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NARRATED VIRTUAL ENVIRONMENTS:
STORYTELLING AND THE CONSTRUCTION OF VIDEO GAME SPACES

Abstract

Virtual space is one of the fundamental building blocks of any digital game. It ties directly into the notions of immersion and interactivity, both of which are enacted in relation to space, and it is therefore one of the components that differentiates the new medium from traditional texts. Over the past decade, the graphical rendering of virtual spaces in digital games has soared to unexpected results, so much so that one might be tempted to define these environments merely in terms of their sensorial representation. My argument, however, is that in addition to audiovisual representation, storytelling is employed by video game developers in order to create meaningful virtual spaces. The aim of the present paper, therefore, is to offer a brief account of current theory on video game spaces, and to add to the latter the idea that narrativity can and, indeed, does participate in the creation of virtual spaces in at least two significant ways. First, I argue that game developers create specific stories which they associate with various game spaces in order to confer meaning upon the latter beyond what can be represented through image and sound. Secondly, I explore the player's experience of such environments and the manner in which personal narratives result from play within certain spaces. To illustrate the above, I turn to 2K Games' *BioShock* and to Bethesda Softworks' *The Elder Scrolls V: Skyrim*, respectively. Ultimately, I propose that through an appropriate use of storytelling, virtual environments can become as meaningful for players as real-life spaces, giving rise to experiences that are no less impactful or memorable than their real-life counterparts.

Keywords: virtual environment, video game spaces, production of space, topophilia, tropophilia

Introduction

The virtual space of digital games is defining for the new medium, as well as uniquely attributed to the latter. It is intimately related to two essential features of digital games: *immersion*, which has been defined as "the experience of being transported" to an elaborate, different space (Murray, 1997: 98), and *interactivity*, which refers to the ability of the program to respond to user input and therefore to the ability of the user to effect change within the virtual space (Murray, 1997: 126). At the same time, this space is unique to the new medium through its combination of sophisticated audiovisual representations, immersion, and interactivity. Given the rapid evolution of technology over the past decade, the graphical rendering of virtual spaces in digital games has soaked much attention, to the point where one might be tempted to define these spaces merely in terms of their sensorial representation. Contrary to this, it is my aim to propose that, in addition to the audiovisual, immersive, and interactive qualities of the new medium, storytelling is employed by developers and players alike in order to create meaningful virtual spaces. In brief, I support that storytelling is relevant in two ways: first, that it nuances otherwise generic locations within a digital game, and second, that it serves as an expression of the player's own experience and understanding of the latter. To verify these hypotheses, I begin with a succinct definition of the medium of digital games and its disputed connection with fiction in order to better position an understanding of spaces

This work was supported by one of the Student Scholarships for Research Activities (2017-2018) funded by "Babeş-Bolyai" University.

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created in this new environment and the manner in which they are experienced by players. I then provide an account of Henri Lefebvre's conceptual triad on the nature of *space as process*, followed by a concise inquiry into the paired notions of *topophilia* and *tropophilia*, as defined by Yi-Fu Tuan, and Jon Anderson and Kathryn Erskine, respectively. I employ these perspectives to investigate the nature of virtual space in digital games, as well as the instrumentality of narratives in their construction. Throughout the second part of the paper, I illustrate the points mentioned above by means of two titles, namely 2K Games' *BioShock* and Bethesda Softworks' *The Elder Scrolls V: Skyrim* (2011). Ultimately, I propose that acknowledging both the similarities and the differences between spaces in digital games and in more traditional forms of textuality allows us to extend literary-oriented approaches to an understanding of spatial representation across media. This is a relevant process in the context of at least two disciplines. First, it encourages the inclusion of academic discourse on storytelling and fiction within game studies, which, as I will argue, is absolutely necessary should this niche of research remain in touch with its object of study. Secondly, it emphasizes that digital games are not an antagonist of literary studies as a discipline, but rather an opportunity, a means by which fiction and its manifold functions for the human being can be translated into contemporary times and beyond.

Video Games: Between Fiction and Virtual Reality

In 2001, when the first issue of the seminal journal *Game Studies* was published, Espen Aarseth formulated the opinion that game studies, a new field of academic research, is at risk of being colonized by scholars hailing from the humanities, particularly from cultural and media studies (Aarseth, 2001: 6-8). Four of the other six papers published in this first issue ostensibly dealt with the alleged incompatibility between storytelling or fiction, on the one hand, and digital games, on the other. Markku Eskelinen, for instance, famously stated that

[o]utside academic theory people are usually excellent at making distinctions between narrative, drama and games. If I throw a ball at you I don't expect you to drop it and wait until it starts telling stories. On the other hand, if and when games and especially computer games are studied and theorized they are almost without exception colonised from the fields of literary, theatre, drama and film studies. (Eskelinen, 2001: 1)

He then proceeded to build an argument that has been used repeatedly in order to deny any possible link between fiction and the new medium, namely that the very nature of narrative is incompatible with "reader" agency. He concluded, at the time, that "stories are just uninteresting ornaments or gift-wrappings to games, and laying any emphasis on studying these kinds of marketing tools is just a waste of time and energy" (Eskelinen, 2001: 34). Similarly, though perhaps less aggressively, Jesper Juul argued, in the same issue, that "[y]ou can't have narration and interactivity at the same time; there is no such thing as a continuously interactive story" (Juul, 2001: 55).

Other scholars of game studies quickly followed suit, often quoting the above-mentioned papers. In a guide to game design published a few years later, for example, Richard Rouse contended that "[w]hat a player primarily seeks in the gaming experience is the challenge they offer, his/her total immersion in the gameplay, the need for action and not simply to watch. (...) The player demands more interaction with the game, while the narrative parts are tiresome" (Rouse, 2001: 2). Espen Aarseth himself continued to encourage this view of the new medium. As the notion emerged that digital games, especially of certain genres, might, in fact, be closely linked to fiction, Aarseth proposed as a counterargument that what takes place in these games may be virtual, but is nevertheless real. He subscribed, in his own words, to a school of "ludo-realism," which saw "game objects and game events as real, or at least closer to reality" (Aarseth, 2014: 419). He defended this position by addressing, amongst other issues, the fact that currency in certain online games functions similarly to real-life currency, but also that a player might become attached to an in-game object in a way they never could if the said object was fictional.

The problem with all of the statements above, however, became increasingly obvious as the gaming industry developed over the past decade. As these and other scholars argued that there is no place for fiction in the new medium, the games that achieved resounding popularity in the background

of academic discourse made ever-complex use of narrative as an essential part of their recipe for success. If one thing was clear, it was that digital games were complex cultural productions, and that in order to understand them, an equally complex cooperation of scholars from various disciplines, including the humanities, was necessary. In other words, “a broader and wider theoretical scheme was necessary to accommodate all of the particular theoretical approaches, giving the opportunity to researchers with a different theoretical background and expertise to contribute to this affair” (Kokonis, 2014: 177). Furthermore, as game designers honed their tools for storytelling, their creations drew attention to the “potential power of the interactive narrative form when developed and executed well” (Joyce, 2016: 5). At present, the appeal and popularity of story-based games is so overwhelming that “highly elaborate and descriptive narratives are now being incorporated into genres with traditionally vacuous storylines, particularly those among the action, fighting, and shooting categories” (Ip, 2011a: 104). As such, should scholars desire to keep in touch with the industry itself, they can no longer ignore the multifaceted role of fiction in the production of contemporary games. In his 2005 *Half-Real*, Juul himself admitted as much. He therefore retracted his initial statement on the incompatibility between games and stories and provided a new definition for the medium: “To play a video game is therefore to interact with real rules while imagining a fictional world, and a video game is a set of rules as well as a fictional world” (Juul, 2005: 1). Yet many questions remain regarding the nature of storytelling in digital games, as well as its potential uses in the development of more meaningful titles.

In an article on fiction in digital games published in 2014, Grant Tavinor provided a useful starting point. Beginning with the premise that “[i]t is plausible that video games contain elements of fiction” (Tavinor, 2014: 434), he built his argument around Rockstar San Diego’s 2010 release, *Red Dead Redemption*, wherein the player assumes the role of John Marston, a fictional character in search of his old criminal gang. Tavinor contended, first and foremost, that in the case of contemporary digital games, what differentiates many titles is precisely their unique narratives. As such, the fiction of a game cannot be considered to be “mere *clothing*,” but must be viewed as “critical to game identity and gameplay” (Tavinor, 2014: 436). *Red Dead Redemption*, for example, might be similar to a host of other games where shooting one’s enemies is involved, but the story of its protagonist sets it apart and thus confers its identity. In addition, Tavinor considered the argument that a game’s programming and its fiction should be ontologically separated, and that the former is usually given priority over the latter. He argued, however, that “[t]he algorithms of video games (...) are interpreted in terms of a fiction, and it is this fiction with which the player primarily engages.” The player, in other words, cannot interact directly with the game code, at least not for the duration of play. The fiction of *Red Dead Redemption*, then, is “not merely a setting, background or ‘narrative frame’ to the game, *but the means by which the game algorithm is depicted to the player*” (Tavinor, 2014: 440). Storytelling, from this point of view, plays an essential part in digital games as played out by users, especially when the genres involved are story-driven.

Already, several implications of the intimate link between fiction and digital games have been intuited by scholars. For instance, in an extensive, two-part study of the matter, Barry Ip analysed the use of various narrative structures in game design. He concluded that, at least in the case of titles he had selected for investigation, a linear game structure, which developed similarly to a traditional text, was predominant. A branching structure was also present, but to a much lesser extent. Furthermore, Ip argued that, like other complex narratives, digital games depicted a wide range of emotions, as well as Aristotle’s “pity and fear, reversal of fortune, physical and mental suffering, and the spectacle element of drama.” Finally, Ip focused on the use of the monomyth in the new medium, but also on the presence of archetypes, and the issue of perspective (Ip, 2010b: 233-9). However, one issue that was not mentioned by Ip and which did not receive sufficient attention across game studies is that of the relationship between game spaces and narrative. As I will show later in this paper, storytelling is as instrumental in the creation of game spaces as it is in the case of more traditional forms of textuality. Yet it is equally evident that, although similarities do exist, these virtual environments are not experienced in the same manner as those belonging to other media. Most importantly, digital game spaces are explored by the player through the mediation of a player-character, and the relationship between the latter two is essentially unique.

Unlike other texts, a digital game is interactive, which, according to Hefner et al., overrides “the distance between media users and media characters: Players either control directly one specific character or take on a social role represented in the game world” (Hefner et al., 2007: 41). In other words, the player, especially in the case of role-playing games (or RPGs), takes control of one or several in-game characters and determines the course of the narrative to various degrees. This leads to an interaction between player and in-game character often described by scholars in terms of “identification.” Jessica Aldred, for example, supports that the video game character is a dual entity. On the one hand, it represents an extension of the player’s self into the game world, but on the other hand, it is a very distinct fictional entity (Aldred, 2014: 356). The player responds to this duality by constantly shifting between identification with the character and the acknowledgement of its otherness. For Katie Salen and Eric Zimmerman, this is precisely the definition of the “double-consciousness of play,” wherein the player alternatively places him- or herself “inside” the character or views the latter merely as a tool of agency, a mediator within the game world (Salen and Zimmerman, 2003: 453-5). The player and the player-character are, of course, two different entities, yet the numerous choices “made by each user [for the character] allow for the many psychic self-reflections needed for identification (...) particularly if the outcome of a decision is not desirable. At the same time, the user remains aware that the (...) gameworld is not of their own creation – it exists outside of themselves (...)” (Waggoner, 2009: 173). It is furthermore important to note that, in the case of digital games, choice is “a decentred phenomenon: it is not the prerogative of either the (human) player or the machine algorithm. These entities themselves occur as supplements to the other (...). The element of choice therefore occurs within the (human) player-machine algorithm complex” (Mukherjee, 2015: 156). Put differently, the player of digital games cannot be identified with their non-virtual, human identity. Rather, the player is a hybrid entity whose decisions are informed by at least three components, including a non-virtual identity, one or several in-game characters with unique personality features, as well as the very programming of the game, which determines the available options at any given time. For the purpose of our present investigation, this is a relevant issue because it determines the manner in which video game spaces are experienced, namely through the mediation of a character, with whom the player might identify to various degrees, as well as within the boundaries put forward by the game code. Certainly, the player remains distinct from the in-game character, but their explorations of the virtual environment are intimately linked. As we shall see, game spaces are constructed not only through audio-visual representations, but also by means of storytelling, whereas the stories resulting thereof belong both to a fictional character and to the user who controls it. That the identities of the two communicate throughout the duration of play is therefore essential. Before we delve into an illustration of the above, however, we must first have a better understanding of the nature of space in digital games.

Narrated Video Game Spaces

A digital game and, therefore, the space it simulates can be described in a number of ways, which has led to some confusion over the years. A game can be seen as a product, program or code, or it can be defined as a process, an experience of play. If, in the first case, the programmer or developer is central, in the second, the player comes to the fore. The space of a digital game is, of course, predetermined by means of a code, but the focus of the present paper is rather the space as perceived by the player, with its audiovisual qualities, interactive possibilities, and attached stories. It is from this point of view that Henri Lefebvre’s *Production of Space*, with its attempt to shift from a purely geographical, scientific or technological perspective on space towards an understanding of space as a process of social production, becomes particularly relevant. To discuss space, Lefebvre argues, one must observe the intricate relations between three interdependent phenomena, all of which contribute to its production. While *spatial practice* or the *perceived space* refers to physical, material space as perceptible through the senses, as well as the routines of daily life that occur within it, *representations of space* or *conceived space* concern those official, intellectualized notions of space commonly proposed by scientists, planners, and social engineers for analytical, administrative, and development purposes, and with a direct regulative impact on spatial practice. Finally, *representational spaces* or *lived space* indicates, as the name suggests, the space as it is experienced by inhabitants, who are

informed by memories, images, and symbols (Lefebvre, 1991: 38-9). As we shall see, Lefebvre's model is not only suitable to describe the different dimensions of virtual space in digital games, but it also finds a clearer illustration in the latter. Indeed, video games invite and, more often than not, command the involvement of the player in the obvious manipulation of various audiovisual or narrative elements for the production of space.

Like Lefebvre, but with a slightly different approach, Yi-Fu Tuan focuses not as much on socially defined space as on the emotional ties created between people and place through everyday routines (Tuan, 1974). *Topophilia*, as he refers to it, occurs as a result of these ties and is characterized by a love of rootedness, as well as by the stability it offers to rooted people. Elsewhere, Tuan notes, in the same vein, that the *aura* of a place cannot be understood merely by investigating the physical, geographical features of the latter. To emphasize this point, he quotes Niels Bohr in a conversation with Werner Heisenberg, at Kronberg Castle in Denmark:

Isn't it strange how this castle changes as soon as one imagines that Hamlet lived here? As scientists we believe that a castle consists only of stones, and admire the way the architect put them together. (...) None of this should be changed by the fact that Hamlet lived here, and yet it is changed completely. Suddenly the walls and the ramparts speak a quite different language. The courtyard becomes an entire world, a dark corner reminds us of the darkness in the human soul (...).’ (Tuan, 2001: 4)

Space, therefore, is not merely topographical, but rather it is invested with a variety of complex values, ranging from cultural implications to personal, emotional significance. This phenomenon is analogous to the experience of space in digital games, where, as we shall see, personal or pre-designed narratives invest various locations with meaning. At the same time, however, playing a video game is essentially a travelling experience, not only because it at least virtually transports the user to a different environment, but also because the aim of any game is often to traverse the latter, rather than accomplish static goals. Jon Anderson and Kathryn Erskine's notion of *tropophilia*, then, is especially pertinent in the context of digital game spaces. A play on Tuan's *topophilia*, *tropophilia* describes the love of travel or changing places as embodied by lifestyle travellers. Similarly to Tuan, Anderson and Erskine acknowledge that “[p]laces themselves are formed by and through our literal and metaphoric constructions and co-constituted by our lived experiences, emotions and cultural attachments” (Anderson and Erskine, 2012: 131), but unlike the former author, they also draw attention to the fact that contemporary life takes place in “a world of mobility,” where stability of place may even prevent personal growth (Anderson and Erskine, 2012: 135). Their case study focuses on lifestyle travellers, who find personal transformation and development through movement, and are therefore different from casual tourists. Indeed, if the tourist returns home more or less unchanged, the lifestyle traveller finds himself or herself in perpetual motion, being particularly attracted by the prospect of submersion in “an unknown place,” with its own culture, rituals, and rhythms (Anderson and Erskine, 2012: 138-9). In many ways, the player of digital games is one such lifestyle traveller. The virtual space he or she is transposed to is invested with its own history and cultural features, while the player is compelled to adapt to the latter in order to progress through the game. In the process, the player experiences change not only in that they become more familiarized with the game rules, but also on an emotional and personal level. Especially in games that are story-driven, “gameplay, as a human experience, is instilled with emotions, from fierce to mild in their intensity, and from persistent to fleeting in their temporality” (Järvinen, 2009: 87). Such experiences are framed by stories and give rise to personal narratives, both of which construct the spaces wherein the experiences themselves take place.

A virtual environment, then, shares certain features with real-life spaces. Defined as “a computer generated display that allows or compels the user (or users) to have a sense of being present in an environment other than the one they are actually in, and to interact with that environment” (Schroeder, 1996: 25), a virtual space generates experiences that are no less real than those occurring in real-life (Bukatman, 1993: 192). Digital games feature precisely such spaces where interactivity is extended to the audience (Wolf, 2014: 127). In fact, for some scholars of video game studies, a game is its game space. Espen Aarseth, for instance, proposed that “[t]he defining element in computer games is spatiality. Computer games are essentially concerned with spatial representation and

negotiation” (Aarseth, 2007: 44-7). In a study on “Time and Space in Digital Game Storytelling,” Huaxin Wei and her colleagues similarly stated that “[i]t is obvious that in order to design a game it is necessary to design a space” (Huaxin Wei et al., 2010: 3). When compared to spaces described in literature or illustrated by pictorial arts, digital game spaces are obviously different in that they feature complex, multidimensional audiovisual representations. At the same time, they are different from spaces depicted in cinema, primarily because, in film, the camera is already directed, while in digital games, this control is relinquished to the player, and the player may effect changes within the space itself. What tends to be forgotten in this respect, however, is that even though the feats of digital graphics are, at times, astonishing, they are not and likely never will be sufficient to construct significant spaces. In digital games, like in other arts, some form of narrativity is necessary in order to instill life and meaning into otherwise generic spaces. After all, “[f]or a text to be immersive, (...) it must create a space to which the reader, spectator, or user can relate” (Ryan, 2001: 14). Narrativity is the means by which the player relates to the game world, for “it is the fictional plane where the player makes sense of the game, the space of personal interpretation and assessment” (Nitsche, 2008: 25-6). In other words, if the fictional world put forward by a digital game is necessarily composed of “some kind of geography, inhabitants, action, and logical consequences that are the outcome of actions” (Wolf, 2014: 125), storytelling is as intrinsic in defining these components as their audiovisual rendering.

Video game spaces have nevertheless been discussed extensively over the past decade. Michael Nitsche, for instance, proposed that five main conceptual planes may be used in their analysis. These included *rule-based space*, “the world of the functional restrictions” described by the game code, *mediated space*, defined as the visual, auditory and any other output used to convey the programming to the player in a comprehensible manner, *fictional space*, or the space imagined by players using cues from the game world, *play space*, comprising both the physical space and the virtual space wherein the player takes action to affect the game world, and *social space*, understood as the layer where interaction takes place between multiple players, if this is possible (Nitsche, 2008: 15-6). These categories are thoroughly reminiscent of Lefebvre’s conceptual triad. Indeed, Nitsche himself acknowledges the influence and explains that spatial practice is mirrored in rule-based space, while conceived space shares similarities with mediated space, and the fictional space, play space, and social space come together under the umbrella of representational spaces. As such, Nitsche’s model is a useful tool in the delineation of video game spaces as an extension of real-life spaces discussed from a phenomenological perspective. However, when he defines the role of storytelling in his understanding, he relies on Jerome Bruner, who proposes a view of the narrative as a means for comprehension commonly used by human beings in order to make sense of actions (Bruner, 2002: 3). He argues, therefore, that narrative elements in digital games serve merely the purpose of making comprehensible the time, space, and causality of the game world (Nitsche, 2008: 43). Henry Jenkins, who has brought an equally significant contribution to the understanding of video game spaces, has also tackled the issue of narrativity in that he argued for the ability of virtual spaces to offer resources for or evoke stories (Jenkins, 2007: 57). What I propose, on the other hand, in the examples that follow, is that, while virtual spaces in digital games can be understood in the way of Nitsche or Jenkins, it is no less productive to prioritize the element of storytelling and its instrumental role in the construction of such immersive, interactive environments. In other words, my aim is to show that, at least in certain circumstances, narrativity is not only employed in the player’s understanding of the fictional game world, nor is it a by-product of the latter, but rather one of its essential building blocks.

BioShock’s Rapture: The Creation of Meaningful Space through Storytelling

I have suggested before that the involvement of storytelling in the construction of video game spaces is at least twofold. First, I have stated that stories may be used in order to make virtual spaces meaningful beyond their audiovisual representations, in the sense of both Tuan’s topophilia and Anderson and Erskine’s tropophilia. There is perhaps no better way to illustrate this than an analysis of 2K Games’ *BioShock* and its iconic space, the city of Rapture. *BioShock* is a first-person shooter initially published in 2007, which has since been hailed as an example of how a game’s proceduralism may be “in many ways dependent upon its narrative and vice versa” (Aldred and Greenspan, 2011: 481). The game invites the player to assume the perspective of Jack Weyland, who becomes the sole

survivor of a plane crash into the Atlantic. In the confusion, Jack stumbles across a secret bathysphere, by means of which he descends into Rapture, a great underwater city. Here, he immediately begins to hear the radio broadcasting of a man who calls himself Atlas. The latter promises to assist Adam to return to the surface if the protagonist completes a few tasks. One request leads to another, however, and the player is eventually asked to find and kill a man named Andrew Ryan, the leader of the city, who has been, by this point, cast into a tyrannical, totalitarian figure. When Jack finally discovers the right office, he is shocked to discover that, in spite of everything he remembered, he had been genetically engineered and constructed in order to reply to any command that featured the words “would you kindly.” He was, in fact, Andrew Ryan’s son, and was being used by Frank Fontaine (or Atlas, by alias) in order to kill the magnate. Repeatedly stating that “a man chooses, a slave obeys,” Ryan orders Jack to strike him with a golf club. Unable to act in any other way, the player eventually kills Ryan, in a scene that has remained memorable to this day due to its poignant questioning of player agency and choice. According to Jessica Aldred and Brian Greenspan, for example, *BioShock* illustrates that “digital games can provide a meaningful site in which questions about the future of technology play out against the dialectic of utopian and dystopian alternatives” (Aldred and Greenspan, 2011: 480). For the two scholars, the most meaningful moment in this demonstration is, of course, the game’s conclusion, which they interpret as follows:

As Ryan admonishes you that “a man chooses, a slave obeys” and orders your avatar to kill him, the game forces you to obey, temporarily wresting control of your avatar so that you must look on, helplessly, as you beat Ryan to death with a golf club. Even this climactic cut scene, typically a quintessentially machinic act, is given an unusually strong diegetic motivation, cleverly focusing the dystopian themes of user agency and free will, and bringing home the point that, within both *BioShock*’s narrative *and* its procedural allegorization of converged control, we are ultimately slaves. (Aldred and Greenspan, 2011: 490).

Referring to the same episode, Joseph Nelis likewise contended that “*BioShock* presents players and critics with narrative and ludic experiences that are inextricably linked and influence interpretation of one another” (Nelis, 2013: 53). Through this innovative interdependence of the fictional and ludic components of the game, the latter proposes a self-referential moment that questions the very nature of first-person shooter titles. Moreover, it concomitantly “forces the player to think about their gaming experience and what it means to be so immersed” (Nelis, 2013: 50).

In addition to the game’s innovative plotline and equally contributing to the development of the latter, the city of Rapture has been acclaimed as one of the most iconic video game spaces ever designed. In it, Ryan Lizardi saw a space which “contains nuanced, critical and discussion-provoking historical representations, despite being a completely fantastical alternate historical construction” (Lizardi, 2014: 10). Indeed, Rapture is carefully constructed so as to offer a unique critique of Ayn Rand’s philosophy of objectivism or “rational selfishness.” Established by the magnate Andrew Ryan in the mid-1950s, it embodies precisely the type of utopian hidden colony described by Rand in her widely famous *Atlas Shrugged*. Thus, the original intention of Andrew Ryan was to bring together the brightest minds of humanity, scientists and artists alike, in a capitalist society free of governmental or religious interference, a community of free-minded people who upheld individual and property rights over anything else. Of course, a number of dire flaws were embedded in this model, and eventually, they began to corrode the very foundation of the city. To begin with, in a purely capitalist society, where supplies of food, sanitation, healthcare, and even oxygen were privately owned and in the absence of any publicly funded social programs, the less fortunate were quickly alienated. Meanwhile, a doctor Brigid Tenenbaum discovered a miraculous new substance found in a certain species of sea slugs that could be used in order to manipulate human DNA, cure diseases, and, of course, augment human beings with unnatural powers. She suggestively dubbed this substance ADAM. Yet no one was willing to fund her initial, uncertain research, which is why Tenenbaum eventually sought the help of Frank Fontaine, a ruthless businessman who saw the potential for addiction in the new substance. Soon afterwards, in another display of science unfettered, Tenenbaum discovered that more ADAM could be harvested if the source sea slugs were first implanted in young girls. As such, Frank Fontaine established the “Little Sister’s Orphanage,” a place where poor families could send their girls for care and education. He implanted a vast number of such little girls with ADAM slugs, which

the player encounters throughout the game. When Andrew Ryan discovered the extent of Fontaine's power over Rapture, he assumed control of his corporation, Fontaine Futuristics. Simultaneously, civil unrest festered throughout the city, an opportunity that Fontaine immediately took in order to start a guerrilla war against the city's security and, ultimately, against Ryan. As the situation grew increasingly desperate, so did Andrew Ryan, who began to implement a number of totalitarian measures throughout Rapture as a response. A Civil War broke out, worsened by the population's addiction to ADAM, as well as by the struggle for power played out between Ryan and Fontaine. The city became a ruinous phantasm of its former promise, with various systems breaking down, areas entirely flooded, and insane, addicted people roaming the streets. Following the player's intervention, Ryan and Fontaine are both killed, and Rapture itself is destroyed and forgotten. In the economy of the game, however, Rapture remained a space inseparable from its history. It was remembered by players not necessarily as an underwater construction, but rather as a demonstration of *laissez-faire* capitalism and "ethical" egoism gone awry. It laid bare the logic of space as described in Lefebvre's triad by obviating, for the player, that the manner in which the city was planned was intrinsically connected with its social, economic, and political aims. Furthermore, it became a *topos* invested with a number of complex ideas, as well as with the emotions associated with the latter by each player.

Such a vast construction of Rapture would not have been possible using audiovisual cues alone. The architecture of the city, for instance, is indeed awe-inspiring, with beautifully lighted skylines, luxuriously adorned, grand interior spaces, strong geometric lines, and intricate details cast in metal, but their most powerful meaning comes from their reflection of New York, the Art Deco period, as well as notorious landmarks, such as The Chrysler Building or The Empire State Building, which were completed just before the narrated time of the game. In other words, the narratives of power, industrialism and opulence that accompanied these feats of architecture and of capitalism in real-life are translated into the game world, so that they become integral parts of the game space. Certainly, Rapture would remain beautiful even in the absence of such narratives, but it would not represent the same virtual environment, determined to such an extent by the stories of its past. Similarly, as a faithful allegory of mid-20th century urban space, Rapture is brimming with well-placed, suggestive advertisements, pieces of wisdom, and social or political posters. In fact, one stunning example of the latter is encountered by the player as soon as they enter the dark bathysphere. The lights suddenly come online and a large bust of Andrew Ryan, cast in gold, is forced upon the player's sight as it presides upon the room from above. Underneath it, a red drape is inscribed with the text "No Gods or Kings. Only Man." As such, a narrative both of progress and of hybris is already being shaped, preparing the player for their entry into the city and inviting them to interpretation.

Alongside architectural details and suggestive artwork, perhaps the most obvious means of using storytelling in order to shape the game space is represented by the audio recordings scattered throughout the city. Some of the most striking of the latter belong to Dr. J. S. Steinman, an accomplished plastic surgeon who began to use various forms of the ADAM substance on himself and on his patients, for the purpose of achieving perfect beauty. Whether due to ADAM abuse, an exacerbated hybris, or both, Dr. Steinman soon began to lose grip on reality. His insanity manifested in an attempt to overcome physical perfection and the idea of symmetry, as one of his audio diaries suggests:

When Picasso became bored of painting people, he started representing them as cubes and other abstract forms. The world called him a genius! I've spent my entire surgical career creating the same tired shapes, over and over again: the upturned nose, the cleft chin, the ample bosom. Wouldn't it be wonderful if I could do with a knife what that old Spaniard did with a brush?¹

Further audio diaries record that Dr. Steinman began to hallucinate meeting with the Goddess Aphrodite, wherein the latter commanded him to abolish symmetry, expand his imagination, and create a new aesthetic. The player also discovers that a number of the doctor's patients became his artistic experiments, while Steinman himself never actually felt that he had achieved his new aesthetic aims. Dr. Steinman, therefore, is one of the game's many examples of what man risks to become in

¹*BioShock* audio diaries can be consulted at: http://bioshock.wikia.com/wiki/Surgery%27s_Picasso. Retrieved on 15.04.2018.

the absence of “Gods or Kings.” The excerpts of his story are strategically placed throughout the city’s Medical Pavilion, which also feature a Dental Clinic and various other practices. In light of Steinman’s discourse, the space itself becomes foreboding and repulsive. Although it is graphically rendered as a hospital, the stories told therein drastically alter its construction and meaning, a process that is used throughout Rapture and that essentially defines the city beyond its architecture, audio or visual cues. The virtual space of *BioShock*, therefore, exists predominantly as a result of accomplished storytelling and it is inseparable from the latter.

Skyrim: The Reconfiguration of Space through Personal Player Narratives

A similar point can be made in what concerns Bethesda Softworks’ *The Elder Scrolls V: Skyrim*, which features a vastly different narrative premise, but which is equally renowned for its potential to tell meaningful stories. *Skyrim* is an open world, action role-playing video game first published in 2011 as the fifth installment in a long-standing series, notorious for its story-driven gameplay. To experience it, the player assumes the role of a Dovahkiin or “Dragonborn,” which, unlike Jack Wynnand in *BioShock*, is fully customizable in terms of appearance. The northern region of Skyrim, as part of the wider continent of Tamriel, is home to a rich, complex history, referred to by the players as “lore.” At the moment when the player enters the game world, Skyrim is under the tyranny of the Aldmeri Dominion. The Empire, which also included Skyrim, among other regions populated by humans, has lost a long war against the elven Dominion, and, as a result, has relinquished partial control over the northern region in the White-Gold Concordant, to the dismay of its predominant population, the Nords. Led by Ulfric Stormcloak, a rebellion is mounted against the Empire and the Dominion. In this context, the player can take the side of either the Nords and their Stormcloak Rebellion or the Imperials with their Royal Guards, ultimately deciding the political fate of the region. Concomitantly with these events, after a long period of absence, ancient dragons begin to menace the region once more. As Dovahkiin, the player can wield the dragon shout or Thu’um, and is therefore the only humanoid capable enough to engage the reemerging threat. His written “destiny” is to defeat Alduin, the World Eater, the leader of the dragons and the one who is fated to bring the end of the world as known at the time. In addition to the two above-mentioned plots, the player is encouraged to take part in numerous subplots, which carry him or her throughout the entire region.

The space of *Skyrim* is different from Rapture first and foremost in the sense that it is an open world, which the player can therefore explore freely, in no particular order. In fact, when *Skyrim* was marketed prior to its launch, one of its most attractive features was that the player could explore any area that they could see by looking at their screen. This is true, to a large extent, even though the world of Skyrim is, of course, limited and certain borders cannot be traversed. Here, like in Rapture, there are places that are thoroughly invested with narrative content or “lore.” Windhelm, for instance, serves as the capital of the Eastmarch region of Skyrim, and is also referred to as the City of Kings, the oldest city in Skyrim still remaining and the seat of many human leaders, including Ulfric Stormcloak. One of the coldest places in the game world, it stands as a testament to the endurance of men and a powerful symbol in their rebellion. East of the city, Dunmeth Pass is one of the borders that cannot be crossed by players, but it is designed so as to evoke a compelling emotional response. First, unlike most other borders around Skyrim, which are depicted as crumbled ruins, mountains, waterfalls or seas, Dunmeth Pass allows a clear view of what lies beyond it. This is the road to Morrowind, another region of Tamriel, which had served as the game space of *The Elder Scrolls III* and which inevitably stirs nostalgia in any player of the series who has experienced its previous installments. Furthermore, the Pass was one of the very few safe ways to cross from Morrowind into Skyrim, so that, when the volcanic Red Mountain erupted, thousands of refugees were forced to seek a new home in the northern region. A decrepit tower called Refugee’s Rest was placed at the side of the road in order to mark their ordeals. Here, the player can read about refugees’ emotional encounters with their loved ones, as well as several notices for those who could no longer be found. More than three hundred such places, vestiges of more or less extensive stories, are scattered throughout Skyrim. Like the city of Windhelm or the nearby Dunmeth Pass, they are constructed not only as beautiful sights, but especially through narrative elements that infuse them with life and significance. It is noteworthy, as well, that Skyrim is home not only to the Nords, but to a variety of other cultures, including the Orcs, the Imperial, or the Dunmer. Each of these display their own specific behaviours and the player

is compelled to adapt to them in order to interact with them. *Skyrim*, in other words, is the ideal allegory of *trophophilia*, and within it, the player is perpetually in motion, similarly to the lifestyle traveller.

Yet *Skyrim* is relevant for the present discussion not only because it employs predesigned stories in the construction of its space. Indeed, I have argued earlier that storytelling is tied to video game spaces in at least two ways, the second of which is represented by personal narratives enacted and remembered by players. Particularly due to its open world, *Skyrim* offers the ideal space for the creation of such stories, and the stories themselves alter the places associated with them. Furthermore, the game “makes little attempt to stitch the player’s narrative experiences together. Instead, the player must do so on his own in an effort to complete the story experience.” (Joyce, 2016: 27). In other words, because *Skyrim* allows players to explore any location they can set their eyes upon, while the places themselves commonly feature impressive sights, narratives of travel and adventure emerge. The mountain peak called The Throat of the World, for instance, is described in the following manner by one player:

This place is the highest point of Tamriel. Walking around in *Skyrim* and looking at the mountains, seeing this one huge mountain and its peak giving the thought of something like, ‘If only I could be there!’, and then actually visiting that place after climbing hundreds of steps, this whole experience can be one of the best picks from the game.²

Furthermore, certain locations are the sites of difficult tasks or battles, and can be revisited after these deeds are completed. The Throat of the World is one such place. It is where the player must decide whether to kill or cooperate with Paarthurnax, a notorious and emotionally impactful choice. It is also where the player discovers secret information regarding Alduin and eventually defeats the latter in an epic battle. Alongside areas such as the Forgotten Vale, Blackreach, or the Soul Cairn, the Throat of the World gives rise to personal narratives of achievement and nostalgia, as the following player describes:

You’re a level 105 Nord, you’ve ended the civil war and gotten the Elves their Elven rights. You’re a good father and husband, a warrior, a scholar, and a fair human being. (...) you end the evening by chilling with your buddy Paarthurnax, enjoying your mead. And [the sunset over the Throat of the World] is what you’re looking at.³

Contrasting with these adventurous spaces is the Dovahkiin’s homestead, which the player can purchase ready-made, within one of the cities of *Skyrim*, or build from foundation, outside city walls. Especially for those who choose to construct their own homesteads, the game offers several customization options. The player can decide which rooms to build, as well as how to decorate these rooms, even though, as one player argues, the homestead system has its own shortcomings:

My character isn’t the self-indulgent sort and all she wanted was a humble home with only one lavish feature: a massive library. Now there is a whole library add-on which has that covered... but you HAVE to build the ‘great hall’ section of the building to have any of the smaller additions. This takes your humble home into mansion territory whether you like it or not.⁴

What is noteworthy in the previous complaint is that the player has invested their *Skyrim* home with personal meaning, and attempted to design the latter as a reflection of their character’s individuality. A narrative, therefore, lies at the foundation of this homestead, so that, even though the

²The excerpt was retrieved from a forum discussion on memorable places in *Skyrim*, which can be found at: <https://www.quora.com/What-is-your-favorite-place-to-explore-in-Skyrim>. Retrieved on 15.04.2018.

³The excerpt was retrieved from a form discussion on the Throat of the World, which can be found at: https://www.reddit.com/r/skyrim/comments/7z8eub/a_warm_sunset_over_the_throat_of_the_world/. Retrieved on 15.04.2018.

⁴The excerpt was retrieved from a forum discussion on homesteads in *Skyrim*, which can be found at: <http://www.escapistmagazine.com/forums/read/9.387425-Skyrim-DLC-Hearthfire-your-thoughts>. Retrieved on 15.04.2018.

number of customization options is limited, each player theoretically creates their own, unique intimate space. Several types of personalized stories, then, occur throughout *Skyrim*, facilitated by predesigned narrative elements and the game's open world. As such, similarly to the city of Rapture, the virtual space of *Skyrim* is defined as much by its audiovisual rendering as by its embedded opportunities for storytelling.

Conclusions

Ultimately, what the two examples of Rapture and *Skyrim* illustrate is that, whether predetermined by game designers or personalized by players themselves, narratives are fundamental means in the construction of video game spaces. In other words, alongside audiovisual representations, immersion and interactivity, storytelling in digital games participates in the creation of unique virtual environments. The latter are ideal embodiments of Lefebvre's *space as a social product*, because they are essentially composed of various elements with narrative potential, which are then organized and reorganized by players in their co-construction of the game's space. At the same time, as I have argued above, in the case of *Skyrim* homesteads, for instance, places in digital games can become the object of *topophilia* as defined by Tuan, when they are invested with personalized stories and meaning by players. Moreover, the experience of play can be understood through the lens of Anderson and Erskine's *trophophilia*, not only because digital games often transport the player to a different fictional world, but also because within this world, progression is usually associated with travel through the virtual environment. The player, therefore, becomes an allegory for the lifestyle traveller who encounters distinct cultures and renegotiates his or her identity in relation to the latter. On the other hand, the common denominator for all of the above understandings of video game spaces is the instrumental, constitutive use of stories, which, when applied appropriately, results in environments as memorable and vivid as their real-life counterparts.

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