Immersion and Worldbuilding in Videogames

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Master's Thesis

Supervisor: Ljubica Matek, Ph.D., Assistant Professor

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Abstract

Videogames are a relatively new entertainment medium that, despite its current underappreciated position in relation to literature, film or television, still succeeded to cement its place in the global culture by virtue of its interactivity. By comparing and contrasting videogame narratives to those of other media, one can easily see that interactivity, as their defining quality, has a detrimental effect on how players immerse themselves in videogames' stories. Immersion is easily broken though, as it hinges on a multitude of different elements, such as the videogame's length, the responsiveness of its controls, and the acknowledgement of player actions. How writers approach crafting these virtual worlds is also markedly different in comparison to literature and film, as the videogames' dynamic nature gives rise to a host of potential issues to be mindful of. The author's vision can sometimes be at odds with player agency, for instance, and taking too much control away from the player might result in a quality narrative at the expense of an engrossing gameplay experience. Understanding that crafting a game that stands on its own merits, engages the player, and tells a compelling story is more often than not a balancing act is the first step to creating a truly unique and timeless experience.

Keywords: videogames, immersion, worldbuilding, narrative, gameplay.

Contents

Introduction

In the late 1960s, Ralph Baer and his team of developers at Sanders Associates, Inc. invented a prototype multiplayer, multi-program videogame system that could be played on a television, dubbed "The Brown Box". This paved the way for the Magnavox Odyssey, the world's first videogame home console, in 1972. Since its inception, the videogame industry has been on the forefront of technological development, and it quickly became one of the world's fastest-growing industries overall (Chikhani). Over the years, its focus gradually shifted from relatively niche markets to the mainstream public and it has even outperformed its competitors in the film and music industries in recent years. For example, in 2013, the videogame industry was reported to have made an astounding $70.4 billion in revenue, compared to cinema's $35.9 billion, a fact often attributed to a pronounced demand for interactivity, the rise of online and mobile gaming, as well as the increased popularity of certain gaming franchises such as *Grand Theft Auto* (Chetterson). The US publishing industry lagged behind, with sales figures from 2013 amounting to just over $27 billion ("Book Publisher Revenue").

One of the main goals when creating any entertainment medium is to have the audience become immersed or invested in it. When talking about films, literature, and videogames specifically, the audience typically becomes immersed into their story, world, or invested into the destiny of characters. Since videogames require an active participation of the player by design, one could argue that in playing there exists potential for even greater immersive experiences. This paper will focus on examining the immersive qualities of videogame narratives, starting with the definition of immersion, its merits, as well as select examples of immersive qualities pertaining to various videogames. Following that, the paper will shift its focus toward worldbuilding, the different ways developers build their fictional worlds and how said worldbuilding fits into contemporary literary conventions, as well as how it relates to the player's perception and immersion. Examples will be provided for each category listed and the narrative choices in each will be compared and contrasted to those of other entertainment media. Lastly, the paper will end with a look at the latest technological advancements in virtual and augmented reality, examining the impact they have had on players' immersion, as well as taking a look at what this technology might mean for narrative experiences going forth.

1. Videogames as a Medium

Despite their financial success, the status of videogames as a medium is still widely contested. Those opposed to the idea claim that videogames are not able to wholly conform to the traditionally established definition of a medium: something that carries an idea from one place to another. Additionally, there exist games that cannot be considered actively "consumable" in the same way entertainment media such as films and literature can. After all, games will deny a person access to the rest of its content if they are not playing it well, which cannot be said for films, books, or music albums. Instead, they are said to be more akin to hobbies or even acquired skills (Lantz). Others cite videogames' similarity to traditional storytelling structures as proof of their status as an entertainment and storytelling medium equal or even superior to films and literature. Namely, according to Steele Filipek, a traditional story is usually comprised of five elements: a protagonist, their desire, obstacles preventing the protagonist from achieving said desire, their choices involving surmounting those obstacles, and finally, a resolution. The key difference when it comes to videogames is the fact that the player takes on a more active role in the story than a reader takes, which requires a subtle change in the aforementioned five elements that leads to a drastic change in the story's delivery. Thus, the protagonist is now referred to as an agent, and a desire can instead be seen as an achievement the player desires that will help them express something. The player still has to face obstacles getting in the way of their success, and as the agent, they make choices to overcome them. Lastly, the agent earns a reward or punishment for their success or failure. The player is not merely a passive observer, but instead immerses himself in the protagonist's role or at the very least, becomes the person who makes the protagonist's choices and earns the accolades or scorn when reaching for the achievement. Even games as abstract as *Tetris* or *Angry Birds* feature these elements, which goes to show that a videogame does not need to be large in scope or sophisticated to be considered a narrative (Filipek).

Naturally, as technology developed, so did the storytelling options expand, and there now exists a wide range of videogame narratives executed in a multitude of different ways. According to Miguel Sicart, unlike in literature, the question immediately posed in videogames is usually not "What does this mean?" but "What can I do, and what should I do?" This too highlights the active role of users when it comes to videogames, contrasted with the works of authors or filmmakers, but also serves as a reminder that meaning in games is not procedurally created or generated by the computer, which is a common misconception. Instead, "meaning is played" (qtd. in Roine 119). Finally, when discussing videogames' legitimacy as a medium, Duilio Giordano

Faillaci turns to Communication theory, specifically Patrick Charaudeau's theory of the "Language Act": "The author defines the Language Act as a result of two activities, production and interpretation. In the first of these, a number of factors come into play that determine the enunciation of the message, while in the second part the addressee intervenes, who interprets the message" (qtd. in Faillaci). While communication in its simplest form can be broken down to the aforementioned two activities, the production and reception of messages, a key word in this proposal is "interpretation". Each individual can interpret and assess a message according to their own experiences. It is the essence of communication, and the same phenomenon can be observed in videogames as well. If a medium is defined as a channel or system of communication in the communication process, it stands to reason that videogames, with their endless resources that can be used to send a message directly to the player, can without a doubt be considered a type of medium (Faillaci).

With that established, one can discuss what kind of medium videogames are. Depending on one's frame of reference, videogames can be defined as several different types of media. For example, for the purposes of this paper, videogames will mostly be considered as an entertainment medium, since emphasis will be put on qualities shared by other media that fall under the same umbrella term, such as books and movies, which they will also be compared to and contrasted with. Faillaci defines videogames as multimedia, seeing how they are more often than not an amalgamation of different subtypes of media, including visual, auditory, and in rare cases even olfactory or tactile media (Faillaci). Alan Kay describes the computer as the first metamedium, able to simulate any other media, such as the medium of game (qtd. in Roine 22). It is not unheard of to see them as mass media because of how widespread they are, or even news media in a similar vein to televised news or newspapers, especially when one adds mobile games to the equation, which often rely on advertising and ads as a sustainable source of income. The multiplayer component of some videogames further complicates the issue, lending themselves to be analysed by disciplines such as psychology, sociology, and so on, which would take the discussion beyond the scope of this paper. Faillaci also suggests the term "interactive media", since interactivity is widely considered to be the greatest difference between old and new media (Faillaci).

Hanna-Riikka Roine, however, considers the latter to be an inadequate definition, since it does not differentiate videogames from other kinds of storytelling. Basically, all stories are interactive in the sense that no story can exist if there is no one to engage with it (115). Moreover, while she agrees with Kay's definition of the computer and, by extension, videogames as a

metamedium, since they sometimes borrow heavily from other media, she argues that it detracts from their more unique qualities and makes them appear derivative as a result. Adding onto that, while one can make use of literary theory to define certain aspects of videogames, such as their plot, characters, or worldbuilding, one should refrain from studying videogames as works of "literature" or "digital literature." This is often done with good intentions by reviewers and consumers alike, with the aim of recognising games as a subject worthy of discussion and further study. However, by imposing the literary criteria of aesthetics and artistic merit on them, one dismisses their unique features and affordances in the process (Roine 22). If one wishes to examine videogames from a narrative standpoint, the term "ludonarrative" might be better suited, since it specifically refers to phenomena that combine both game and story elements. Although games such as the aforementioned *Tetris* do contain elements similar to traditional storytelling structures, one would be hard-pressed to find any elements of worldbuilding or character development in the vein of digital role-playing series such as *Dragon Age* or *Mass Effect*. It is for this reason that the term "ludonarrative" has been coined to narrow down the field of enquiry, instead of making definite claims for all games in existence, including those that do not make use of narrative devices and elements (Roine 23). For the purposes of this paper, however, this term will not be used, since emphasis will be put on narrative elements and practices in relation to speculative fiction that transcend medial boundaries.

2. Immersion

By its definition, immersion can be seen as the act of deep mental involvement in something. That by itself is a very broad definition and it can be applied to a multitude of different tasks. For example, one might speak of cultural immersion, language immersion or immersion in music. No matter the subject, the act of actively engaging one's mental faculties is always at the forefront (Thoesen). When talking about immersion in fictional works specifically, though, one other word begins to take precedence – illusion. Unlike foreign cultures or languages, fictional worlds actively have to seduce or entice the subject into suspending their disbelief. According to Walton, works of fiction aim to persuade our mind into engaging them as living experience, letting itself be absorbed in it, and answer its challenges properly, if vicariously (qtd. in Pavel 99). In a way, it is the "blocking out of the physical world" (Biocca 25), where the sense of immersion is the more heightened the less the user is aware of the physical generator of the information, be it a book, computer, or a videogame console (Ryan 113). Roine on the other hand defines immersion as a dynamic activity, one in which the subject both apprehends the framework of the fictional work, as well as uses it (Roine 6). Gene Roddenberry's Introduction to *Star Trek: The Next Generation Technical Manual* addresses this issue very vividly:

> The Starship *Enterprise* is not a collection of motion picture sets or a model used in visual effects. It is a very real vehicle [...] You, the audience, furnish its propulsion. With a wondrous leap of imagination, you make it into a real spaceship that can take us into the far reaches of the galaxy and sometimes even the depths of the human soul. (v)

Kendall Walton views immersion as a similarly dynamic activity, requiring the active participation of the user or appreciator. The fictional texts in books or visual representations generated by a computer or a console can therefore be seen as "props in a game of make-believe" (Walton 11), where the game consists of selecting an object and regarding it as something else, usually in agreement with other players (or between an author and a reader, in the case of written fiction). Just as a branch may be seen as a sword in a children's game of make-believe, the picture of a house is taken for an actual house, and the text of a novel is taken by an immersed reader as an account of real facts. If immersion is seen as a game, then the consumers are by extension players, who project themselves as members of the world in which the branch is a sword, the picture of a house is a house, and so on, and play the game by generating fictional

truths. In other words, they imagine the fictional world according to the directives encoded in the prop. The truths these players generate may concern the players themselves or rather, their fictional alter ego. Additionally, they are not limited to truths of the type "x is fictional" but also "it is fictional that I believe x". For example, if x relates the sad tale of a character, it will be fictional that the player's alter ego pities the character. These emotions may then carry over to the real world and cause physical reactions such as crying for said character (Ryan 115-116).

Lastly, Christina Vischer Bruns sees immersion as an intermediary space entered when the distinction between inner and outer realities is blurred during an engaging and creative activity, such as listening to a piece of music, playing a sport, watching a film, or participating in a religious ceremony. The importance of immersing oneself in a work of fiction is, according to her, twofold. Firstly, the blurring of inner and outer worlds gives form to inner states of being of the individual – self-states, moods or hidden parts of ourselves usually inaccessible to conscious awareness. A good example of this phenomenon can be seen in music, when a song suddenly provokes tears at some unexpected or even uncanny resonance. Secondly, the so-called shape of the immersive activity is said to be able to stimulate a reworking of the normally fixed boundary between the self and the world, thereby producing a more responsive way of relating across that boundary. In other words, an immersive activity may leave the user more open to and perceptive of the world around them, able to better adapt to new events and challenges. Both of the aforementioned outcomes can result in a changed or possibly even transformed sense of self, as a person becomes aware of formerly unconscious moods or states and as the experience encountered in the intermediary space leaves an imprint on a person's sense of self and their place in the world. The human need to experience such moments of fluidity instils in people a sense of craving for activities that foster this kind of transitional experience (1-2).

2.1 How Immersion is Achieved

"For centuries, books have been the cutting edge of artificial reality. Think about it: you read words on a page, and your mind fills in the pictures and emotions – even physical reactions can result" (Wodaski 79). When it comes to videogames, the fact that the player takes on the role of the protagonist and controls the action has an essential effect on how immersion is achieved. Agency, therefore, is an important factor in creating an immersive experience. After all, players are more likely to become invested in the story if they have a visible impact on it, which is why many games have multiple endings depending on the player's actions, something not possible in

conventional films and literature, except for certain Choose-Your-Own-Adventure[1] style media. Even so, the degree of interactivity in such game books was fairly rudimentary, since there are a set amount of outcomes and ways to get to them. In such a conventional interactive system, the reader is free to interact with different parts of the text, but their choices do not impact the overall configuration of the network. If we compare a game book to a maze, no matter how the player runs it, the maze's construction remains the same, with the author remaining the hidden master of the maze.

For a videogame to be truly considered interactive though, the player not only needs to have the ability to navigate the virtual world, but also has to have the power to modify it. The most literal representation of this can be found in *Minecraft* (Mojang 2011), which gives players the power to reshape the virtual landscape to their own liking. The changes made are persistent and can even be seen by other players navigating the same world, giving consequence to the player's actions. In allowing this, the game developer relinquishes a part of his authority and instead lets the game itself intelligently respond to the player's actions and decisions in real time (Ryan 128). How the game reacts to the player's actions is what fosters agency and therefore immersion. Janet Murray calls this type of behaviour procedurality – the ability to represent and execute conditional behaviours (Murray 66) and the quality that truly separates videogames from other media. According to Ian Bogost, "to write procedurally, one authors code that enforces rules to generate some kind of representation, rather than authoring the representation itself" (Bogost 4). For example, in a driving simulation game, the computer or console calculates the position of the player's car according to their input, rather than displaying a pre-calculated position (Ryan 128). The horror game *Silent Hill: Shattered Memories* (Climax Studios 2009) utilises this mechanic in a particularly unique way; it is secretly taking note of the player's actions and reactions, and even psychologically profiling the player, so that it might be able to deliver a more immersive and personalised experience, as well as scare them more effectively for the remainder of the game.

Freedom of choice also plays an important role in fostering immersion in videogames, best exemplified by open-world games. Dating back to the 1980s but coming into the mainstream with 2001's *Grand Theft Auto III* (DMA Design), they can be difficult to define in certain terms, as open-world games are said to exist on a spectrum. Unlike more linear games,

[1] A series of children's gamebooks where each story is written from a second-person point of view, with the reader assuming the role of the protagonist and making choices that determine the main character's actions and the plot's outcome. The stories are formatted so that, after a couple of pages of reading, the protagonist faces two or three options, each of which leads to more options, and then to one of many endings.

open-world titles aim to instil in players a sense of being able to do anything at any time while freely navigating the virtual space. It is essential for the player to be able to choose when to do things, which by extension means a freedom to do things other than simply progressing the story. Many videogames borrow elements from open-world game design, letting the player return to previously-visited areas, but a true open-world game focuses almost entirely on player freedom in order to immerse them into the experience (Moss). That is not to say that players have or even should be given absolute freedom in virtual environments. Doing so would effectively "break" the game and achieve the opposite effect, so any action the player takes still needs to be in accordance with the rules of the game world. In a sense, by giving players the freedom to co-author the experience, interactivity comes into conflict with immersion at a certain point, so a framing system has to be implemented to maintain narrative coherence and aesthetic value (Ryan 131-132).

2008's *Grand Theft Auto IV* (Rockstar North) illustrates this concept well. It continues the series' tradition of letting the player progress through the narrative at their own pace and treats Liberty City (the game's setting, based on New York) almost as a personal playground for the player, allowing them to enter nearly every building, browse the game's fictitious version of the internet, watch television, listen to the radio, meet up with the protagonist's friends for a night of drinking, bowling, darts, and so on, talk to non-player characters, go shopping, dine at one of several in-game restaurants, use a cell phone, call a taxi, participate in street races, visit a brothel or a comedy club, steal cars, fight, shoot, or simply take a walk through the city. Despite the vast amount of possibilities, the game never becomes overly chaotic, since the player is presented with plenty of instructions and visual cues to guide them. The experience is also grounded by the game's storyline, divided into missions, many of which do not need to be taken on in a set order. To complete a mission and progress in the overarching story, players need to recognise the specific problem that needs to be solved, which is often verbally communicated, either via a cinematic cutscene or in writing, and apply a strategy that is translated into player actions. Once a particular mission is completed, the game opens up further and a new set of missions becomes available (Eichner 208-210). The choices made during these missions arguably have the greatest impact on player immersion and investment, since they directly affect the narrative and communicate a degree of influence and significance.

Eichner continues by explaining that, in addition to the more inconsequential choices, such as choosing a car, a weapon, or a route to the objective, players are presented with several choices at specific dramaturgical points during the narrative. In six instances, the player can

decide whether they want to kill a certain villain or not. Twice, at specific plot points, they can choose between two possible kills. Each decision is reflected later on in the game, either in dialogue or by allowing for further interactions with a spared character. The biggest decision in the storyline concerns the final mission and how the player approaches it, with the two options being accepting a deal from one of the game's antagonists, and going after him in revenge for a previous betrayal, branching the narrative into two distinct paths. The player's decision ultimately affects the ending and which friendly characters survive the ordeal, with neither option being canonically considered the "correct" or "good" one. Of note is the fact that the probable alternatives are never displayed to the player; therefore, the full impact of their decisions is only apparent upon re-playing the game and choosing differently. This cognitive play of "what would happen if…?" allows for a mastering of choice, and accordingly the feeling of agency and immersion (Eichner 210-211).

2.1.1 Point of View in Videogames

When writing a piece of literature, one of the first things the author needs to decide is from which perspective or point of view they are going to present their character. There are three different points of view available in both literature and videogame design, namely the first, second, and third-person points of view, yet two are most often used - either the first-person or the third-person point of view. According to Meyer Howard Abrams, in literature, the first person is used when telling the story from the narrator's point of view, who is to a greater or lesser degree a participant in the story, meaning that we read about what the protagonist is seeing or feeling from inside their mind (231, 233). The third person is used when the author wants to tell a story from the perspective of someone outside of it, referring to all the characters by name, or with a pronoun (Abrams 231). When compared to other media, this can be likened to watching a film (Ferk).

In videogames, however, the first-person point of view is different from the one in literature. Since the player sees what the character sees,[2] that often leads to a greater connection between the two and thus, a greater sense of immersion. Roine defines this "representation or manifestation of the player's presence in the game world" as an avatar (121), a kind of conduit that connects the player to the game and serves as an intermediary between the real and virtual

[2] This matches Genette's idea of focalization, which he introduces in his *Narrative Discourse* and which tries to amend the ambiguities he finds in the use of the imprecise term point of view. For him, it is important to distinguish between *who sees* and *who speaks*: "the question *who is the character whose point of view orients the narrative perspective?* and the very different question *who is the narrator*—or, more simply, the question *who sees?* and the question *who speaks?*" (186).

worlds. One flaw that can break that connection in some games, according to Katarina Ferk, is never being able to actually see what your virtual avatar looks like. To add to her argument, not being able to see one's arms or legs while moving in first-person view can also lead to an uncanny effect, leading players to feel less like they are controlling a character, and more like they are simply floating in the virtual space.

This is mitigated somewhat in the third-person games, which, although lacking the player-to-avatar connection that the first-person games have, often offer players the chance to customize their character and truly make it their own. Since the player and their character no longer share the same point of view, the character is now referred to as an actor, which Roine defines as "a character that can be distinguished from the player on the grounds of her/his own personality and characteristics" (121). As the name suggests, the third-person games force players to look at the protagonist from the outside, usually from a behind-the-shoulder perspective. Although this view provides more information about the character than the first-person view, Ferk states that it can also create a sense of otherness that reminds players of the gap between them and the protagonist. Some players report enjoying not knowing what their character looks like, since it offers them a chance to imagine what they look like by themselves, and the third-person view can sometimes take that away (Ferk). When it comes to third-person games, and role-playing games specifically, developers are often caught between two extremes. Roine explains that, on the one hand, the protagonist cannot be too ready-made, because they would be too distinct from the player. On the other hand, the narrative often requires that the character offers a clear role with certain characteristics, or it would just be as if the player were portraying themselves in the game (Roine 121).

Certain games have tried to do away with such issues in interesting and innovative ways. For example, the *Etrian Odyssey* series of role-playing dungeon crawling[3] games gives players the option of creating their own party of adventurers, including their name, skill set, and one of several predetermined appearances. The characters never speak in the game and are presented as blank slates personality-wise, leaving the player to imprint their own personalities onto the party. Less exposition and character development can therefore create a more personal and immersive experience in certain cases. A unique example of bridging the gap between the third-person protagonist and the player can be found in the supernatural mystery graphic adventure game *Oxenfree* (Night School Studio 2016). The plot centres around the main character Alex and her

[3] A type of scenario in fantasy role-playing games in which heroes navigate a labyrinthine environment (a "dungeon"), battling various monsters, and looting any treasure they may find.

group of high school friends as they explore the fictional Edwards Island following a party gone wrong. After inadvertently opening a rift between dimensions and coming into contact with the trapped crew of the USS Kanaloa, a long-sunk WWII submarine, the group must escape the island before the crew of the Kanaloa (referred to in-game as ghosts) can escape their dimension by possessing the group's bodies. Since the process takes time, the ghosts frequently loop time and create alternate timelines in order to keep Alex's group on the island long enough for their possession attempts to be successful; whereas the player knows what is going on, the group has only a limited awareness of it. As the game progresses, Alex seemingly escapes the island with her friends, before it is ultimately revealed during the end credits that their efforts were fruitless, as time loops back to the very beginning of the game, with the group on their way to the island. If the player then opts to replay the game using the same save file, they are presented with an altered version of the events, with Alex apparently remembering the previous timeline. It is here that the gap between Alex and the player is reduced to a minimum, as she too becomes aware of how events play out, frequently commenting on it, and is able to make different choices as a result, in the hopes of breaking the time loop once and for all (Pearson 00:05:41 – 00:06:46).

It bears mentioning that a second-person narrative is rare, both in literature and in videogames, but it can be seen in certain Japanese games, in which the player spends the game conversing with the main character, usually the star of an anime or manga, who faces them. The target audience for such games is fairly small compared to other genres, limited to fans of the manga or anime in question, but it does offer them a unique way to immerse themselves in their favourite fictional worlds (Ferk).

2.2 Issues with Immersing Players

There are further problems that the videogame developers have to contend with when trying to immerse players, besides choosing points of view. One of these is the issue of presenting the user interface[4] or heads-up display[5], commonly abbreviated as UI and HUD, respectively. Most games require one or both of these to communicate important pieces of information to the player, such as the ammunition count in the first-person shooter genre or the number of remaining lives in platforming games such as *Super Mario Bros.* (Nintendo Creative Department 1985). Although immensely useful and even necessary for the player, these

[4] The methods (keyboard control, mouse control) and interfaces (inventory screen, map screen) through which a user interacts with a game. The latter sense is used for the purposes of this paper.
[5] The method by which information is visually relayed to the player as part of a game's user interface, frequently used to simultaneously display several pieces of information including the main character's health, items, and an indication of game progression (such as score or level).

additions often have a tendency to take the player out of the experience by presenting them with information the protagonist would not be able to see. In such cases, the player would have to learn to suspend their disbelief in order to remain immersed in the experience. Some developers get around the issue by making their games intuitive enough to the point where a user interface is no longer necessary, or giving players the option to toggle it on and off, thereby freeing all the screen space up for the videogame experience itself. Examples of the former include games such as *Journey* (Thatgamecompany 2012), *Inside* (Playdead 2016), *The Witness* (Thekla, Inc. 2016), and *The Vanishing of Ethan Carter* (The Astronauts 2014). Other developers actively make an effort to incorporate such elements into the narrative by making them diegetic. An example of this can be seen in the 2017 game *Nier: Automata* (PlatinumGames), wherein the player takes on the role of android 2B (itself a reference to the well-known speech by Shakespeare's Hamlet: "To be, or not to be, that is the question", hinting at the game's existential themes). The UI in *Nier: Automata* is not just an abstract interface that is there for the player; it is presented as a literal operating system of the android protagonist. The game features an additional Easter egg[6] which is revealed if the player removes an item described as a vital processing component from 2B's inventory; in that case, the character "dies" and the game ends, complete with closing credits (Design Doc 9 August 2018 00:10:09 – 00:13:30).

The HUD in the first-person shooter game *Metroid Prime* (Retro Studios and Nintendo 2002) is similarly diegetic, since every piece of information you see on the screen is presented as an in-universe display inside the protagonist's helmet. The sequel, *Metroid Prime 2: Echoes* (Retro Studios and Nintendo 2004), even introduces an enemy that is able to hack into it, thus removing important elements of the HUD and replacing it with useless text, thereby obscuring the player's vision as well as lowering the game's framerate until the player manually reboots the suit's operating system (Design Doc 29 November 2018 00:01:27 – 00:03:30). Some driving simulator games such as *F1 2018* (Codemasters Birmingham 2018) choose to include a "realism mode", forgoing a traditional UI and opting instead to make the player rely on in-universe gauges and speedometers inside the simulated car's interior. Other examples include the real-time[7] space combat game *Star Trek: Starfleet Command* (Interplay Entertainment 1999), with its half a dozen fictional races each having their own unique user interface, with visuals designed to resemble the consoles seen in the show the game was based on. Furthermore, in the science fiction horror game *Dead Space* (EA Redwood Shores 2008), the menu and inventory screens

[6] An intentional inside joke, hidden message or image, or secret feature of a work found in modern entertainment media. The name is used to evoke the idea of a traditional Easter egg hunt.
[7] With continuous play rather than by turn, as opposed to turn-based videogames.

take the form of a hologram projected in front of the main character, from his suit. As the player navigates the menu, so does the character. The suit also serves as a health indicator for the player, since a glowing bar runs up the suit's spine, changing colour from blue to red as the protagonist gets injured.

According to Robert Buerkle, unless a videogame's world is procedurally generated, in which case its size is only limited by the computing power and storage capacity of the computer or console running the game, players will eventually reach the end of the virtual world if they keep heading in the same direction. This is less of an issue in linear games, where players are "funneled" through sets of closed-off rooms or environments, commonly referred to as corridors, but becomes more pronounced and problematic the more open a videogame world is. Physically restricting a player's freedom of movement or impeding their progress is therefore often necessary, but can also prove to be immersion-breaking if done in an overly illogical or obvious manner. Some developers get around the issue by using natural obstacles such as mountains to halt the player's progress, or by populating the outskirts of the virtual world with extremely powerful or even invincible threats or enemies, but the use of invisible walls is sometimes required. These can cause discrepancies between a game's systemic logic and its fictional logic, since a game's rules dictate that the player cannot move past the wall, while its fictional setting cannot explain why that is, breaking the supposed internal reality of the game (Buerkle 142). Some argue that invisible walls do not impact player immersion as much as it may seem since most players are aware of the limitations of videogames and accept their use as a given. Rather, the preservation of player immersion hinges on consistency. To illustrate, players will sooner accept a virtual reality in which they are not able to jump at all than one in which they are given the ability, but are not able to jump over a knee-high fence for arbitrary reasons (Breda).

2.3 How Immersion Can Be Broken

2.3.1 Undermining Agency and Taking Away Choice

When designing a game, developers should keep in mind what kind of audience they are designing it for, as well as the various needs and expectations it might have. For example, *Mass Effect 3* (BioWare 2012) introduced the option of pursuing a same-sex relationship with other human characters. The issue of how gender and romance are depicted in media is especially important in role-playing videogames, which aim to give players as wide a range of character choices as possible (Roine 121). Games that do not account for possible player choices often end up not immersing the player to the same degree and the same can be said for games that restrict

players from acting entirely. If player agency and freedom of choice are the two key pillars of videogame immersion and representative qualities of videogames as a medium, then taking that control away from the player during important moments is unsurprisingly considered to be one of the greatest mistakes that a developer can make. This is similar to the postmodern developments in literature teaching and writing as the late twentieth century and, in particular, the twenty-first century sees an increase in the diversity of representation and more varying views concerning the construction of identity and its "multiplicity" (Deleuze and Guattari 1606-1607). The diversity is visible both in the syllabi and in the variety of authors published and read, as well as characters represented in literary texts.

In addition to poor options of representation, an insufficient level of interactivity can also be detrimental to immersion. According to Tyler James Denny, the action-adventure videogame *Star Wars: The Force Unleashed II* (LucasArts 2010) earned scorn from players for reducing the interactivity in most of the action set pieces down to a few button presses at specific moments, a method of context-sensitive gameplay known as a quick time event (QTE) (00:14:58 – 00:15:45). Players also bemoaned the fact that an entire environment depicting the fictional planet Dagobah was modelled and textured, only to be relegated to a non-interactive cutscene after the player takes a few steps in it (Denny 00:24:06 – 00:25:06). The overall amount of player customisation was severely reduced compared to the first game, with players no longer being able to personalise their lightsabre and force powers to the same degree (Denny 00:10:38 – 00:11:04). These concessions can be at least partly attributed to the fact that the development team was given only nine months to create the game, in comparison to the average videogame development cycle of at least two years, as well as the fact that the game was aimed at a wider audience, further diluting the gameplay in the hopes of making the end product more accessible (Denny 00:03:18 – 00:03:51).

A less egregious example of taking away player agency can be found in the award-winning action role-playing videogame *The Elder Scrolls V: Skyrim* (Bethesda Game Studios 2011). The author of this paper encountered an instance wherein his character's weapon was automatically sheathed as he cornered a traitor to an in-game organisation, despite the fact that listening to the traitor's monologue would not be the author's personal choice at the time. This was most likely done so that the traitor can deliver a vital piece of exposition before offering the player the choice of killing or sparing him, but it can be argued that the player should not be forced to listen to him at all if they had already made up their mind regarding which action to take. The videogame *Half-Life 2* (Valve Corporation 2004) subverts this narrative choice in part,

as it lacks any kind of cinematic cutscenes and allows for a complete freedom of movement at all times, which in turn leads to the possibility of the player missing important story beats entirely if they do not pay attention or simply refuse to listen to non-player characters. This sense of agency is somewhat mitigated by the fact that the players are restricted from harming characters vital to the plot unless the story itself calls for it, and the fact that they do not even react to such attempts can be immersion-breaking in itself.

2.3.2 Not Reacting to Choices Made

Even if a videogame gives players the ability to choose, the choices mean little if the results are not reflected in the game's world or characters. In other words, an action requires a reaction for it to have meaning. According to Chester Teck, 2009's *Dragon Age: Origins* (BioWare) features one such misstep, where, as the youngest scion of the noble Cousland family, the player is able to take their family sword with them before fleeing their home overrun by the armies of a traitorous family friend. When facing said traitor later on in the game, the game does not offer any special dialogue or reward if the player chooses to strike him with that same blade, something that could be seen as a fitting act of poetic justice. Teck then cites the 2003 role-playing videogame *Lionheart: Legacy of the Crusader* (Reflexive Entertainment), which contains a similarly indifferent non-player character, a merchant by the name of Quinn, secretly a friend of the fugitive mages known as the Wielders. Quinn is also the character who grants players entry to the Wielders' hideout, but does not react at all if the player chooses to expose the group to the mage-hunting Inquisition afterwards, and continues to do business with the player. Finally, *Shadowrun: Hong Kong* (Harebrained Schemes 2015), a turn-based tactical role-playing game, is a notable example of a game not giving proper feedback to its players, seeing how it was partly funded by the fans themselves. Among the many mercenaries the player can hire in the game, the character El Duce stands out for his vendetta against the Shiawase Corporation, who murdered his family. He is obsessed with revenge to such a degree that he will join any operation against Shiawase free of charge. Unfortunately, recruiting him has little to no narrative pay-off in the game, since no such operation exists, at least not until an expansion for the game was released, adding more missions to the base game and enabling players to take El Duce up on his offer (Teck).

Just as downloadable content can mitigate the immersion-breaking moments of some games, it can as easily create them in others, as is the case with the post-apocalyptic action role-playing game *Fallout: New Vegas* (Obsidian Entertainment 2010). After the game's release,

Obsidian Entertainment released four downloadable content packs which expand on the game's story and can be played in any order, at any point in the game. As stated by Teck, the original game introduced the character of Caesar as a major political player and through conversations with him and other non-player characters, the player can learn of Joshua Graham, Caesar's former lieutenant, who was covered in pitch, lit on fire, and tossed into the Grand Canyon for his failures before the events of the game. In *Honest Hearts*, the second downloadable pack to be released, the player can meet Graham, who managed to survive the ordeal, for themselves. And while it is possible to inform him of Caesar's death if such a choice had been made, the base game does not acknowledge the events of *Honest Hearts* if the player chooses to play through the downloadable content first. In other words, when facing Caesar after having met Joshua Graham, the player is not given the option of informing Caesar of Graham's fate or even having met him at all (Teck).

While the aforementioned examples are relatively small in scale in terms of their relevance to the overarching plot of a particular game, the same cannot be said for games that market the player's ability to influence the ending as a selling point, only to fail in fully delivering on that promise. Studios like the now-defunct Telltale Games have been praised for crafting interesting and emotionally gripping interactive stories, but were criticised by players when their choices ultimately led them to arguably the same conclusion, with a few minor differences. According to Sparky Clarkson, the previously-mentioned third instalment of the *Mass Effect* series was at the centre of a major controversy in 2012 for its epilogue, after the trilogy, lauded for its heavy emphasis on player choice affecting the experience, culminated in an ending that "disregarded the player's choices on both galactic and personal scales", disappointing many. Such examples are often followed by a more negative publicity compared to games that lack these elements by design, with players reporting feeling "cheated" by the so-called illusion of choice. The criticism eventually prompted the developers of *Mass Effect 3* to release a downloadable content pack expanding on it, to mixed reception (Clarkson).

For a game to keep its players immersed, however, it should not only recognise the players' actions, but those of its own non-player characters. Teck cites *Wasteland 2* (inXile Entertainment 2014) as an example, which features the character of La Loca, one of many recruitable companions, who was exiled from her hometown for throwing bags of excrement at a rival chieftain. If taken back to the town after being recruited by the player, there is no acknowledgement of her past misdeeds when in the presence of the chieftain in question. Disregarding such a seemingly pivotal choice on a medium known for its interactivity can make

the whole experience feel inconsequential. Furthermore, any backstory such characters might have feels wasted as a result and the narrative comes across as inconsistent overall (Teck). This illustrates both the importance of a solid narrative, which contributes to the quality of literary text, and points to the complexity of videogames as a medium, as authors of the videogame have to take into account every aspect of it. While a writer needs to focus on the plausibility of the story and how it will be related to the reader in the medium of words on paper, and the case is the same for film – relating a story on screen, a creator of a game needs to think of the degree of interactivity that s/he wants to achieve and also about the possible outcomes of such interactivity that may affect narrative consistency.

2.3.3 Narrative Inconsistency and Canon

Narrative inconsistency is at its most apparent when canon is concerned. In works of fiction across all entertainment media, canon is the material accepted as an official part of the story set in a fictional universe. What is and is not canon in a given franchise is usually decided by the original author, but that can change if the franchise changes its owner. A recent example can be seen with *Star Wars*, acquired by Disney in 2012, which then decanonised all works set in the *Star Wars* universe, with the exception of the original six movies and the *Clone Wars* television show, in an effort to secure more creative freedom for future projects (Baker-Whitelaw). Fans of a particular franchise can also have different ideas of what constitutes canon, as seen with many *Harry Potter* fans who do not consider anything but the published books to be canon, while others include the additional information provided online by author J. K. Rowling (Romano). The idea that non-canon works can be as immersive or enjoyable as those that belong to canon is seldom contested, since it is generally accepted that, while the latter often carry more narrative weight and their consequences are greater, the former are just as viable for enjoyment and can feel as a part of the same universe, even as an unofficial what-if scenario (Mello). Videogames too can be non-canon without being immersion-breaking. Such is the case with spin-offs of some games, for example, some of which are part of a different genre altogether. For example, the role-playing game *Persona 3* (Atlus 2006) saw an expanded re-release titled *Persona 3 Portable* (Atlus) in 2009 that featured a playable female protagonist and additional changes to the story to accommodate for the fact. This alternative narrative path was generally well-received, even though it was confirmed to be non-canon and all subsequent titles in the franchise refer to the protagonist as male. The same game later served as a basis for a non-canon rhythm game spin-off titled *Persona 3: Dancing in Moonlight* (P-Studio 2018), to favourable reception.

Problems arise when videogames marketed as being direct sequels or a part of the same universe end up contradicting other games in said universe, movies or books they are based on, or even themselves. For example, when *Harry Potter: Hogwarts Mystery* (Jam City) launched in 2018, players pointed out a number of inconsistencies with the game's lore in regards to the source material. Taking place in 1984, the game features the flying broomstick known as the Firebolt, which did not exist in-universe until 1993 according to the books. Additionally, the game contains references to the character of Dolores Umbridge being employed at Hogwarts, even though non-player characters should have no knowledge of this, since it did not happen until the book *Harry Potter and the Order of the Phoenix*, set in 1996 (Nichols). Another example can be seen with *Fallout 3* (2008), a post-apocalyptic role-playing game released by Bethesda Studios after acquiring the rights to the franchise from Interplay Entertainment in 2004. The game, although commercially successful, was infamous with fans of the older titles due to, in part, a number of inconsistencies in regards to the established canon:

> It's not a *Fallout* game. It's not even a game inspired by *Fallout*, as I had hoped. It's a game that contains a loose assortment of familiar *Fallout* concepts and names... Electricity, pre-war electronic equipment, powered and still working computers (just think about that for a second), working cola & snack machines, weapons, ammo, scrap metal (needed by many), and even unlooted first aid boxes are everywhere. (Weller qtd. in Sterling)

Additional points of contention regarding canon include the various factions not staying true to their portrayal in the earlier games, as well as the prevalence of the fictional drug called Jet in underground complexes sealed for hundreds of years, even though it was first synthesised in Black Isle Studios' *Fallout 2* (1998), set in 2241, only 36 years before the events of *Fallout 3* (Winkie). Although it can be argued that videogame franchises need to evolve to accommodate for new audiences and some titles might even be radically different than their predecessors, it is clear that care needs to be taken not to alienate existing fans in the process.

2.3.4 Ludonarrative Dissonance

In most modern-day videogames, the player takes on the role of the hero, overcoming numerous obstacles to progress the story laid out for them and ultimately "save the day." Over the course of the game, the story might portray them as courageous, noble, or even invincible. But what happens when the courageous protagonist controlled by the player spends most of their time running away from fights, or when an invincible hero dies for the twentieth time against a

particularly strong enemy? This discrepancy between a game's story and its gameplay is referred to as ludonarrative dissonance, a term coined by Clint Hocking in 2007 to describe the lack of immersion he felt while playing the first-person shooter videogame *BioShock* (2K Boston 2007). The concept can be described as a powerful disconnect between what a videogame is as a game, and what it is about as a story, with its narrative and ludic structures being in stark opposition (Hocking). Makedonski describes it as a case of the game's story and environment contradicting the discourse underlying its gameplay, which results in the player becoming "unimmersed" and disconnected from the experience (Makedonski). For instance, Nathan Drake, the protagonist of the *Uncharted* videogame series, is portrayed as a likeable "everyman," a character with no otherworldly destiny or military background and the kind of protagonist regular people could identify with. The games, drawing heavily from pulp action movies such as the *Indiana Jones* series, pit Drake against various villainous groups searching after legendary treasures to further their own goals. By the games' end, Drake is forced to kill hundreds of enemies to prevent the treasures from falling into the wrong hands. At the conclusion of *Uncharted 4: A Thief's End* (Naughty Dog 2016) his overall body count goes well into the thousands, making it exceedingly hard to still see him as a charismatic hero and not a cold-blooded killer, judging only by his actions. Moreover, his lack of combat training makes it implausible that he would be either able or willing to kill so many people. Finally, the fact that he retains his happy-go-lucky attitude throughout the whole ordeal makes the tonal disparity even more jarring.

In his blog post from 2015, Nick Ballantyne illustrates the concept well by comparing it to cognitive dissonance:

> When confronted with cognitive dissonance (i.e., our beliefs and actions not lining up) in our boring everyday lives, people can cope in a few ways. If someone's actions conflict with their beliefs, they can change their beliefs, change their actions, or just ignore it […], but ludonarrative dissonance isn't about your beliefs, it's about the system's imposed beliefs. (Ballantyne)

It is for this reason that the phenomenon is experienced almost exclusively in story-driven videogames, where the game is crafted around a specific narrative that the developers wanted players to experience. To mitigate the mismatch between the gameplay and the story, developers would have to "surrender the power that they have over the story and put it in the player's hands" (Makedonski). Jesse Schell turns the concept around entirely by suggesting an emergent narrative as a solution, one in which no specific story would be told, but in which many potential

stories could be experienced by the player through gameplay (Schell). In his 2006 lecture, Will Wright cited "film envy" as the root cause of the problem, with developers trying too hard to emulate movies and the wide range of emotional responses they can elicit, instead of embracing the videogame medium and its own emotional palate – a set of different emotional responses attainable through pure gameplay, such as pride, guilt, and accomplishment (qtd. in Seraphine 4). This confirms the initial claims concerning the differing attitudes to videogames being a separate medium or not, as outlined in Chapter 1 of this paper. Being relatively new, in comparison to films and, particularly, literature, and more complex as they involve active participation of the player which may have major consequences on the videogame's story and outcome, developers and critics both have to come to terms with the medium and move away from predecessors in other media.

2.3.5 Uncanny Valley

Since, for the most part, immersion depends on vividness, it is often closely linked to realism. The introduction of perspective in painting, for instance, was a large step forward in terms of immersion, since it created a sense of depth that integrated the spectator into the pictorial space (Ryan 112). Immersion in videogames, however, does not necessarily equate to realism. In the words of Ken Pimentel and Kevin Texeira, "the question isn't whether the created world is as real as the physical world, but whether the created world is real enough for you to suspend your disbelief for a period of time" (15). In fact, many videogame developers striving for photorealism in their games unknowingly achieve the opposite effect, either due to poor design decisions that disregard the limitations of the hardware, or a combination of factors further down the production line, such as stilted or otherwise unsatisfactory performances by voice and motion capture artists. This often results in what is known as the "uncanny valley" effect, a common unsettling feeling people tend to experience when humanoid robots and audio/visual simulations closely resemble humans in many respects but are not quite convincingly realistic. The phenomenon is named for the way the viewer's level of comfort drops as a simulation approaches, but does not reach, verisimilitude (Rouse). The term "uncanny" itself is a Freudian concept of an instance where something can be familiar, yet foreign at the same time, resulting in a feeling of it being uncomfortably strange (Freud 217-30). This creates a cognitive dissonance within the experiencing subject, who often rejects the object outright, since it is easier than rationalizing it (Darker). Kenny Ukpona illustrates by saying that the action role-playing videogame *Mass Effect: Andromeda* (BioWare) was widely considered an example of this when it was released in an incomplete state in 2017. Despite being released on hardware that

was considered advanced at the time and designed with realism in mind, the game was riddled with bugs[8] and glitches[9], which resulted in its characters emoting unnaturally, moving erratically, and in some cases even contorting in anatomically impossible ways. The game ended up being generally panned and ridiculed by players and critics alike (Ukpona).

Fortunately, the way a videogame is presented is flexible and does not depend on imitating reality. Instead of trying to recreate reality in virtual form, developers can instead focus on the game's musical score, story, or gameplay to immerse players. Music in particular can be interwoven into the experience to a higher degree than other media, and there are plenty of examples of games in which the music directly reacts to the player's inputs, or is at least a significant part of the gameplay, as seen in games such as *Rez* (United Game Artists 2001), *Guitar Hero* (Harmonix 2005), and *Crypt of the NecroDancer* (Brace Yourself Games 2015). When it comes to the visuals, it is of note that more stylised games, such as cel-shaded ones, not only age better than those that go for a more realistic look, but are more emotionally involving and transformative, according to Emad Ahmed. Cel-shading is a type of non-photorealistic rendering technique that utilises flat, high-contrast colours which are employed along with black outlines around characters and objects, giving everything the appearance of a comic book or cartoon. Such games are able to withstand the test of time much better thanks to their stylised approach, while more realistic ones are rendered obsolete fairly quickly with the arrival of newer and more advanced technologies, similarly to how older, practical movie effects are often held in higher regard than computer-generated imagery (Ahmed).

Which part of a game is immersive or immersion-breaking ultimately depends on the player, however. Different people may become immersed through different things, with some enjoying story-heavy narratives relatively light on gameplay, and others skipping story cutscenes and dialogue entirely or muting the sound, immersing themselves through gameplay alone, seeing their button presses translate to actions on-screen, comparable to how the act of playing an instrument can be engaging in itself.

2.4 How Videogame Length Affects Immersion

One final thing to note when talking about videogame immersion is the videogame's runtime. Videogames vary significantly in length and can range from anywhere between a

[8] An error, flaw, failure or fault in a computer program or system that causes it to produce an incorrect or unexpected result, or to behave in unintended ways.
[9] A short-lived fault in a system, such as a transient fault that corrects itself, making it difficult to troubleshoot. Differs from a more serious software bug which is a genuine functionality-breaking problem.

couple of hours to several hundred hours, depending on the genre and the skill of the player. The latter estimate puts videogames far above even the lengthiest of books in terms of sheer time investment required. This in turn gives players more time to immerse themselves in the videogame world, become attached to the characters and more invested in the overarching plot when compared to other narrative media. This can be related to Ralf Schneider's research in narrative dynamics, which, although centred around literature fiction, yielded similar results (qtd. in Troscianko).

Obviously, a more detailed and drawn out narrative can lead to a greater sense of belonging, which is why it is so much easier to become engaged in a fictional story than a newspaper report. However, a game's length and the depth of information it provides can also be seen as a balancing act. If a game is too short or lacking in exposition, it risks boring players or leaving them unsatisfied. Too much of either, and the game may reach the point of saturation and create an alienating effect (Ryan 118). Developers should therefore not only take a game's length into consideration, but should also ideally pair it with good storytelling, a sense of pacing, and engaging gameplay, or else risk achieving an alienating rather than immersing effect.

3. Worldbuilding

It is seldom possible to talk about videogame immersion without considering the act of worldbuilding. The two are often intertwined and explaining their relationship helps distinguish videogames from other entertainment media. Naturally, worldbuilding is not exclusive to videogames, it is widely utilized in films, literature, and is even an integral part of tabletop role-playing games such as *Dungeons & Dragons*, *Cyberpunk 2020*, and others. It can therefore be concluded that it is a practice that transcends medial boundaries and is considered by many to be one of the features that defines the speculative fiction genre. In its most basic sense, worldbuilding is the process of constructing an imaginary world or even a universe (Hamilton 8-9), complete with coherent qualities such as a history, geography and ecology (Stableford 397). Instead of only focusing on "creating" and "making sense" of fictional worlds, Roine additionally defines worldbuilding as one of the most fundamental rhetorical and communicative practices of the genre. By creating worlds, writers, developers and directors are able to introduce new ideas and thought experiments, thereby engaging the users (readers, players, viewers) into working these ideas and experiments out for themselves. In short, it is a practice that guides both the creation of fictional works and the way the users approach them (Roine 5-6).

In the context of videogames specifically, worldbuilding is often seen as a necessity if developers intend for their game to have any amount of story, since it can be used to flesh out the characters' world or even as a tool to draw inspiration for a new game concept or mechanic (Novak). The latter can be seen in 2011's *Bastion* (Supergiant Games), where the player is tasked with rebuilding the world after it was literally shattered to pieces following an event known only as the Calamity. The player might be inclined to learn more about the world before the Calamity as they play, but the few existing pieces of worldbuilding are just as scattered as the pieces of the world themselves, hidden in snippets of dialogue and item descriptions. In a subversive move, the player is not only given the option of restoring the world by rewinding time upon reaching the end but can also choose to lead the survivors into a new and unknown future, ultimately accepting the past as past and in some ways even irrelevant. This literal representation of the concept of worldbuilding serves as an interesting commentary on the practice, inviting the player to think on how important or unimportant it truly is. What it does even more clearly is allow the player to have the final word in building the fictional world of the game, as opposed to games that do not offer this option and, particularly, as opposed to literature and film where the writer or director have the ultimate authority over worldbuilding.

Building a world can take an extraordinary amount of time, regardless of the medium. For instance, writers J. R. R. Tolkien and George R. R. Martin, both famous worldbuilders, have both stated that it often takes them more time to build a world than to write a story set in it (qtd. in Novak). The same can be seen in the videogame industry, with the writers at Bethesda, creator of *The Elder Scrolls* series, having spent years hand-crafting the land of Tamriel, its geography, history, various races, cultures, intricacies, struggles, and wars. All this information will surely not be seen by every player, since it often takes the form of optional dialogues, books, and out-of-game literature, but it is nevertheless available, and it gives developers a solid foundation to build the game's design and story on (Novak). In addition, a world that is well-developed "feels realistic and approachable, even if it contains otherworldly elements such as magic or time travel" (Kieffer).

When it comes to how a fictional world is developed, Kieffer defines two methods. The first is the so-called Inside-Out method, wherein a writer already has a story premise in mind and needs the fictional world to serve a couple of key functions to fulfil that premise. The writer starts out by developing those functions first, and then crafts the remaining elements of the world. During this process, special attention is given to how the key functions affect each new element. For instance, in a story about a group of people who can control time, the limits and abilities of those powers would be defined first. The writer might then consider how those powers would affect their cultures, religions, government, technologies, and other aspects of society. The second is the Outside-In method; with it, writers start out by crafting a general understanding of their world's geography and boundaries. They then work their way towards increasingly specific details, like defining territories, followed by countries, governments, cultures and so on. Authors who use this method, such as the aforementioned Tolkien and Martin, first create their worlds in-depth. Only after they are relatively complete do they begin creating characters and stories to tell within those worlds (Kieffer). In a way, this paradigm shift from plot to worlds reverses Aristotle's famous assertion that plot (mythos) and action (praxis) precede other elements of fiction, plot being "the first principle" (Aristotle 11).

Worldbuilding does not necessarily have to equate to creating immersive backdrops for stories to take place in. Roine states that it can also be used to explore deeper themes by turning abstract and general thought experiments into a communicable form, through a process referred to as speculative worldbuilding. Experts on the subject, such as Richard Walsh, generally agree that our immersion in a fictional work hinges on the suspension of disbelief, and that by regarding a fictional world as artificial, we lose our ability to become immersed in it, to which

Roine objects. She claims artificiality and immersion are not mutually exclusive, and that by taking a step back and looking at a fictional world as a construct, instead of approaching it like reality, we can add another dimension to our understanding of it (Roine 18, 34). According to Merja Polvinen, the audience stops engaging only with characters and events, and begins to appreciate the world as an artistic object (108). In other words, worlds can both be approached as something possibly existing from an internal perspective, and as artificial structures to be contemplated from an external perspective, without having to choose one over the other. Furthermore, this distinction gives rise to two aspects of worldbuilding, the understanding of worlds as constructs and as processes. The former refers to the content of a fictional world as a physical model, while the latter deals with the actual process of establishing that content and how it might be used to communicate ideas, thoughts, or concepts. In this sense, the study of worldbuilding is not only about how works of fiction invite users to engage with them, but also how they seek engagement with the world (Roine 19).

This interaction between the user and the world is especially evident in videogames, which allow players to actively engage in a story rather than passively receive it, a concept referred to earlier as agency. According to Roine, for a player to truly get a sense of a world, that is, to experience "worldness" (Roine 111), its creators need to strike a balance between narrativity and simulativity. Their interplay and the resulting experience of worldness is a defining feature of the role-playing game genre, in a similar vein to how the experience of an imagined place is considered central to the fantasy genre in literature. A common example is BioWare's *Mass Effect* series of games, in which the overarching narrative is interspersed with numerous decisions that the players must make on their own, as well as segments in which they combat repeated waves of enemies, drive a vehicle, or upgrade and modify their characters' equipment. As a communicative practice, worldbuilding facilitates and relies upon reciprocity between the player and the system, and the resulting sense of worldness is crucial for immersive engagement with videogames (Roine 111-113).

3.1 Key Elements of Worldbuilding

For a fictional world to come across as real, functional, and fully-developed, certain elements need to be addressed during crafting. Kieffer states that this can be "an incredibly complex and personal process", and can cover a wide range of topics, from designing a world's layout, to creating "fictional languages, otherworldly races, unique species, and so on" (Kieffer). The elements that follow represent some of the most important facets of a well-developed

fictional world and can serve as a good exercise for writers trying their hand at worldbuilding for the first time, even if some elements do not end up in the final product. Ultimately, she asserts that worldbuilding is supposed to benefit the story being written, and writers should take care to create worlds that serve their narrative, "affect who their characters are and how they see and experience their world" (Kieffer).

3.1.1 Geography

Traditionally, a writer following Kieffer's Outside-In approach would start with the world's geography and its general layout, be it countries, continents, or even planets and entire solar systems. As mentioned earlier, the writers of *The Elder Scrolls* series created the entirety of their world decades in advance, to the point that there still exist regions that have not yet been officially depicted in a game. Kieffer argues that in order for the layout of the world to make sense, however, it needs to satisfy certain real-world criteria. For example, there needs to be a source of water, since life as we know it cannot exist without it. Towns and cities should therefore be centralised around freshwater sources and it is a good idea to consider how water is distributed throughout the area. The writer should then think about adding more variety to the landscape, such as mountains, valleys, deserts, forests, plains, hills, and wastelands, as well as decide on a climate for the world. Weather affects everything, from many aspects of daily life down to the growth of plant life and how animals live in their environment. Deciding how seasons work in a world or which places remain hot or cold year-round, apart from being realistic, adds more character to them, making it that much easier for a person to become invested in the world (Kieffer).

3.1.2 Cultures and Social Classes

Once the setting has been defined, it should be populated with one or more cultures. Kieffer claims that, unlike our own world, which has innumerable cultures, both new and old, writers only really need to flesh out the ones relevant to the main characters and their quests. This can be done by firstly outlining a clear systemic power structure. Seeing how very few cultures in our own world are true examples of "equality for all", the people who hold power over other groups in the world being created might be of a specific gender, religion, sexuality, race, or birth, for example. This also extends to the world's government, which is likely controlled by the group in question. What laws are being implemented and by whom? How are they enforced and what rights do the people of each culture have (Kieffer)? The land of Skyrim in *The Elder Scrolls V: Skyrim* (Bethesda Game Studios 2011), for instance, is divided into nine

administrative divisions called Holds, each with their own local government. Given the independent nature of governance, laws are enforced separately by each Hold, so a criminal wanted in a particular Hold may have no bounty in another. Furthermore, there is a clear political power struggle between the Nords, Imperials, and High Elves (alternatively referred to as "Altmer"), three of the ten playable races in the game, while a fourth one has been marginalised to the point of being treated as second-class citizens in one Hold.

The above example of clashing cultures leads directly into the topic of social classes, which, according to Kieffer, will almost certainly arise within a given culture over time. The cause of the division may be material wealth, prejudice, or some other defining factor, such as the innate ability of some people to use magic, and different groups may even be at odds with each other over one or more of the aforementioned issues (Kieffer). All of the above is readily apparent in 2009's *Dragon Age: Origins* (BioWare), a game that puts heavy emphasis on the player character's upbringing and social status, alluded to by the title itself. Out of six possible origin stories, they player may choose to be a noble or a commoner, for example, with both having an impact on how the rest of the world reacts to and interacts with them. The player's chosen race plays an important role as well, with human and dwarven nobles having to deal with entirely separate political and social issues. If the player chooses to play as a non-magical elf, they are given two possible origins, either that of a proud and nomadic Dalish elf, or they can instead play as one of the oppressed and impoverished city elves, living in a cordoned-off area of one of the predominantly human cities. Both are heavily discriminated against, and while the former group chose to keep the elven history and traditions alive, the latter has been culturally assimilated by the dominant humans and are forced into a life of poverty, crime, or even servitude. Mages are feared and despised the most by the rest of the world, however, due to their magical abilities making them susceptible to possession by the demons of the world. This makes them potentially extremely dangerous, and the Circle of Magi they live in is more akin to a prison than a school. All of this serves to prove Kieffer's assertion that social classes are a subject worth exploring when creating a world, and can greatly affect "how the story's characters see and experience their world" (Kieffer).

When depicting various ethnic and cultural groups, both real and fictional, attention needs to be paid to how they are portrayed. Specifically, Charlie Jane Anders proposes that a writer should take care to make them as nuanced and well-rounded as possible, or else they are going to come across as one-dimensional. The goal should be to instil in the audience a sense that the members of said groups have their own subjectivity, as well as a believable culture

(Anders). The elves of *Dragon Age: Origins* are a good example of this, as not only do they have a storied history and rich lore, but they are also split apart as a faction, with some having been assimilated into human culture, and others living as part of one of several clans, each with their own culture and traditions (Berry et al. 27-28, 32-33). Even elves within a particular clan are not all of the same mind, as seen with *Dragon Age II's* (BioWare 2011) Merrill, who openly defies her elders and the clan's traditions by using forbidden blood magic in pursuit of her own goals. Unanimity is a common trapping of worldbuilding when creating social, political, cultural, and religious groups. Anders explains that writers assume that factions, especially alien or fantastical ones, need to have a common goal or a defining trait that sets them apart from others, so they "paint them with a broad brush" and create monolithic societies to the detriment of the individuals within it. In reality, not every member of the ruling class or a political party will agree on everything, religious tenets may be interpreted in various ways by followers of the same religion, and members of society may not even agree on one version of history (Anders). This does not necessarily need to be a cause for conflict, but serves to highlight that all societies consist of individuals and works well to dispel the image of a cultural "hive mind" that so many writers resort to.

No matter how elaborate a social structure might be, a basic infrastructure still needs to be in place for the world to feel real. According to Anders, a writer should think about where basic necessities such as food come from in their world, as well as details such as how people get around, what they do for a living, and how garbage and bodily waste are disposed of (Anders). *Fallout 3* failed in this regard, not accounting for how its post-apocalyptic society is fed, a flaw that its successor *Fallout: New Vegas* corrected by including entire sharecropper farms in its world. Solitude, a city in *The Elder Scrolls V: Skyrim* features a running sewer system, and the developers even took the time to place chamber pots in numerous locations in the game. In Anders' words, the writer is not only creating a society, but also an economy, and details such as these help players accept the fictional reality as real (Anders).

3.1.3 History

Additionally, it is a good idea for writers to elaborate on the history of the fictional world so as to make certain causal relationships clear to the players. Kieffer explains that traumatic events such as wars, famines, disasters, and diseases can all have a major impact on a culture and its people, and are often reflected in the landscape, population, laws, norms, and beliefs (Kieffer). For example, the land of Skyrim, mentioned earlier, features refugees from the neighbouring

land of Morrowind after the latter was destroyed by an eruption before the events of the game. Skyrim has also been through an entire war since the last game in the series, and while it is not directly seen by the player, its consequences are visible everywhere. Ruined forts dot the landscape, nearly every town has its share of veterans and grieving families, and there are plenty of books chronicling the events. Relations between people who were once on opposing sides are noticeably tense, and the population as a whole is split on the topic of Skyrim's independence in the wake of their Empire submitting to the aggressor. It is for this reason that Skyrim's throne is eventually usurped and a civil war is sparked. Generally speaking, contention is often inevitable after a power shift such as this, and writers are recommended to consider how such an event affects the culture's laws and norms, as well as how people react, with some perhaps choosing to rebel. Fortunately, Kieffer adds, it is not necessary to craft the entire history of a world in order to create a good story. Instead, the writer should simply focus on "the elements that most affect their story's plot and characters" (Kieffer). Writers of the *Etrian Odyssey* series deliberately obfuscate the world's history, for instance, since part of the games' appeal is the sense of exploration players get when uncovering the world's mysteries, piecing together the scarce pieces of information provided by the games and filling in the rest of the gaps themselves.

As stated by Anders, if the aim is to create a convincing sense of time and place, writers should take the time to explain why the events they are depicting are happening now and not before or after. Every society has checks and balances, so the writer needs to think of a logical reason why the villain of the story is making his move now instead of waiting a few more years, as well as what prevented him from doing so earlier. If a story's plot is building momentum for purely arbitrary reasons, then that is considered a failure on part of the worldbuilder. For this reason, writers often draw upon real-world history in order to depict events such as wars and the toppling of governments as realistically as possible. She advises, however, that care needs to be taken not to limit one's research to works written by the dominant cultures or ruling classes of the time. Taking a look at records describing ordinary people and marginalised groups more often than not results in a more accurate and down-to-earth representation of events. What is more, history itself is seldom predictable and completely logical, with plenty of real-world examples to illustrate the fact. For instance, even though the division of Ireland and Korea seems inevitable in retrospect, it seemed hardly a possibility at the time. People in power often make miscalculations, the strongest side does not always win, and the people in charge are not always descendants of people who were in charge a century ago. Not taking this into account is a sure way for an imaginary world to come across as artificial (Anders).

3.1.4 Magic

While it is by no means a requirement for a fictional world to contain magic, writers should still spend some time defining the boundaries of their magic system if implementing one. Who receives magic and can it be learned? How do the powers manifest themselves and can they even be controlled? Are items such as wands or staves necessary to control it? Where does it come from and can it be defeated or destroyed? What is the stance of religious leaders and various social classes on it? Is there good and evil magic? These are all questions that should be posed (and answered) in order to make a concept as fantastical as magic as believable as possible (Kieffer).

Interestingly, according to Berry et al., BioWare's *Dragon Age: Origins* (2009) does in fact answer most, if not all of these questions. In the game, conventional magic is considered a physical phenomenon similar to gravity or magnetism. It cannot be learned, but can manifest itself randomly in all races except for dwarves and is most often inherited. Proper usage of magic is learned, and there have been cases in *Dragon Age* games and books of inexperienced mages causing accidents such as fires due to a lack of control over their powers (Berry et al. 89). More experienced mages often employ staves to channel their power, although it is not necessary, as seen in the games. Berry et al. further explain that magic itself originates from the Fade, a dreamlike world people go to while they sleep. While it is a fleeting experience for non-mages, mages remain fully conscious the entire time, similar to the real-world phenomenon of lucid dreaming. This enables them to channel energy from the Fade, which manifests as magic in the waking world (Berry et al. 92). For reasons too long to go into in this paper, dwarves do not dream and therefore cannot become mages. Berry at al. add that, while magic itself cannot be destroyed, one can sever a mage's connection to the Fade through an arguably inhumane process dubbed the Rite of Tranquility, comparable to lobotomy. The resulting Tranquil no longer dreams nor can perform magic, with the additional side-effect of having their emotional centre removed. This is done to prevent weaker-willed mages from becoming possessed by demons who reside in the Fade and prey on those who enter there willingly (Berry et al. 101).

Magic does have clearly defined limits in the *Dragon Age* universe, as it cannot be used to bring a person back from the dead, nor can a mage travel great distances, or teleport, by using it (Berry et al. 95). Finally, it is understood that magic cannot be inherently good or evil, although there exist practices that are considered evil or illegal by the Chantry, the dominant religious organisation of the world, such as blood magic. It uses the power inherent in one's

blood, instead of the Fade, to fuel spellcasting, and can also twist the blood of others for domination or corruption (Berry et al. 107). The *Dragon Age* games, books, and supplemental materials all go into great detail regarding the history of its practice, such as how the nation of Tevinter, ruled by a powerful magocracy, once nearly conquered the world with blood magic (Berry et al. 75). All of the above serves to reinforce the Chantry's restrictive policies on magic, as well as the general population's low opinion of mages overall. This element of worldbuilding, while potentially exhaustive, concretises the use of magic and makes it believable as a result. In this case, it also expertly sets the stage for the conflict between the oppressed mages and the Chantry's templars watching over them, which comes to a head in the series' second and third instalments.

3.1.5 Technology

"Technology can be an even more complex aspect of world-building than magic. If you're basing your fictional world's technology off a specific era of human history, you'll want to do your research" (Kieffer). This can prove to be a challenge in all media (literature, film, and videogames alike). When creating a futuristic story-world, however, the writer needs to focus on several different aspects of technology for it to come across as believable. The way people entertain themselves and fulfil their everyday needs might radically change over the next several hundred years, for example. The evolution of communication and transportation technologies, as well as likely advancements in weapons technology should also be considered. The *Borderlands* series of the first-person shooter videogames, developed by Gearbox Software, goes into great detail regarding the latter, with the bulk of its plot revolving around various weapons manufacturers of the universe vying for control over different planets. These mega-corporations are each presented as having different characteristics and trademarks, and it translates to the gameplay as well. The Maliwan corporation, for instance, manufactures weapons that fire elemental projectiles, dealing additional fire, shock, or corrosive damage. The Jakobs corporation, on the other hand, takes inspiration from classic western style weaponry, forgoing newer elemental technologies in lieu of traditional wooden stocks, as well as higher accuracy and damage per shot. While the creators of future technologies by no means need to be the sole focus of a story, it is nevertheless considered a good idea to at least touch upon the subject.

Following Kieffer's advice, other things to account for when thinking up future technological advances are their effects on society as a whole, their availability to the populace, as well as their application in various fields, and what such technologies would even be powered

by (Kieffer). As is the case with magic, any technology introduced will have far-reaching effects. Anders offers invisibility or cloaking technology as an example. She goes on to say that if people had access to it, it is reasonable to assume that there would be those who would misuse it and spy on others. Consequently, this might result in advancements in surveillance technology based on heat or even smell. What is more, the entire concept of privacy might have to be redefined, and such a technology could possibly even be reflected in pop culture. "There would be whole art forms based around invisible performers, and it might be legal to shoot an invisible intruder on sight" (Anders).

It should be noted that the *Etrian Odyssey* series of games once again subverts most of the guidelines mentioned thus far in a clever way. Even though the series is set in the far future, it is presented as a traditional fantasy role-playing game, since the games take place long after an apocalyptic event set humanity back to the Dark Ages both technologically and culturally. What little technology there is left is considered magic by most people, and those who can operate it are regarded as wizards and alchemists. Players who take the time to play through the games fully may also infer that the golems and dragons they have been fighting are nothing more than leftover security robots and descendants of genetic experiments from a time closer to "our" era. This depiction harks back to Arthur C. Clarke's claim that "[a]ny sufficiently advanced technology is indistinguishable from magic" (Clarke 36), potentially lending the writer more freedom in how it is portrayed.

3.2 Against Worldbuilding

As mentioned earlier, worldbuilding is intended to serve the narrative, and there is a case to be made against worldbuilders who are imposing far too many rules upon themselves, which prevents them from crafting a truly compelling story. This poses the question of whether poorly-constructed characters, moral simplicity, or an overly convenient history are the result of bad worldbuilding or simply bad writing. Although Lincoln Michel agrees with some of the aforementioned worldbuilding guidelines, referring specifically to those put forward by Anders, he argues that worldbuilding as a concept is not necessary to explain why a lack of nuance in writing is a problem. After all, a good story is "complex and ambiguous, not simplistic and heavy-handed" (Michel).

Michel goes on to say that a story does not necessarily need to be grounded in realism to be considered good. He follows that by stating that none of us have an idea of what alien or magical creatures might look like, so what we might consider a realistic portrayal of such

cultures ultimately has nothing to do with realism; it only serves to make those characters more human and thus more interesting and relatable to human readers (Michel). Overall, while there is nothing inherently wrong with crafting a world down to the smallest detail and having everything make perfect sense, this can and should be flouted for the purpose of telling a compelling story. According to Michel, in *A Song of Ice and Fire*, George R. R. Martin created a planet with winters that last for decades, but he also populated it with wildlife inspired by medieval Europe that would likely not survive decades of winter in "reality," simply because he liked the idea. The complex politics of Westeros is what matters in *A Song of Ice and Fire*, which is why Martin decided to focus on that, and not the "grammar of Dothraki or the breeding habits of Westeros mammals" (Michel). Similarly, the classes in the *Harry Potter* series of books are entirely too small to accommodate all of the students, but author J. K. Rowling opted to disregard that flaw in logic in favour of a smaller cast of characters that works better for the story she wanted to tell (Michel). In short, Michel asserts that a writer's main goal should be to create a story, not a world, and that realism is just one of many approaches to fiction.

3.3 Environmental Storytelling

A common way to reconcile the two extremes of storytelling and worldbuilding is through the use of environmental storytelling. Unlike many videogames that tell their stories overtly, that is, by animating a non-player character who talks to the player character, dramatizing events by using cutscenes, or simply displaying text as exposition, environmental storytelling is less direct and requires more interpretation on part of the player, as defined by Bart Stewart. "Instead of explicitly describing events, it shows the final outcome of a sequence of events, then it invites players to make up their own stories about what happened to cause that outcome" (Stewart). In other words, developers select objects for a location, arrange them in a way that feels meaningful, then leave the final interpretation up to the player without offering a definitive answer. Furthermore, Stewart explains that by nature, environmental storytelling is a more collaborative way of telling a story, in opposition to more traditional performative storytelling methods. When compared to other media, it is most evocative of the "show, don't tell" approach or Hemingway's Theory of Omission, also known as The Iceberg Principle:

> If a writer of prose knows enough about what he is writing about he may omit things that he knows and the reader, if the writer is writing truly enough, will have a feeling of those things as strongly as though the writer had stated them. The dignity of movement of the iceberg is due to only one-eighth of it being above

> water. The writer who omits things because he does not know them only makes hollow places in his writing. (Hemingway 103)

The eponymous first game in the *Etrian Odyssey* franchise (Atlus 2007) relies heavily on this method to impart to the player that the story actually takes place on a future post-apocalyptic Earth, specifically the ruins of Tokyo, instead of being set in a completely original fantasy setting, as the player is initially led to believe. After setting foot in the game's penultimate area, named Lost Shinjuku, the player is surrounded by skyscrapers on all sides, overgrown with vegetation, a stark contrast to the forests and caves they have explored up until that point. The name Shinjuku is the only overt clue given, it being the name of one of Tokyo's districts, but players have since narrowed the location down even further to the Tokyo Metropolitan Government Building, owing to a couple of subtle visual cues on the game's map feature. The nature of the disaster that befell the city is left unknown, however, and is open to interpretation (Arbour 00:02:50 – 00:03:40).

Although virtually all game worlds can benefit from this method, Stewart claims it is most valuable in those that do not contain a large number of non-player characters, as is normally the case with post-apocalyptic videogames. He goes on to state that by combining more direct storytelling with vignettes the player can deduce for themselves, developers are able to give more meaning and emotional weight to their stories, immersing players further in the game's world as they invent stories to explain these vignettes (Stewart). Bethesda Game Studio's *Fallout 3* (2008) is rife with examples, including one instance of a skeleton slumped over a chair outside the entrance to a bunker, a pistol with one round missing nestled in its lap, or a decayed cake found amidst a circle of toys, with a brightly-coloured party hat placed on a nearby chair. According to Stewart, these scenes also serve the function of expanding on the game's worldbuilding, being rare glimpses into a world mere seconds from the apocalypse. If done often enough and well enough, players might even begin to discover meaning in things developers had not even considered (Stewart).

3.4 Do All Videogames Need Worldbuilding?

With so many approaches to consider and guidelines to follow, one might ask if there is such a thing as too much worldbuilding. Generally, the longer the audience stays in a world, the more worldbuilding is said to be needed, but it remains to consider how much of it is "too much," and what can be done instead. As mentioned earlier, too much written exposition can slow the pacing of a videogame down to a crawl, creating the so-called "walls of text", which often turn

players off. Stretching a single story over several titles, or even different media, can also create an alienating effect. The *Kingdom Hearts* franchise is infamous for its convoluted storyline, told over thirteen games, as well as several books and movies, with more games being planned. According to Shana Scott, an expanded universe such as this is not a problem in itself, as other media can be a great tool to flesh out a world's backstory and minor characters and tell stories that do not directly impact the main plot. It becomes an issue when those side-stories contain worldbuilding that becomes essential to the main plot. Furthermore, many of the games in the series have been exclusive to different platforms, requiring players to invest in several videogame systems in order to fully understand the plot (Scott). This kind of "narrative bloat" could have possibly been avoided if the stories within the *Kingdom Hearts* universe were more self-contained, without crucial bits of worldbuilding being relegated to other media and other videogame titles the player might not have interest in following or even the ability to do so.

While worldbuilding is an essential component for most videogames, it can become counterproductive after a certain point, and Michel argues that some works of fiction do not even need it at all. Although the practice was initially used to create interesting backstories and complex politics for a world to increase the drama of the story, modern interpretations of it see it as a way of covering "everything and anything inside that world" (Wendig, qtd. in Michel), not unlike an encyclopedia. Even the magic system in Tolkien's works, often cited as one of the best examples of worldbuilding, would be considered poorly defined by today's standards, clearly violating many of the rules and guidelines for magical systems mentioned earlier. In its endless pursuit of explaining and defining everything inside a world, at least in the author's mind if not on paper, worldbuilding has become too rigid and can no longer serve the plot as effectively. It insists on one way of seeing the world, to the detriment of any mystery and ambiguity the story might have. In its stead, Michel offers the term "worldconjuring" as an alternative method of crafting a world. Worldconjuring does not attempt to "create a scale model" of a world but instead uses hints and literary magic to create the illusion of one. In other words, while worldbuilding imposes its world on the reader, worldconjuring collaborates with them, with the reader filling in any gaps in the world themselves. If one was to compare the two to other media, worldbuilding would resemble Renaissance art in its realistic approach, even when the subjects being depicted are fantastical in nature. Worldconjuring, on the other hand, would be more akin to other techniques, such as Matisse's depiction of dancing figures with just a few strokes of the brush, or Picasso's horrors of Guernica represented by a chaos of objects. A further analogy can be made with literature, worldbuilding being Tolkien's *The Silmarillion* and worldconjuring

being fairy tales and ancient myths (Michel). In Michel's words, "worldbuilding is a thirty page explanation of the dining customs of beetle-shaped aliens, worldconjuring is Gregor Samsa turning into a beetle in the first sentence without any other fuss." In regards to videogames, Michel's theory bears a striking resemblance to the aforementioned practice of environmental storytelling, with both emphasising the collaboration between the creator of a fictional work and the end user. To sum up, while there is nothing inherently wrong with the practice of creating a world down to the last detail, it is not a good fit for every story told. Even though all stories may share the need to conjure a world, not all of them actually benefit from building one (Michel).

Even though Michel refers mainly to literature, his arguments still hold true for other media, including videogames. A key difference between books and videogames, however, is that games can be played and enjoyed without paying much attention to their story or themes. With that in mind, they offer a unique opportunity for developers to flesh out their worlds in detail without imposing them on the player. Novak argues that worldbuilding is a necessity in almost every videogame genre, not just story-heavy role-playing games, as long as it serves the gameplay. A prime example is, according to him, 2016's *Doom* (id Software), an action-heavy first-person shooter in which you play as the Doom Slayer, a human soldier bent on killing demons. The game is often lauded for the way its story does not get in the way of the gameplay, the majority of it being optional, found in audio and written diaries. However, even though the story does not negatively impact the frenetic pace of the game, it is still essential to the gameplay. The aforementioned logs and diaries explain that people on Earth are suffering from an energy crisis and have opened a portal to Hell, combining their advanced technology with the natural energy emanating from Hell in order to create the perfect renewable energy source, a plan that quickly goes wrong. Although simple, this plot establishes that the setting is a dystopian future with highly advanced technology, as well as the fact that Hell exists in a literal way, giving players a reason for why there are demons to shoot at and explaining the origin of the game's futuristic weaponry. Without these pieces of worldbuilding giving context to the player's actions, the game might have ended up feeling generic and uninspired, virtually indistinguishable from other games of the same genre (Novak).

The *Wipeout* series of racing videogames, developed by the now-defunct SCE Studio Liverpool, formerly known as Psygnosis, takes this non-intrusive approach even further. The series is set in the near to distant future, with the player piloting one of several anti-gravity racing craft and racing against other teams on a variety of courses, utilizing various offensive and defensive weapons to immobilise or destroy opponents. What truly sets these games apart

from other racing titles is the developers' approach to worldbuilding. Each racing team has its own recognisable characteristics and visual style, not unlike modern F1 teams, but not much of their history and general worldbuilding is actually found in the games themselves. Instead, the games are designed to be a pure racing experience, with a surprisingly large amount of supplemental worldbuilding relegated to manuals that come with the games or the official website. Despite essentially just giving some "flavour" to the game, the supplementary text gives players a reason to pick a team and stick with it, which goes beyond mere consideration of the difference in speed and handling statistics. Players that grow attached to a particular team might even choose to represent it in the real world by wearing colours associated with it or even having its logo tattooed, the same way actual sports fans support their favourite club in real life.

3.4.1 Retroactive Worldbuilding

In addition to worldbuilding that precedes the actual creation of a game, certain developers build the game's world retroactively. For example, *Wipeout*'s developers have chosen to build their world after the game was launched and well-known, taking into account things such as glitches, misspellings, and even negative fan reception of past games, and providing them with context in later titles, giving them a place in the world and thus making both new and past titles more immersive. For example, one of the teams featured in *Wipeout 3* (1999), Piranha, was misspelled as Pirhana in-game and correctly in all subsequent games, leading to *Wipeout 2048* (2012), a prequel to the series, going with the incorrect spelling to preserve continuity. Additionally, supplemental materials and in-game text explained that the Piranha racing team was formed as a result of the merger of two smaller Brazilian teams, Pir and Hana, giving credence to the misspelling, before renaming themselves as Piranha later on (Emery 00:20:33 – 00:21:18). The anti-gravity craft of the Triakis team, first appearing in *Wipeout Pure* (2005), notoriously featured a programming glitch that caused it not to lose as much speed when cornering, giving it an advantage over other teams in the game. The following title in the series, *Wipeout Pulse* (2007) gave an in-universe explanation for the glitch, once again in the form of out-of-game materials, citing the Triakis team as the winners of previous tournament, before ultimately being stripped of their title for incorporating an illegal "reverse-inertia deceleration system" into their ship (Emery 00:39:08 – 00:40:25). The somewhat negative reception of 2002's *Wipeout Fusion* also became an important cornerstone of the series' continuity, with future titles citing *Fusion*'s tournament as being rife with corruption and backhanded deals, as well as focusing too much on the combative nature of the sport, almost causing the downfall of anti-gravity racing altogether (Emery 00:16:48 – 00:17:55). As stated by Wesley Yin-Poole in

his 2014 article, this mirrors the issues players had with the game and serves as an analogue to the developers trying too hard to follow current trends and thus deviating from the series' roots (Yin-Poole).

Far from being the only developers to build their worlds based on fan feedback, Midway Games did something similar by including a character named Ermac in *Ultimate Mortal Kombat 3* (1995), following years of hoaxes and rumours concerning his existence. According to Roger Riddell's interview with Ed Boon, the series' co-creator, Ermac's origins can be traced back to the first game in the series, *Mortal Kombat* (1992), which infamously featured an audit-menu listing the player's accomplishments and progress, such as their highest winning streak or the number of times a secret character named Reptile was fought. Directly underneath the latter was a line of text listing the number of "ERMACS". Contrary to popular belief at the time, this was a pluralised contraction of "error macro", referring to the number of times a program for catching coding errors would execute, and not a second secret character. Eventually, the developers decided to turn fan speculation into reality (Riddell). It can be argued that this type of worldbuilding is especially immersive for the way it includes end users into the process, with developers seemingly relinquishing control over their world for a moment and making their fans feel as if they also had a hand in its creation.

3.5 How to Build Convincing Game Worlds

A fictional world is considered poorly built when it fails to come across as convincing, and as such it prevents player immersion. According to Adrian Chmielarz, developer of *The Vanishing of Ethan Carter* (The Astronauts 2014), a convincing videogame world needs to be indifferent to the player, or else the experience feels overly scripted and "fake." He uses *Call of Duty: Ghosts* (Infinity Ward 2013) and *Bulletstorm* (People Can Fly and Epic Games 2011) as examples, citing the many beautiful vistas and incredible scenarios that unfold before the player's eyes, to such a degree and with such frequency that it gives off the impression that everyone in the game is waiting for the player to arrive before the action can begin: "Gamers can smell the script from a mile away. It actually came to the point that whenever you climb a ladder in a videogame you expect two fighter jets passing by, and when you see a narrow path, you know that it will end with a spectacular vista reveal" (Chmielarz).

In terms of gameplay, there are many other building blocks of unconvincing game worlds, such as blocking off paths in an effort to guide the player toward a predetermined one or relying too much on using light to draw their attention. In particular, Chmielarz cites games like

Syndicate (Starbreeze Studios 2012) and *F.E.A.R. 2: Project Origin* (Monolith Productions 2009), saying they suffer from a lack of believability and a diminished sense of exploration due to how lighting was used to guide the player's every step, even from sources that should not realistically emit that much light. From this, it can be surmised that, although a useful and non-intrusive technique on paper, using lighting is also a balancing act. In reference to the players, Chmielarz states that "just as they can be led subconsciously, they can just as well subconsciously feel the fakeness of the world". Using this technique with more subtlety and becoming the "invisible creator" (Chmielarz) can result in games such as Naughty Dog's post-apocalyptic action-adventure game *The Last of Us* (2013), a masterful example of world design that manages to use a plethora of tricks to guide the player without taking them out of the experience. For instance, every important object and landmark players march towards is coloured yellow, but it is done so naturally and with enough restraint on part of the developers that not many players were even consciously aware of it upon completing the game (Chmielarz).

This approach can be taken even further by designing a game world that is completely indifferent to the player. What this means is that players are basically left to fend for themselves, with no arbitrary objects or markers to guide them. After all, developers striving for realism in their games often perfectly recreate real-life objects but fail to create a world that convincingly mirrors reality. By "not seeing the forest for the trees," many games end up feeling artificial, without a concrete sense of place. This does not mean that every game needs to be a 1:1 copy of our reality, which would be borderline impossible and unnecessary, but they could retain certain core elements, like "the odd structural mix of chaos and harmony of the real world, its indifference toward the inhabitants, etc." (Chmielarz).

In order to avoid the pitfalls of games such as the previously mentioned *Call of Duty: Ghosts* and *Bulletstorm*, where all of the action was centred around the player, designers should strive to make them feel "like an intruder in the game world rather than a tourist" (Chmielarz). This differs from Roine's definition of an "outsider" in that the former serves to heighten the sense of immersion, while the latter refers to apprehending the game world's artificiality in order to manipulate its elements (Roine 119). *The Vanishing of Ethan Carter* is an excellent example of a game created with such a mind-set, as players find themselves in a quiet and peaceful valley long after an unknown event claimed the lives of all its inhabitants. With no direction or clear goal, the player can discover the truth by exploring the now-empty homes strewn about the area. This is intended to make them feel uneasy, but also serves to pique their curiosity – they become "a voyeur gaining access to knowledge" (Chmielarz). As people are naturally drawn to that

which is obscured or forbidden, this "forbidden fruit" appeal is the driving force behind games created with this approach. Open-world games such as *GTA V* and *The Elder Scrolls V: Skyrim* also utilise these elements to keep players interested, since the world does not stop if they do, and part of their charm is sometimes simply watching the games' inhabitants interact and go about their lives. There are other ways of making players feel like an intruder in an indifferent world besides relying on emergent gameplay based on randomised scripts interacting with one another. For example, *Dark Souls* (FromSoftware 2011), *ICO* (SCE Japan Studio and Team Ico 2001), and *Shadow of the Colossus* (SCE Japan Studio and Team Ico 2005), often praised for being some of the most immersive games of all time, do not feature many characters, yet still manage to instil in players a sense of awe and wonder with their impressive and almost otherworldly architecture (Chmielarz). This philosophy can best be summed up as follows: "The crucial thing to design in a videogame is the moment when nothing happens. Is our player still immersed and enchanted when they release control? When the only verb available is the most important one of all: to be" (MS, qtd. in Chmielarz).

Finally, and perhaps most interestingly, these qualities can sometimes be imparted to a game through sloppy design. The levels in the original *Dead Space* (EA Redwood Shores 2008) were designed rather haphazardly, which did not translate well to gameplay, forcing players to backtrack and repeatedly use the in-game map to navigate the confusing mess of corridors. Despite this, Chmielarz claims that players praised them over the more streamlined designs found in the sequels due to their stronger sense of presence, and consequently, immersion (Chmielarz). A similar example could be found ten years prior in 1997's *GoldenEye 007*, developed by Rare. Martin Hollis, the director of the game, outlines the mentality behind such an approach:

> The level creators, or architects were working without much level design, by which I mean often they had no player start points or exits in mind. Certainly they didn't think about enemy positions or object positions. Their job was simply to produce an interesting space. After the levels were made, Dave or sometimes Duncan would be faced with filling them with objectives, enemies, and stuff. The benefit of this sloppy unplanned approach was that many of the levels in the game have a realistic and non-linear feel. There are rooms with no direct relevance to the level. There are multiple routes across the level. This is an anti-game design approach, frankly. It is inefficient because much of the level is unnecessary to the gameplay. But it contributes to a greater sense of freedom, and also realism. And

> in turn this sense of freedom and realism contributed enormously to the success of the game. (Hollis, qtd. in Chmielarz)

This method lines up with what Kieffer would call the Outside-In approach to worldbuilding, wherein a worldbuilder first defines a story's setting before crafting the story itself. According to Chmielarz, most high-profile games nowadays are designed to be as streamlined as possible, with a clear gameplay loop in mind. The level design is then repeatedly refined and perfected until it satisfies said gameplay loop, with no superfluous elements. The end result more often than not ends up being a cold, calculated, and ultimately unconvincing product that leaves no room for the player's imagination, hurting the sense of presence and immersion (Chmielarz).

4. What the Future Holds for Immersion and Worldbuilding

As time goes on, the concepts of immersion and worldbuilding are becoming increasingly intertwined thanks to advancements in technology. Augmented reality is one of the more recent ones, using the camera of common devices such as smartphones to superimpose a computer-generated image onto the user's view of the real world, thus providing a composite view of both worlds. Games such as *Pokémon Go* (Niantic 2016) are blurring the line between real and fictional worlds by taking full advantage of this technology, owing its massive popularity to a combination of novelty appeal and intuitive design.

Motion controls, notably popularised by the Nintendo Wii console, offer a similar appeal and a potential for greater immersion due to the way the user's movements translate directly to the character he or she is controlling. This especially holds true for people who do not normally play video games or have not grown up with them, and would not be familiar with a traditional control scheme. Nintendo and other third-party manufacturers have also come up with a vast array of peripherals for Nintendo Wii's motion controller, turning it into a steering wheel, rifle, fishing rod, and so on, enhancing the gameplay experience by making it even more intuitive and consequently, immersive.

Virtual reality technology is often considered to be a step above either of the aforementioned examples since its aim is to figuratively insert the user into the game. The degree to which this is achieved can vary, with some VR systems relying on audio-visual information, and others even offering a tactile sensory experience through the use of specialised controllers or gloves. Somewhat unexpectedly, an experiment by Robinson has shown that VR equipment, particularly the PlayStation VR system, offers a more immersive experience even with abstract games, thanks to a combination of lower input latency in comparison to conventional controllers, as well as the ability to "tune out" the real world. The latter is equated to how headphones enable us to immerse ourselves in music better than by listening to it on a regular stereo system. (Robinson 00:06:12 – 00:09:42). Ryan adds that by using our body as the interface, the barrier between the user and the medium disappears and the virtual world becomes freely explorable. For such an experience to be truly immersive, however, the user must be able to move around the virtual space and apprehend it from different points of view. Similarly to conventional video game experiences, as technology improves, so do the amount of possibilities and the user's expectations grow (Ryan 112).

The increasingly interconnected nature of immersion and worldbuilding is perhaps best exemplified by the recent trend of toys-to-life videogames, spearheaded by titles such as *Skylanders: Spyro's Adventure* (Toys for Bob 2011) and *Lego Dimensions* (Traveller's Tales 2015) and Nintendo's *Amiibo* figures. The concept relies on players buying additional specialised (physical) toys, which they then place on a scanning unit included with the game to unlock a virtual representation of it in the virtual world. Unlike augmented reality, this concept merges the real and physical worlds tangibly, enabling players to literally build the game's world by creating physical structures and characters that then get represented on-screen. All of the above serves to prove that videogames as a medium are anything but predictable, rapidly evolving into a plethora of exciting and thought-provoking directions.

Conclusion

In terms of their subject matter and scope, videogames as a medium offer nearly limitless possibilities. As technology improves, they are becoming increasingly less dependent on and constrained by hardware, instead becoming more reliant upon the boundless imagination of their creators. Since examining all of their qualities in detail would be well beyond the scope of only one research paper, this paper focuses on their narrative and immersive qualities, as well as the various ways developers build virtual worlds. By comparing and contrasting these aspects to movies and literature, the goal was to show that videogames are a medium rivalling the two, while also exhibiting qualities that are entirely dissimilar to either. More specifically, research has shown that the interactive nature of videogames more often than not sets them apart from other entertainment media, as well as significantly influences how the aspects of immersion and worldbuilding are incorporated. Regardless of how one chooses to categorise them, it is apparent that videogames evolved into a unique form of storytelling and entertainment medium worthy of further research, one that continues to grow and differentiate itself from more passive or receptive media with features wholly unique to itself, the influx of innovative new technologies promising to broaden this gap even further.

Despite interactivity and player agency often being touted as the most important qualities of the medium, the ones that set it apart from the likes of literature and film, reality is never as straightforward and videogames have essentially proven to be a medium of opposites. For every open-world sandbox there exists a visual novel with minimal amounts of interactivity that is nevertheless beloved by its audience. In conclusion, videogame design has shown itself to be more akin to a spectrum, with the end product more often than not being the result of the interplay between several different concepts and extremes, such as immersion and worldbuilding, gameplay and worldness, and even the player and the creator. How game developers balance these concepts more often than not determines how well their game is received by critics and the audience. Every so often, however, there comes a videogame that flouts this established rule altogether, carving its own path and proving without a doubt that, with enough creativity and perseverance the possibilities of the medium are infinite.

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