstock had done, and enlisted Rosalind to aid him in bringing Booker across to rescue his child. This makes it clear to the player that Booker had chosen to come to Columbia to collect the girl but had lost memories in the travel between worlds, re-imagining why he was there to begin with. Booker was tormented by having given Anna away, and brands himself with "AD" on his right hand to never forget his child (Figure 63. Irrational Games 2013, screenshot by author) (*BioShock Infinite* 2016; *BioShock Infinite* 2017).



**Figure 63: AD. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.**

Elizabeth helps Booker to see that the version of himself that became Comstock was the one that chose to be baptised to atone for his violence at Little Bighorn, while the version of himself he has been is the one that refused baptism, saying it would not change the evil he has already done (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

Elizabeth details that Comstock will always exist in other universes because for every universe in which Booker turns down baptism, others are created for the other choices he could make, and while the Luteces have used many other Bookers in alternate universes to try and stop the cycle, it can only end if Comstock is eradicated at birth: if Booker is killed *before* he can make the choice to be baptised or not.

Elizabeth returns Booker to the place of his baptism (Figure 64. Irrational Games 2013, screenshot by author), before the ceremony begins and is joined by all the versions of herself that came to the same conclusion. Booker permits the Elizabeths to drown him, thus ending the cycle and preventing Comstock from ever existing, ever creating Columbia, and ever taking Elizabeth. The Elizabeths disappear, because if Comstock never existed, they never had to go through the processes that led them all to this point (*BioShock Infinite* 2016; *BioShock Infinite* 2017).



**Figure 64:** The baptism. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

The screen goes black and the game ends, but after the credits, Booker wakes up on October 8<sup>th</sup> 1983, calls out for Anna and upon opening her door, the screen goes black once more, leaving an open ending (*BioShock Infinite* 2016; *BioShock Infinite* 2017).

## APPENDIX B: PARALLELS BETWEEN THE WORLDS OF RAPTURE AND COLUMBIA

When the bathysphere drops from the Rapture lighthouse, it counts in fathoms (5 fathoms, 10 fathoms, 15 fathoms) and when rising up to Columbia in the Rocket, it counts in feet (5 thousand feet, 10 thousand feet, 15 thousand feet). Upon arriving at the terminals, a splicer in Rapture asks “Is it someone new?” and upon arriving at Columbia, a blind priest asks the exact same question as Booker approaches a circle of worshippers. When entering the Rapture lighthouse, the player approaches a massive statue of Ryan, and upon entering Columbia, the player finds an equally imposing statue of Comstock (Figure 65. Irrational Games 2007; Figure 66. Irrational Games 2013, screenshots by author). These are subtle yet powerful references to the similarity and connectedness of the two cities.



Figure 65: Statue of Ryan. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2007.



Figure 66: Statue of Comstock. Screenshot by author. 2017. *BioShock Infinite*. Irrational Games, 2013.

The statue of Comstock is in itself another similarity between the two worlds, as shrines to Comstock appear in regular places throughout the game in a similar fashion to the shrines to Dr Lamb which appear in *BioShock 2*. Certain items and machines appear to exist in different forms across the universes as well.

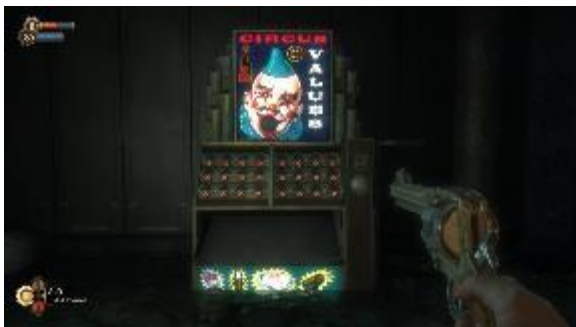


Figure 67: Vita chamber. Screenshot by author. 2017. *BioShock*. Irrational Games, 2007.

Vita chambers (Figure 67. Irrational Games 2007, screenshot by author) revive you immediately after death in *BioShock 1* and 2, but in *BioShock Infinite*, Elizabeth revives you. Power-to-the-people stations and circus of value stations in *BioShock 1* and 2 are replaced by ammunition and vigor stations in *BioShock Infinite* (Figure 68. Irrational Games 2007, Figure 69. Irrational Games 2013, screenshot by author). These fulfil

the same need to upgrade weapons and purchase items from a vending machine, but appear very different to suit the style and themes of each universe.

Voice diaries of *BioShock* 1 and 2 occur in the form of voxophones, which record the speech of various citizens of the city in the same way as a diegetic way to give background information and add depth to the narrative and characters. The vigors of Columbia are essentially the same as the plasmids of Rapture. Reblin states (2015:90) that the Songbird (Elizabeth's robot protector) resulted from research done in Rapture to build the Big Daddies, making this another link between the two worlds. Diegetic features such as these are used on a number of occasions to indicate similarity and connectedness between the worlds.



**Figure 68: Vending machine in Rapture.**  
Screenshot by author. 2017. *BioShock*.  
Irrational Games, 2007.



**Figure 69: Vending machine in Columbia.**  
Screenshot by author. 2017. *BioShock Infinite*.  
Irrational Games, 2013.

In addition to diegetic features, the narrative of Columbia city and Rapture city are similar. Firstly, both Columbia and Rapture are cities located in the middle of the ocean (one above and one below the surface), founded by men who were dissatisfied with the political and social circumstances of the outside world. Both are dystopic worlds that were created to be utopias, in which the ideals on which they are built are failing them. In each city, a revolution was started against the founder and his political power by a leader of the lower classes and the disenfranchised: in Rapture this is Atlas and later Dr Lamb, and in Columbia this is Daisy Fitzroy. Atlas can be seen referred to in propaganda posters around Rapture as 'the voice of the people'. In an

intriguing parallel to this, Daisy's followers – the underclass of Columbia are called the *Vox Populi* ('voice of the people' in Latin). In each game, a man – the protagonist – takes on a journey and must kill the leader of the city only to realise that he himself is a crucial part of the problem, that he is far more involved than he realised, and that his entire journey has been predetermined. In both *BioShock 2* and *BioShock Infinite*, this man is seeking his daughter,

and in each narrative this girl is supposed to lead the city in the future, causing the eventual devastation of the planet. These girls are also both daughters of the leader that the protagonists seek to overthrow, as well as the protagonists' own daughters: Elizabeth is the daughter of Zachary Comstock as well as Booker Dewitt because he is the same man; and Eleanor Lamb, Subject Delta's little girl, is the biological child of Dr Sophia Lamb. The fact that the main character is always a man is no accident: to quote Elizabeth, there are constants and variables between the parallel universes – constants including that there is “always a man, always a city and always a lighthouse”. This is reflected within the three games.

Many of the characters who live in the respective cities also have similarities between them. In a parallel to the name Eleanor Lamb of *BioShock 2*, *BioShock Infinite*'s Elizabeth Comstock is referred to as the Lamb of the prophet. Similarities in name often occur between parallel characters. The name 'Booker Dewitt' (BD) is similar to the name 'Big Daddy' (also BD). While Booker, has 'AD' scarred onto his hand, Jack has a tattoo of chains on his wrist. The names Elizabeth and Eleanor are also very similar. The titles of Dr Lamb and Father Comstock also create a unity between them. Elizabeth is protected by a giant robotic bird called Songbird, much like the Little Sisters, Eleanor in particular, are protected by Big Daddies. Both Elizabeth and Eleanor help the protagonist throughout the game and yet are instrumental in their death. Both Elizabeth and Eleanor are seen as greater than human, as girls who defy the laws of nature and who are supposed to take over the promised city, yet who will lead to the destruction of the world if allowed to do so. Many parallel characters also exhibit similarities in appearance. Elizabeth and Eleanor both have black hair, pale skin and large blue eyes. The fact that all the Little Sisters also look the same may just be a decision on behalf of the game designers to create an easily identifiable NPC, but it does reinforce the notion of multiple versions of one identity being suggested here. Booker Dewitt, Subject Delta and Jack each have a feature on their hand indicating that they are 'marked men' and could potentially be a sign of plural selves across universes as represented by the *BioShock* series. As Lamb states, “That symbol on your hand marks you as a dead man” – a theme carried through in each game to show the predestiny that lies within the identity of these characters, but also to hint at the trans-dimensional parallels between them that the games play on. Lastly, Booker Dewitt knocks on doors in the exact same way that the Big Daddy knocks on vents, a seemingly meaningless feature but a parallel nonetheless.