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Where To Look? Sustaining Presence While Directing Attention in Virtual Reality Stories

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ABSTRACT Humans have been fascinated with the notion of submerging themselves in other spaces since antiquity, or even before. As the contemporary media landscape seeks to employ newer immersive practices, particularly in today's *Metaverse* environment, storytelling in immersive media such as virtual reality (VR) is still developing and being described. The notion of scale and (newfound) viewer agency afforded by VR has challenged VR film-makers, particularly in directing attention towards story beats and handling user interaction. The video gaming industry, as a platform that is built with immersion as the core of the experience, leads this development. The advent of virtual reality (VR) video games is developing an amalgamation of immersive strategies to induce the sense of presence within virtual worlds. In this article I look at current approaches and challenges faced when directing attention in films and storytelling in VR. I then consider strides taken in VR video games, namely *Half-Life: Alyx* (2020), to propose that directing techniques and immersive strategies employed in VR video games can be used to develop new strategies in VR films and storytelling.

KEYWORDS Virtual Reality; video games; film; storytelling; immersion; directing attention.

Introduction

Since antiquity, or even earlier, humans have been fascinated with submerging themselves in *virtual spaces* (Grau 2003, 143, Therrien 2014, 452).¹ Scholars of Ancient Greece, Rutger Allan, Irene de Jong and

¹ The term *virtual* is understood here as being the depicted, imaginary space into which to 'escape'. New materialist philosopher Manuel DeLanda (2015, 17) refers to the virtual as being "real" but not "actual". Thus, while not necessarily physical, one is still able to be *present* in the virtual.

Casper de Jonge (2017, 34-36), noting the growing interest in immersion perpetuated by the rapid development of new media such as 3D cinema, computer games and virtual reality, argue that the concept of immersion – the experience of being absorbed into another world – is predated by the Greek term *enargeia*. *Enargeia* describes how “the story world appears so clearly to the listener that he experiences the illusion of being *present* at the events reported in the narrative” (Allan, de Jong and de Jonge 2017, 34-36). Art historian Oliver Grau’s extensive seminal study reflects the complexity of (new) media art, particularly virtual reality (VR), as a means to be *amongst* images, rather than distanced from them (2003, 5, 11). This concept of being *with*, or *among*, images is found in paintings of landscapes, frescoes (both prevalent in the *Renaissance era*, from the 1400s) and panoramas (late 1700s) which made use of illusion, 3D extensions and purpose-built structures to immerse viewers into scenes. Recurring motifs in these immersive media targeted the senses, with visual fidelity or ‘realism’ of the image that hermetically surrounded viewers, attempting to mimic perceptions of the physical world without frames, borders or windows that would remind viewers of the mediation (Grau 2003, 10, 14, 25, 93).² Panoramas were the prominent immersive artworks during the 1800s, before the advent of film (late 1800s), which offered motion pictures with narrative arcs (Wray 2020, 56-57; Grau 2003, 127, 146). Furthermore, a sense of inclusion, through tactility and haptics to the extent of interactivity, begins in film as immersive media edge toward including audiences in the experience (see Paterson 2017, 1544; Parisi 2018, 40).

With the advent of the current *third wave of VR*, and commencement of the *Metaverse* – reigniting interest in the concept of immersion – VR film-makers have had to find new ways of adapting to the medium as an emerging storytelling platform, according to writer and narrative consultant John Bucher (2018, 1-2).³ For over a century conventional film-makers have mastered the art of directing viewer attention towards story beats on a framed 2-D surface. By deciding what to look at, from

² The term *hermetical* here is understood in line with Grau’s (2003, 13) description of VR, and how it “wholly” surrounds a user within a ‘sealed’ off VE, preventing outside, worldly distractions that may disrupt the immersive ‘illusion’.

³ VR’s first wave was initiated when computer scientist Ivan Sutherland (1968) developed what is largely considered to be the first computer Head-Mounted Display (HMD) named *The Sword of Damocles* and published his paper titled *A head-mounted three-dimensional display* in 1968. VR’s second wave occurred in the 1980s-1990s, when pioneers like computer scientist and author Jaron Lanier (who coined the phrase ‘virtual reality’), founded the first VR start-up VPL Research, Inc., in 1984 (Lanier 2017, 11). VR’s third wave began around 2015 when consumers could obtain HMDs such as the *Oculus Rift* and *Google Cardboard*.

which angle and when to look at it, traditional film directors control how the film is received, and mainly concern themselves with the contents of each frame. VR breaks away from what computer scientist and VR pioneer Ivan Sutherland (1968, 757) refers to as the “windowing problem”, as the frame is removed, and users are hermetically surrounded by the depicted world. VR has essentially achieved the ambition of allowing a user to *be* in an imaginary world and story as strived for from antiquity. However, viewers having the agency to look in all directions has made directing attention a challenge.

Within the context of entertainment, VR is considered a platform for video games, as Palmer Luckey’s original Oculus Rift was marketed as a platform that would allow gamers to “step into the game”, according to author Blake Harris (2019, 140). However, the Metaverse has promised a virtual life beyond gaming. Meta envisions an inhabitable social space that connects people, as well as a place for work, exercise and recreation (Meta 2021). Unlike these other forms of recreation however, VR storytelling necessitates a degree of ‘control’ of the user’s attention to drive a story. While storytelling in VR has grown rapidly, film scholars David Bordwell and Kristin Thompson (2019, 722) suggest that the problem of directing audiences *where* and *when* to look for narrative purposes remains a challenge, and thus the initial “commercial uses of VR lay in video games”. Video games are a capable medium for maintaining strong narratives and, as video game researcher Dominic Arsenault (2014, 482) suggests, research in the field finds itself converged between game studies and visual media, drawing methods from both while establishing its own critical discourse. Having to deal with recurring player interactivity, video games have developed narrative tropes and strategies that are unique to its interactive traits.⁴

This article examines the current state of storytelling in virtual reality, particularly the prominent issue of directing user attention and the notion of interactivity. Furthermore, I look at how the interactive media of video games, particularly emerging narrative-based VR games such as *Half-Life: Alyx* (2020), has addressed narrative challenges in the way that it is experienced. I propose that it is useful to draw from storytelling

⁴ While interactivity ranges from low to high (Nee 2021, 1493), soliciting varying degrees of agency, video games differ from other interactive media (Robson and Meskin 2016, 167), in that most of what is displayed on screen is a result of a player’s continued (inter)action with the system.

techniques and immersive strategies employed in VR video games to inform developments when considering narrative experiences in VR. I first briefly define the concepts of immersion and presence as understood for this study. Thereafter, I explore the challenges of directing attention and addressing interactivity by analysing four prominent VR films, namely; *Clouds Over Sidra* (2015), *Henry* (2015), *Dear Angelica* (2017), and *Wolves In The Walls* (2018). Lastly, I look at how emerging VR video games – particularly *Half-Life: Alyx* (2020) – address these challenges and propose how VR video games can be drawn from to establish new strategies when considering film and storytelling in VR.

Immersion and Presence

Immersion is a vastly discussed term and is often (mis)used synonymously with the feeling of presence across various fields (Slater and Wilbur 1997, 4; McMahan 2003, 67; Ermi and Mäyrä 2005, 4; Nilsson, Nordahl and Serafin 2016, 109). Unlike immersion, however, presence is more consistently attributed to the notion of *feeling*, or *'being'*, in *another space*, through the use (but lack of awareness) of mediation (Grau 2003, 14; Lombard and Jones 2007, 198; The International Society for Presence Research n.d). Immersion, on the other hand, is associated with a *property of a system*, a *perceptual response*, a *response to narrative content*, and a *response to challenges* (Nilsson, Nordahl and Serafin 2016, 110). In this study, presence is understood as the feeling of 'being in' a mediated environment, and immersion is understood as the systems and strategies used by a system to 'transport' the user into a virtual environment (VE).

Difficulties in directing VR stories

The premise of VR is to place the user in a virtual space by blocking out external distractions from the physical world and, much like the eighteenth-century panorama, to fill the viewer's entire field of vision with an artificial world. Pivotal to any VR experience, more so than visual fidelity, according to Lanier (2017, 280), is the novelty of user interaction in the form of bodily movement tracking. VR is an experience where the user's "perception is a function at least of head tracking", according to VR researcher Mel Slater (2018, 432). HMDs use

head-tracking sensors to track the user's head, therefore the screen and VE changes with the user's head movement, and the user can naturally feel part of the virtual space. Audio and music from the virtual world are also augmented by the headset. The user's movements, positioning, and reactions brought about from environmental interaction, is simulated and heard, bringing the world to life and perpetuating the immersive experience. Immersion is, however, a fragile experience, one that is easily broken. Eminent scholar Janet H. Murray (2020, 18, 24) argues that even in "well-crafted VR experience[s]", when users put on the HMD, they knowingly step into a "human-authored reality" for which they "suspend disbelief". Therefore, (new) media must keep innovating, developing new immersive strategies in the area to sustain the fleeting sensation.

Nonetheless, since VR offers viewers the capacity to look in all directions within hermetical VEs, how to direct their attention has been a major challenge for (VR) film makers, as it distorts many of the conventions that the film industry has refined over decades. While the medium has been criticised as a gimmick, Bucher (2018, 1-2) contends that storytelling within VR is still in its infancy, and that the methods are being informed, eventually likely to compete with established media like film. Bucher's claims here, which relate to film-making in VR, should also be considered when analysing VR video games as storytelling media. There are two approaches to storytelling in VR according to Bucher (2018, 7), that pivot around viewer agency. He writes:

Currently, there are two dominant philosophical storytelling approaches and perspectives in VR. The first allows the viewer to watch a scene that is played out in the space around them. They are immersed in the scene but not necessarily an active participant. This is engaging for a few moments but can become frustrating to the viewer when they want to more intimately interact with the world around them. Storytelling in Virtual Reality is less about telling the viewer a story and more about letting the viewer discover the story. The second philosophical approach allows the viewer to actually become the camera, in a sense. Stories told in this format begin to blur the line with video games. (Bucher 2018, 7).

The first approach essentially utilizes VR as a 360-degree video experience, and does not seize the full scope of what VR has to offer, namely interactivity. Interactivity allows for a more "authentic" experience and is fundamental to any true VR experience according to

VR researchers William Sherman and Alan Craig (2019, 12). Concurring, Lanier (2017, 18, 79, 81) argues that VR was never intended simply to make movies or games ‘flashier’, but rather to be a medium through which one could express and jointly experience dreams, or “a new type of consensus reality”. While applications for VR are not compelled to employ interactive features, VR is built around these structures, and, unlike most other media, offers interaction using bodily motion. Films utilising the second approach move beyond a reliance on the (fleeting) excitement produced by 360-degree environments, but rather involve the viewer in both experience and narrative, employing (more of) the interactive structures VR is built around. This suggests the *narrative paradox* which is a well-established dilemma within scholarship concerning interactivity and video games (Louchart and Ruth Aylett 2003, 244). The narrative paradox refers to the conflict between accommodating for user agency within a VE, while establishing a “pre-authored” narrative (Louchart and Ruth Aylett 2003, 244). This paradox is arguably exacerbated when considering VR, where, even in relatively lesser-interactive VR experiences, in which users can *only* interact by moving their heads (fundamental to any VR experience, following Slater (2018, 432)), the relinquishing of a user’s ‘freedom’ can disrupt feelings of immersion and presence.

Similar to narratives in video games over the past two decades, VR storytellers have had to innovate from more established storytelling media such as film. In his book on storytelling for virtual reality (2018), Bucher interviews prominent storytellers in the VR industry, which I reference here. Jessica Brillhart (quoted in Bucher 2018, 11-12), former principal film-maker for VR at Google, suggests that while the traditional three-act structure is a good basis, it limits the scope of the experience by “allowing for a storyteller to exist. [...] In VR, what we’re doing is creating experiences for people to then go into and have their own experiences.” This echoes game writer and designer Richard Dansky’s (2021, 3) description of video game narrative, which he describes as being not only the experience of the story, but includes the player’s entire experience of, and actions through, the game’s world, including the story. This form of agency is described by Murray (2017, 159) as “the satisfying power to take meaningful action and see the results of our decisions and choices”. Brillhart (quoted in Bucher 2018, 12-13) suggests that VR storytelling revolves around this agency, setting up potential story(ies) and outcomes that the user may end up experiencing, as forcing an exact or intended experience as in a

traditional film, may involve forcing them *where* or *when* to look, which defeats the VR experience.

The following analysis of four prevalent VR films, with varying approaches to storytelling, notes compromises taken to direct viewers' attention. These are short films, which suggests the experimental nature of an emerging medium. All require an HMD to be viewed and, apart from *Wolves in the Walls* (2018), are freely available online. The films span a three-year period, representing innovations in the medium between 2015 and 2018, during VR's third wave, when consumers could more easily access the medium.

Compromising to Direct Attention in VR films

VR has often been described and marketed as a tool to deliver empathy, through the sense of presence conveyed in its stories. In reference to *Clouds Over Sidra* (2015), a VR documentary which follows a twelve-year old Syrian refugee girl, Sidra, in Zaatari refugee camp in Jordan, immersive storyteller Chris Milk (2015), describes VR as “the ultimate empathy machine”. Milk (2015) argues that VR's ability to place viewers *with* Sidra in a refugee tent, allows for a more profound human connection than other media allows. The hype surrounding such claims of VR's ability to engineer empathy, however, have been met with increasing criticism, according to media scholar Kate Nash (2021, 103). Media theorist Grant Bollmer (2017, 63) argues that such “empathy machines” cannot universally re-create true feelings of empathy, as the VR user “hastily absorbs the other's experience into their own experience.” Murray (2020, 12-13) argues that the excitement of “physical immediacy” simulated in VR inevitably fades as the novelty subsides.

While *Clouds Over Sidra* (2015) might elicit forms of empathy, or what Bollmer (2017, 66) argues is closer to “identification” or “association” from its viewers, it could be argued that as an 8-minute 360-degree video, it does not employ the full scope and purpose of VR.⁵ It does not (fully) employ interactivity, which – as Lanier (2017, 280) argues –

⁵ Despite the suspicions about VR's ability to generate empathy in its viewers, *Clouds Over Sidra* (2015) – which was made in collaboration with the United Nations – helped raise nearly \$4-billion, according to *Wired* editor Peter Rubin (2018, 102). This could be seen as evidence that the film ‘touched’ people, and proposes the immense capability of this (new) storytelling medium.

encourages users to participate in the depicted environment through a sense of embodiment, rather than only to observe or ‘visually absorb’ it. As Murray (2020, 24) points out, simply having audiences watch 360-degree videos in VR does not automatically solicit feelings of empathy. Being live-action limits the film’s ability to offer the interactive experience expected in VR, as the viewer can only ‘be’ and view the depicted world from the position of the 360-camera used at the time of filming. Moreover, the film is edited much like a traditional documentary film, using fades between scenes. These transitions, while gentle, can potentially disrupt feelings of presence. While the viewers can look in all directions, each new scene starts by facing the viewer at the subject of the scene, as intended by the directors.

Similar to *Clouds Over Sidra* (2015), Oculus Story Studio’s animated short film *Henry* (2015), directed by former Pixar animator Lopez Dau, employs the ‘power of empathy’ in VR. Like Pixar films that appeal to audiences of all ages, the 8-minute film’s plot is straightforward: Henry is a likeable hedgehog, wanting a friend to hug despite his quills. *Wired*’s Angela Watercutter (2015) interviewed the studio’s creative director Saschka Unseld and character lead Bernhard Haux, who explain that “[t]he freedom of VR can be daunting, so Story Studio added a ladybug that enters the scene and draws viewers.” The ladybug subtly directs viewers, alerting them to elements to look at: the bug crawls under the table showing viewers that they *can* look there. Henry occasionally looks into viewer’s eyes, often when sad or excited, in an attempt to involve the viewer in the scene as his gaze follows them. While not new to films, breaking the fourth wall is often avoided on traditional 2-D screens, but has become a trope in VR to bolster a connection (Nash 2021, 118).

Allgeier (quoted in Bucher 2018, 40), asserts that the use of camera angles and cuts do not transition smoothly to VR storytelling, as a shifting perspective can remind viewers of the mediation, disrupting feelings of presence. Unlike *Clouds Over Sidra* (2015), there are no cuts in *Henry* (2015), and the film is partly rendered in real time, and plays out seamlessly.⁶ Although the viewer can look around and potentially explore Henry’s home, a tree hollow, the story mainly plays out within the 180-degree space in front of the viewer (Image 1). Since *Henry*

⁶ Comparable to video games, Henry’s movements are rendered in real time, to be able to react according to the viewer’s movement and position (Watercutter 2015).

(2015) is set in a single space over the course of a few minutes, it removes the need to change scenes or time, eliminating the ‘editing’ challenge faced in longer VR films.

Both films seemingly ‘rely’ on the (short-lived) novelty of a sense of presence that VR affords in eliciting a sense of empathy or association with the depicted subjects. *Henry* (2015) does, however, take more advantage of the medium’s interactive description, *subtly* inviting viewers to look around the space. Both films could, however, be experienced on a traditional 2-D platform, resulting in a similar experience for audiences. As Murray (2020, 24-25) notes, in all media immersion is earned through constant development, and designers must adapt “new conventions and new genres” to take advantage of the (new) medium.



Image 1: Birthday loneliness: Henry gazes at the viewer. Most of the story is contained in Henry’s home, within a 180-degree field of view. | (c) *Henry* (Ramiro Lopez Dau, 2015).

Oculus Story Studio’s follow-up, and last film (before the unit was shut down by *Facebook* in 2017), *Dear Angelica* (2017), takes a different approach, and is a film that would not make much sense outside of VR. This 13-minute film depicts narrated scenes from a daughter’s letter to her deceased mother. *Dear Angelica* (2017) surrounds the viewer with *Jessica*’s memories and her imaginative recreation of her mother’s adventurous life as a film star. The scenes are portrayed as animated paintings, which catch the viewer’s gaze as the paintings are created around him/her. Unlike *Henry* (2015), the film’s narrative makes full use

of the space around the viewer, enjoining viewers to look around, even behind, them. While the camera or perspective does not ever cut, the scenes change by fading the paintings away (Image 2). Sound and darkened ‘unused’ background space which spotlights the paintings, guide the viewer’s attention throughout the piece. These directing techniques echo (VR) video game designer Brian Allgeier (quoted in Bucher 2018, 39), who argues that viewers in VR tend to look at the brightest area of a scene (comparable a spotlight in live-theatre), while “spatialized audio” draws audiences to a source of sound. Though the film is not necessarily an interactive experience, Watercutter (2017) notes that some images react slightly to viewers who examine them closely. The film’s scenes, contrasted against the black background, fade in and out around the viewer’s mostly stationary position. This directs the viewer’s attention, but in an unobtrusive way.

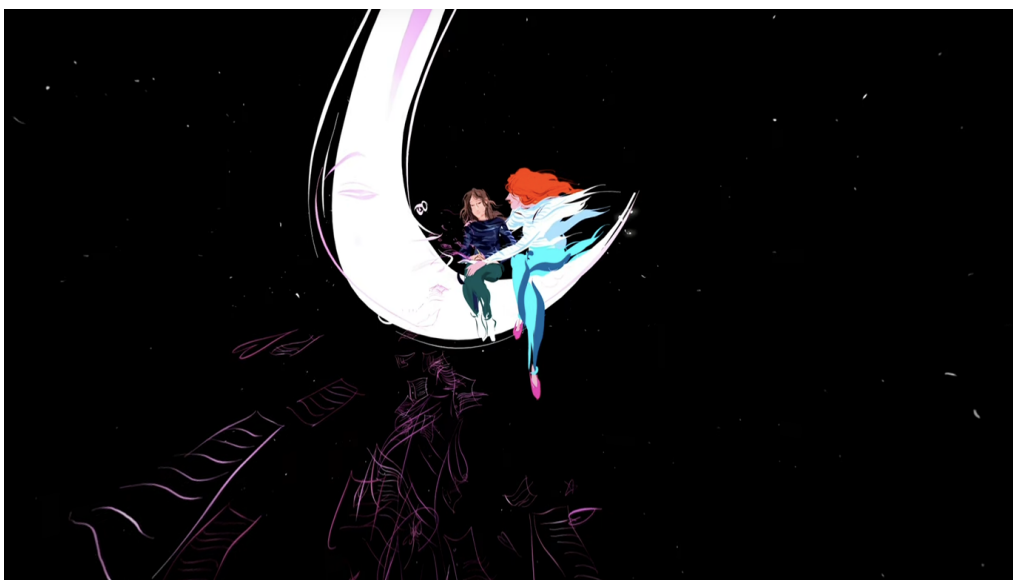


Image 2: Jessica and her mother on the moon. Highlighted by darkened ‘unused’ background space, animated paintings that surround the viewer transition with a fade, as new scenes begin. | (c) *Dear Angelica* (Saschka Unseld, 2017).

Lastly, Emmy Award winning *Wolves In The Walls* (2018) blurs the line between video game and interactive film, following Bucher (2018, 7). Based on the book of the same title by Neil Gaiman and illustrated by Dave McKean, the story (of around 40-minutes) follows eight-year-old Lucy, who is convinced wolves live in her walls. Unlike the three earlier examples, the viewers interact directly with the story and Lucy engages with them. Lucy brings each viewer – her imaginary friend – to life in her world, by drawing the viewer, giving them hands to interact with, so

that they can help her on her quest. Lucy is responsive to viewers' interaction; at one point asking the viewer to mark an area on the wall with chalk. If a viewer draws too much, however, she calls that viewer out, exclaiming that she will get into trouble. These reactions and responses from Lucy to a viewer's action in the story further elicits the sense of what media and video game scholar Carrie Heeter (1992, 263) refers to as *social presence*, which she describes as the "extent" to which other virtual beings engage with the viewer.

To maintain the user's attention, and direct him/her throughout the film, Lucy and the space she occupies is constantly illuminated, while much of the 'unused' area around is often blacked out, compelling the viewer to look in the right direction (Image 3). While sets covered in darkness may work for this story – fitting the sinister setting of Lucy's home – this technique may not transition well to all VR films, not utilising the full space afforded by VR.



Image 3: Lucy listens for sounds in the wall. Set pieces that are not directly relevant to the active action in scenes are often blackened out. | (c) *Wolves In The Walls* (Pete Billington, 2018).

Contemporary VR films are still experimental, with different approaches to structure and narrative. The above films have different approaches for directing user attention and varying (albeit limited) user agency and interaction. Each film seemingly settles for less-inspired solutions to direct the viewer's attention. For instance, *Clouds over Sidra* fades to black between scenes, and begins each scene with the subject in front of the viewer. While the film gives a sense of being in a refugee

camp, the viewer is bound by the position of the 360-camera. Conversely, the entirety of *Henry* is experienced in a single space, mostly contained with a 180-degree field of view. *Dear Angelica* surrounds the viewer with fading paintings. Likewise, *Wolves in the Walls* darken ‘unused’ areas of scenes, spotlighting where the viewer’s attention is needed. While these techniques may work for their respective films, they could be viewed as unimaginative, and less immersive, as they each do not solve the difficulty of having the viewer fully present in the depicted worlds for extended periods.

By contrast, traditional video games have for decades delivered narratives while allowing for player exploration within their virtual worlds. Even as a relatively ‘young’ medium, narrative within VR video games is expected to uphold and perhaps extend many of the immersive conventions traditional video games have already established. Consequently, the development of film and storytelling in VR has resulted in the adoption of the “language of video games”, according to Bucher (2018, 18), as means to handle this newfound viewer agency.

While storytelling in VR films and games are in their infancy, video game makers are more experienced at dealing with player agency and interactivity within narratives. Thus, it is beneficial to look towards how emerging narrative-based VR video games direct the viewer’s attention that VR film makers may employ when considering strategies for films.

Storytelling in Emerging VR Videogames

Immersion is the fundamental objective of the gameplay experience, according to Dansky (2021, 17). Additionally, from its inception, “presence was a design goal of virtual reality”, writes VE, human computer interaction and presence researcher, Frank Biocca (1997, 13). VR video games tend to incorporate some form of virtual body – the player’s extension into the virtual world – which plays an essential role in the sensation of presence (see Kilteni, Groten, and Slater 2012, 374). Since many VR films offer disembodied experiences, because they do not ground viewers in the depicted world, what may result is a disconnection to the events in the environment, resulting in lesser feelings of presence. Further ‘moving’ the viewer, through use of cuts or transition of scenes, can also remind users of their disembodiment in, or detachment from, the virtual world.

Unlike the VR films explored above, in which the world and story is projected around the viewer's (mostly) stationary position, game designers have the additional challenge of considering the player's positioning in space, and where they will be when their attention is needed. Hence the incorporation of familiar storytelling tropes already used in traditional video games, such as cinematic cutscenes – non-player controlled cinematic animated sequences – which draw attention to sequences or events taking place in the game world. However, not all video game narrative tropes, such as camera angles and composition transition well to VR films (Bucher 2018, 7), and by taking control away from the user, cutscenes may be disorientating in VR.

Valve has therefore come up with novel methods of directing player attention in *Half-Life: Alyx* (2020), towards certain events, story beats or spectacles within the VR world. Throughout the developer commentary of the game – a playthrough mode which allows players to listen to the developers explain their challenges, and the solutions that led to the final experience – it is highlighted that Valve dedicates much of its playtesting time to the player's experience throughout the game.⁷ Developers would observe testers playing, noting their decisions, reactions, and experience, and adjust accordingly. This level of iteration echoes Murray's (2020, 22) call for a shift towards "iteration on the conventions of participation" rather than a focus on *only* the technology, when considering sustaining immersion in interactive media. Through playtesting, Valve can exercise great control over various aspects, such as narrative pacing and attention management. This level of control, or *direction*, of the game's overall experience is comparative to that of a film, particularly as the world and narrative in *Half-Life* games are specifically linear, and therefore less prone to player deviation.

The game world is also fully explorable and interactive, allowing players to engage with items and props, that interact as expected, which in VR, allows for a deep and credible immersive experience. Thus, with arguably more challenges to consider than within VR films, Valve is still able to deliver a compelling story and memorable VR experiences. In the early portions of *Half-Life: Alyx* (2020) for example, *Alyx* (the player) must stop a train carrying her father prisoner, by causing it to crash. In

⁷ As part of the game development process, *playtesting* involves playing a new game to improve upon various aspects, including 'bug' fixing and the user experience.

the developer commentary for the game, it is explained that this crash sequence serves as a spectacle reward for the player. The train wreck was one of the first destructive sequences of the game, and Valve developer Alireza Razmpoosh (quoted in *Half-Life: Alyx*, 2020) explains how they “had to learn about player behaviour in VR and how to direct the player *naturally* to immerse them in the chaos.” To ensure the player is in position to witness the crash as intended, the player is tasked with pulling the railway switch, to alter the train’s course into a wall. Razmpoosh (quoted in *Half-Life: Alyx*, 2020), explains that “[s]ound design, level design, effects and animation had to be carefully coordinated to lead player’s attention through each stage of the wreck.” As the player approaches the railway switch, the train’s horn can be heard in the distance, alerting the player to its direction of approach. While holding the switch in place, the player’s gaze follows the train, which speeds across into a brick wall, causing an immense crash. Using sound, attention is then drawn away from the front, towards the carts of the train, which begin to derail and pileup.

Just when the player may think it to be over, his/her attention is drawn, again using sound, to the collapse of a smokestack (Image 4) to end off the spectacle and expose the path forward for the player (Razmpoosh quoted in *Half-Life: Alyx*, 2020). The developers – as “invisible guides” (Bateman 2021, 111) – subtly direct the player’s gaze through the crash sequence and create an experience in which the player’s *own involvement* throughout, is considered the plot (Nitsche 2008, 51).

Given the freedom offered in video games, perpetuated by the affordance in VR, writers must attempt to create scenarios that give the viewer/user the illusion of ‘freewill’, while subconsciously directing them through the narrative. By positioning the player strategically at a viewpoint to observe the spectacle as designed, *while causing* the crash, he/she is more likely to feel immersed and present in this scene. This involvement by the player is rewarded with the spectacle of the train crash, to elicit the “satisfying” sense of *agency*, which, Murray (2017, 159) argues, is more likely to occur the more “realized the immersive environment”. Featuring stunning surroundings, the world of *Half-Life: Alyx* (2020) arguably ‘*raises the bar*’ for visual fidelity in VR video games. Moreover, it is a world crafted with a high level of attention to detail, which entices audiences to return (following Wolf 2017, 205-206). When events and sequences such as the train crash occur, they happen within the context of the authentic-feeling virtual world surrounding the

player – making it seem more lifelike and immersive. This demonstrates VR’s formidable capacity to deliver compelling narrative sequences that maintain presence in the depicted world throughout the experience. Through constant playtesting throughout development, and an amalgamation of strategies drawn from various media to use in VR, Valve is able to direct player attention as desired, in a fully interactive world that encourages exploration.⁸



Image 4: Collapsing smokestack after Alyx (the player) crashes the prisoner train. The vista of buildings that surround the traversable virtual environment further elicits the sense of presence in the space. This contrasts with the blanked ‘unused’ backgrounds in films discussed above. | (c) *Half-Life: Alyx* (Valve Corporation, 2020).

What makers of VR films such as those previously discussed can gain from VR games such as *Half-Life: Alyx* (2020) is to direct viewer attention within immersive worlds that take full advantage of the scale and affordance available in VR. By positioning the viewer in large hermetical spaces, with an array of detail to look at, viewers are more likely to feel present and part of the world. While more challenging in such spaces, directing attention towards narrative beats and sequences should come across as natural, using sounds and animation, and constant revision through test runs, so that the viewer does not feel compelled to

⁸ As a safety net, however, to ensure players are guided towards important narrative details that they may miss ‘on their own’, *Alyx* is handed a radio headset near the start of the game. This is used to stay in touch with Russell, a fellow resistance scientist, who communicates with *Alyx*, thus guiding players through moments of the game.

look, but rather invited to. This sense of freedom (even if it is the illusion of freedom) can allow the viewer to feel more part of and immersed in the virtual world, instead of only being shown it.

While the medium of video games differs from film, soliciting different forms of engagement from their audiences, there are strategies VR films can gain from VR video games, particularly as they utilise the same interactive-based hardware. The notion of interaction, however, may remain a grey area, as VR films that accommodate for extensive interaction begin to blur the line between films and video games. While user interaction within VR clearly evokes higher levels of immersion, film makers may need to decide what kind experience they are offering, as the definition of what constitutes a VR film experience is still evolving.

Conclusion

There is clearly no established convention for directing attention within VR, as the medium is still in its infancy. Creators of new VR games and films are trialling and testing various narrative tropes and inventing new ones to adapt to the new medium. As Milk (quoted in Bucher 2018, 100) argues, both the technology and language of cinema were birthed simultaneously, while with VR, the technology came first, but the language is still being developed. In this paper I have explored the advent of VR, taking off in the current environment, and how VR films and storytelling are still finding their feet, particularly dealing with the challenges of directing user attention and interactivity. Furthermore, I explored four prominent VR films, each with varying narrative, directive and interactive approaches, highlighting what I believe to be compromises that were made. Lastly, I explored (VR) video games, particularly *Half-Life: Alyx* (2020), as an example of a narrative experience that allows for greater user interaction within large, interactive, full-scale virtual set-pieces, which manages to direct player attention towards narrative elements and beats in order to deliver a compelling story and VR experience. Films and storytelling in VR will find their footing, probably using compromises and unobtrusive techniques.

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Filmography

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- Dear Angelica* [VR short film] Dir. Saschka Unseld. Oculus Story Studios, USA, 2017. 14mins.
- Henry* [VR short film] Dir. Ramiro Lopez Dau. Oculus Story Studios, USA, 2015. 12mins.
- Wolves in the Walls* [VR short film] Dir. Pete Billington. Fable Studio, USA, 2018. 40mins.

Ludography

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Half-Life: Alyx [Video game, PC VR]. Valve Corporation. USA. 2020

Para Onde Olhar? Reter a presença enquanto se direcciona a atenção em histórias de Realidade Virtual

RESUMO O ser humano tem estado fascinado com a noção de se submergir em outros espaços desde a antiguidade ou mesmo antes. À medida que o panorama mediático contemporâneo procura empregar práticas imersivas mais recentes, particularmente no actual ambiente *Metaverso*, o *storytelling* em meios imersivos como a realidade virtual (RV) ainda está em desenvolvimento e a ser descrito. A noção de escala e a (recém-descoberta) acção pessoal directa de espectadores proporcionada pela RV tem desafiado os cineastas da RV, particularmente ao direccionar a atenção para as técnicas narrativas e ao lidar com a interacção dos utilizadores. A indústria dos videojogos, enquanto plataforma que é construída com a imersão como núcleo da experiência, lidera este desenvolvimento. O advento dos videojogos de realidade virtual (RV) está a desenvolver uma amálgama de estratégias imersivas para induzir a sensação de presença em mundos virtuais. Neste artigo, analiso as abordagens actuais e os desafios enfrentados quando se direcciona a atenção em filmes e *storytelling* em RV. Em seguida, considero os passos dados nos videojogos RV, nomeadamente no *Half-Life: Alyx* (2020), para propor que técnicas de realização e estratégias imersivas utilizadas em videojogos RV podem ser utilizadas para desenvolver novas estratégias em filmes de RV e de *storytelling*.

PALAVRAS-CHAVE Realidade Virtual; videojogos; filme; *storytelling*; imersão; direccionar a atenção.

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