

**Storytelling in narrative VR experiences –
Traditional techniques and uncharted territories**

by

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Declaration

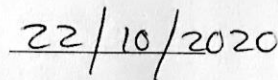
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Abstract

This dissertation examines how the art of screenwriting needs to adapt to accommodate the needs and expectations of the novel methods of storytelling in Virtual Reality (VR). I highlight how traditional screenwriting and cinematic techniques are often applied to this emerging form of storytelling and through the application of concepts like immersion and interactivity, an evaluation of the strength of three VR narratives is made. The texts under investigation are *The Great C* (Secret Location, 2018), *Halcyon* (Secret Location, 2016) and *Alien Rescue* (Moore, 2019a). I prove that traditional techniques of visual storytelling are applied to the narratives and, in some cases, enhance the immersive experience. The relationship between immersion and interactivity is such that both elements are in constant flux, the one influencing the other. This dissertation also examines how emerging VR hardware technology is affecting interactivity and immersion. I examine how the introduction of agency leads to contested authorship in narrative VR texts. I examine how the introduction of agency for the player leads to contested authorship in narrative VR texts as the dynamic between the user's perceived agency and the author's control of the narrative can also affect immersion and interactivity.

Key words

Virtual Reality, Storytelling, Narrative VR, Immersion, Interactivity, The Great C, Halcyon, MetaMovie, Alien Rescue.

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Introduction

Narrative construction is undergoing a transformation, offering new possibilities of consumption and authorship due to the exponential growth of Virtual Reality (VR) technology. In *Narrative as Virtual Reality 2*, Marie-Laure Ryan states that she wants to “rethink textuality, mimesis, narrativity, literary theory, and the cognitive processing of texts in the light of new modes of artistic world construction that have been made possible by recent developments in electronic technology” (2015:2). She argues that technological devices, when employed in the service of storytelling, influence writers in their textual production. The specific technology she is referring to is VR.

VR technology is a computer-controlled and -generated medium wherewith visual and auditory experiences can be enjoyed by a user wearing hardware on his/head called a head-mounted-display (HMD). There was an initial technological hype surrounding the development of VR technologies in the 1990s which seemed to die down during the 2000s. VR technology gained popularity and interest again, with both consumer and enterprise industries growing at an exponential rate (Roger, 2019). VR is opening up a brand-new method of both consuming and telling stories which invites attention from language experts. Of interest is how the emerging technology relates and compares to reading and to traditional methods of story consumption. In this dissertation, I explore how readers are becoming participants in VR technology by experiencing and contributing to a narrative, instead of passively being witness to the unfolding of a tale. Writers of fiction may want to explore writing for VR products as the new medium of expression is offering new (filmic) devices and methods of representing narratives. Similarly,

existing script writers of VR content may benefit from exploring their texts through this combined techno-literary lens.

Ryan is a prominent theorist in the field of transferring the concepts of VR Immersion and Interactivity from the technological to the literary domain. She analyses these terms as a novel way to describe types of reader responses to literature, whether print or electronic. Ryan believes that applying new technological principles to literary works of fiction will open up new ways of approaching writing, dissecting works of fiction, developing new scripts and understanding reader response. Many terms used in VR narrative creation are derived from literary theory. Generally speaking, literary immersion refers to the ability of a text to absorb the attention of the reader. Interactivity refers to the self-referential ability of the text and the relationship the reader has with the text he/she is reading. I will be investigating how these two terms, borrowed from literary studies, can be applied to new forms of story-creation facilitated by VR technology.

Though central to literary theory, it is worth noting that these two literary terms originated even before the birth of the novel. Aristotle unnerved the philosophers of his time with his notions of what is “real”. The early beginnings of the novel, of fiction, illustrated his notions of potentiality and actuality, proving that the written word could create possible realities. Aristotle’s theories denaturalized the “real” and showed that the ambivalent notion of what is real, has always been related to fiction.

The ability for viewers to immerse themselves in a work of art became prevalent with the discovery and use of perspective in paintings. Before the 1400s, paintings were seen as symbolic representations of higher, often, celestial ideals. The viewer of the art was always outside of the image, looking at a two-dimensional representation. When artists started to employ perspective

drawing in their work, suddenly the worlds depicted began displaying a depth of field. The viewer was drawn into the painting and could view objects within the frame from different angles. The movements in art which followed: realism, impressionism, modernism, cubism, surrealism all experimented to a much larger degree with the point of view of the viewer (Feldman, 1981).

Throughout the ages, people have been warned about the dangers of immersing themselves totally in fictional worlds. With the development of fictional writing through the 18th and 19th centuries came a warning of the dangers of getting lost in fictional worlds. Ryan states that the dangers of immersion in early literature is echoed in the concerns of current theorists (2015:9). She mentions warnings about the ravages of immersion appearing in the first great novel of European literature: “‘In short,’ writes Cervantes in *Don Quixote*, ‘he so immersed himself in those romances that he spent whole days and nights over his books; and thus with little sleeping and much reading, his brains dried up to such a degree that he lost the use of his reason’” (2015:5).

The introduction of simple, silent moving pictures in the 1850s caused some viewers to believe that the images were real and thus a threat to society. Fifteen- to thirty-second scenarios created by the Lumiere Brothers in France showed, amongst others, a steam train pulling into a station. Some audience members ran from the theatre in the fear that the train would run them over. In the 1930s the emergence of television as a competitor to radio was bemoaned as being detrimental to the health of children. Even today the mass consumption of television is seen as detrimental to mental and physical health as fears of addiction to media and the rise of “fake news” become mainstream concerns (Bell, 2010).

The situation does not seem to be better in the emerging domain of Virtual Reality. Neurological studies have shown that there seems to be more brain activity going on during the reading experience and also after reading has ceased, much more than previously imagined. Gregory S. Berns, Kristina Blaine, Michael J. Prietula, and Brandon E. Pye (2013), in their article “Short- and Long-Term Effects of a Novel on Connectivity in the Brain”, state that “reading a novel invokes neural activity that is associated with bodily sensations [...] It is plausible that the act of reading a novel places the reader in the body of the protagonist, which may alter somatosensory and motor cortex connectivity”. Clearly, traditional text-based literature has the power to affect the reader physiologically. If the simple act of reading can affect human physiology temporarily, then it may be assumed that more dramatic biological impact could be afflicted on the user in virtual reality where technology is employed to create various stimuli that has, until now, been left to the imagination. In *The End of Storytelling*, Stephanie Riggs believes that “In classical storytelling, such as Wagnerian operas, the audience’s imagination constructs a sensation of immersion, whereas immersive technology emits physical stimuli that we psychologically interpret as presence” (2019:79). Much less is known about the short- or long-term effects of humans being immersed in VR environments. We hear tales of people suffering from alternate world syndrome (AWS), a loss of balance, feelings of sickness, and a general sense of disorientation when they leave VR systems. One even hears of video game addicts who cannot adapt to their lives in their actual physical environments (Johnston, 2008). Similar warnings are echoed about the dangers of humans staying or playing within VR environments for extended periods of time. Motion sickness has been recognized as a predictable side-effect and problem currently faced by VR companies and their consumers (Mason, 2017). The major objection

against immersion is the alleged incompatibility of the experience with the exercise of critical faculties.

Putting aside these very valid objections, Ryan makes a strong argument for applying these literary aspects to technological works of fiction:

It is significant that when attempting to describe the immersive quality of the VR experience, the proselytizers of the technology repeatedly turn toward a metaphor borrowed from the literary domain [...] 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. (1999:113)

Virtual Reality technologies possess the ability to render near photo-realistic digital versions of real-life environments and objects. However, the task of the writer of narrative VR experiences may not be to strive for this digital cloning of reality, but rather to find a balance somewhere on a sliding scale between reality and fiction. Using immersion and interactivity in service of conveying a story that is “believable enough” for the user to suspend his/her disbelief in, may be where narrative VR’s greatest strength will lie. The current advances in narrative VR creations offer opportunities for new research and development in writing and storytelling. The emerging medium’s ability to provide instant and almost complete immersion to the user, is one of its most interesting advantages. Throughout the ages, the notion of real and make-believe has always been part of the human psyche. Riggs states that “as with many people’s childhoods, the vast unknown land of make-believe was my first encounter with virtual reality” (2019:61). This dichotomy between the real and constructed reality is what immersion within VR seems to hinge on. However, VR also provides the potential for a level of interactivity that has hitherto been unparalleled. Narrative VR opens up a dilemma, writers need to strike a balance between the level of immersion and interactivity in order to include this new interactive feature without compromising the older immersive feature. Immersion and interactivity seem to be two

dichotomies within the field of narrative VR that stand in polar opposition to one another, in some cases, while in other products they work together to form a constructive, symbiotic vehicle for digital storytelling.

Ryan states that “immersivity can be understood in two ways: in a properly VR sense, as the technology-induced experience of being surrounded by data, and in a narrative sense (which is compatible with the other kind), as being imaginatively captivated by a story-world” (2015:2). The same term can thus be used when describing a reader’s experience of being engrossed by a traditional narrative and a VR participant/user’s experience of a digital world and/narrative he/she is consuming.

One could argue that the notion of virtual reality, of an alternative, completely believable reality which exists alongside our “real” world, has always existed. As language (written and/or visual) is the means through which meaning is conveyed to the reader or viewer, it can be argued that language creation itself is the vehicle for a virtual experience:

[L]ife is lived in real time, as a succession of presents, but through its ability to refer to physically absent objects, language puts consciousness in touch with the past and the future, metamorphoses time into a continuous spread that can be travelled in all directions, and transports the imagination to distant locations. (Ryan, 2015:29)

If the words on the page can transport us to different locations and timeframes, surely our imagination and unique frame of reference will be asked to come into play to assist in conjuring up the images and situations which are described in the text. This imagery can only be created by readers through the use of their creative faculties and knowledge-base of the world. The imaginative participation of the reader in the text is therefore crucial to lend existence to the world and actions described in that text. If the narrative/ meaning-making is dependent on reader-participation then the moment of interpretation and the amount of attention the reader/

player gives to these story-blocks, is of vital importance. This leads to the importance of immersion in the text as well as the reader or player's interaction with the text.

When speaking of the immersive potential of a literary text, it is often referred to as the ability of the text to transport the reader to a different, imaginary world. Ryan states that “transportation” refers to “how the textual world becomes present to the mind, not how the world relates to the real one” (2015:66). Ryan mentions Richard Gerrig's structure of reader response:

[T]he goal of the journey is not pre-existing territory that awaits the traveller on the other side of the ocean but a land that emerges in the course of the trip as the reader executes the textual directions into a “reality model” (Gerrig's term for the mental representation of a textual world). Reader's enjoyment thus depends on his own performance. (2015:65)

The user's enjoyment in VR hinges not only on the appreciation of the immersive qualities of the world, but also the interactive options available and how these interactions inform the story being told. During the act of reading a traditional text the reader needs to commit his/her attention to the words displayed and elicit meaning from the experience by interpreting these words. This action uses visual stimuli and the reader's imagination to create a sense of involvement in the text. For the guest in a VR experience, less commitment is required from him/her as all the visual stimuli are already on display in their final form and surrounds the user. The user still needs to recognise the reasons behind the placement and existence of the digital objects, but much less use of his/her imagination is required. The digital experience also limits the difference in interpretations of these objects. Thus, immersion in the VR sense can take place quicker and be more in-depth as all the elements needed to generate meaning are already at hand and placed in the desired position and aesthetic which the creator of the VR experience envisioned. Immersion through traditional means thus take more time. Ryan (2015:33) quotes Pierre Levy who stated that text is like a musical score, waiting to be performed, as soon as the

writing is over the text becomes virtual. It is actualized in the mind of the reader. This is very important for the writers of VR experiences, because the guests of such VR experiences are progressively expecting to be able to hone their own experience, to have the ability to navigate the world freely and influence that world. The performance of the guest or user of VR experiences becomes extremely important when he/she has free will to interact with that environment which is visually displayed to them and surrounds them. In *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* Janet H. Murray examines immersion in digital experiences, commenting:

[W]hen an environment is very deep and detailed, we feel as if we are enclosed by it and it has a special holding power over us as an alternate to the disordered actual world of everyday experience. This is true of noninteractive (sic) environments, but it is especially powerful in environments we can navigate through with freedom of action. (2017:113-114)

An interplay between the meaning-making process of the reader or guest and the story-creation process of the creator of a VR experience becomes the vehicle through which a narrative is created. What the guest interprets depends on the amount of authorial manipulation inherent in the text, how many interactive possibilities are at his/her command and whether these detract from the immersive quality of this experience or not.

The terms narrative and story are continually interchanged as synonyms in academic discussions. John Bucher in *Storytelling for VR* takes a cinematic approach to examining the structures of storytelling in VR, based on film language, screen- and playwriting. “A story is a sequence of events or scenarios that demonstrate characters trying to resolve conflict by accomplishing goals” (2018:31). Murray states simply that stories are like teddy bears for adults: we project our emotions onto it, even though we are cognizant of the fact that it is another (unreal) world, we still choose to make that world real for us (2017:126). Riggs states that “narrative involves the

human capacity for creating meaning or forming an interpretation; ‘story’ is the events that are interpreted to create that meaning [...] Narrative encompasses the psychology that compels us to connect with a story. It’s the magic in-between the building blocks of plot and character” (2019:129-130). She says the ‘story blocks’ of an event or piece of literature can be the same for all who experience it, but the narrative we each construct will be different and individually unique. Hence, two different people reading the same text or experiencing the same event, will create two unique perspectives. Thus, for example, during a live theatre show, the audience all view the same dramatic elements but each audience member will make up his/her own interpretation of those elements. The same goes for pre-record mediums such as films and TV shows. It is suggested that narrative VR experiences will follow suit.

If language is used to create story-blocks which transports the reader or creates meaning through the reader’s interpretation of those blocks, then meaning-making will remain a unique experience for every reader or VR user. The story will always be interpreted from a specific, individual point of view with unique meanings attributed to the stimuli and information presented to that reader or user. Ryan argues:

[B]uilt-in narrativity of VR is strictly a matter of potentiality. The same can be said of the narrativity of life [...] In contrast to narrated narratives, simulation systems do not re-present lives retrospectively, fashioning a plot in which all events are in a book and all the potential narrative material is available to the storyteller, but instead generate events from a prospective point of view, without knowledge of their outcome. (2015:49)

All VR experiences take place through the visual consumption of stimuli using a head-mounted display VR hardware. Most of the information to be examined and interpreted are given in visual, auditory and kinetic form, just as in real life. The sense of touch and smell are currently still excluded from VR experiences. But the other three senses combined with the illusion of an unmediated, unpredictable experience of the reality presented to the user, provides enough

material for the user of the VR experience to become convinced of the authenticity of the digital world. It is the rich, untapped potentiality which is built into structure of narrative VR systems that allows for new possibilities of story-writing in this emerging medium of storytelling. Virtual Reality experiences allow for the viewer or participant to experience events unfolding in real-time, as they move through the digital landscape, without the wearer of the VR headset knowing what will unfold next. But this seemingly unpredictable reality is mediated (and even controlled) by the writers of these VR experiences. It is this dichotomy between the user's perceived agency and the author's control of the narrative, and how the dynamic between the two contribute or hinder immersion and interactivity. Because of the viewer's new-found power of choice over how to consume the narrative, these terms are inviting new definitions of story creation and consumption.

Murray states that “interactivity is the vague word we use for two affordances - the shaping of the interactor's behaviour and the shaping of the computer's behaviour - which when well fit together lead to the characteristic pleasure of agency” (2017:113). Interactivity, in a technological sense, seems to be in dynamic opposition to immersion as it (sometimes) takes away from the immersive experience of the participant in VR. Ryan echoes this in stating that “interactivity appears on two levels: one constituted by the medium, or technological support, the other intrinsic to the work itself. [It is] a mechanism inherent to the design of texts, especially of narrative texts” (2015:62). The guest in a virtual experience may be invited to interact with the digital objects in the virtual world he/she is exploring and to take actions within that world. Most of these actions will be executed via hardware controllers that the user is holding in he/her hands. The act of pressing a physical button on a piece of equipment may remind the user that he/she also belongs in the world of that piece of hardware, and not in the digital world that is displayed

to him/her. The act of interacting with the digital world only happens through the physical actions of the guest that are interpreted via computer hardware. Thus, the act of interacting in VR (currently) draws attention to itself and therefore detracts from the immersive experience. The self-referential ability of a traditional text also draws attention to itself but because the sheer act of reading requires stronger focus or commitment from the reader, the immersive detraction is less for the reader. The self-referential act is only a moment, after which the reader once again commits to interpreting the meaning of the written word and suspends his/her disbelief. The interactivity built into the written text does not necessarily refer to the physical world of the reader in the same way as the interactivity in VR does, hence literary interactivity detracts less from immersion than its VR counterpart.

My three chosen texts contain varying degrees of immersion and interactivity options available to the user. Interactivity consists of a combination of physical inputs a user can command a computer to do and expect output results for. The player or guest of a VR experience is given the same type of options: clickable buttons give access to specific scenes which enable the player to move nonchronologically through the narrative. Interactivity options available also include access to extra scenes which inform the backstory of a character or the narrative as a whole. Different viewing modes such as cinematic and “comfort” modes are available, where the output affects how the visuals are displayed to the player. In its most advanced form, interactivity is present in the form of improvised (unscripted) dialogue between participants in a live-action theatre piece, where all parties are able to affect the outcome of the narrative. This type of “power” challenges the role of the reader as they are given the means to be in control of the narrative (to an extent).

In the following chapters I compare traditional literary texts which attempt to provide the same level of engagement for the reader as their digital adaptations do. Creators of VR experiences are striving for a level of immersion that suspends the participant's disbelief and engages him/her to the exclusion of all else. There is evidence of reader immersion in literary texts which manifests itself physiologically in the human body. Examining the different experiences of the reader of the traditional text versus those of the player/ viewer could lend more helpful information as to how to achieve fuller immersion in VR narratives and help writers of VR experiences anticipate or even manipulate user interactions. I am interested in exploring how the creators of these VR experiences construct their worlds through textual and/or dialogue production coupled with digitally created environments and characters. I also investigate how the plots of the original versions of the stories were adapted to fit in with the new VR medium. I examine what cinematic tools are employed to enhance the immersiveness and interactivity in the VR experiences and how these contribute to the viewer's belief in the fictional environments. I investigate the influence of empathy in creating the sense of agency for the player when they are emotionally invested in the narrative. I also examine the potential of theatre improvisation as a vehicle for a stronger sense of agency in VR experiences.

The above ideas can all be teased out in relation to my case studies. These cases were reviewed in person and based on first-hand experience using Oculus Rift CV1 Headset with touch controllers and a VR-ready PC computer. My interaction and engagement with each VR title differed slightly: *The Great C* allowed for readings of the traditional text as well as several solitary viewing experiences of the VR product. My engagement with *Halcyon* followed a similar pattern whereby the TV-episodes were viewed repeatedly and analysed in tandem with

(and without) the addition of the VR episodes¹. The extent and method of engagement with the final case study *Alien Rescue* differed substantially; it required readings of the script as well as attending weekly rehearsals with the cast, crew and director in virtual reality. In Chapter 1, I compare the differences and similarities between *The Great C* (Secret Location, 2018), a VR adaptation of Philip K. Dick's original short story "The Great C" (Dick, 1987). *The Great C* (Secret Location, 2018) is a cinematic adaptation of Dick's short story with the same title, which first appeared in *Cosmos Science Fiction and Fantasy Magazine* (Cole, 1953). The narrative centres around the lives of the few remaining humans on earth who are trying to survive after an unexplained catastrophe wiped out most of humanity. It is implied that this happened due to man's inability to control the technology he himself created. As a result, the earth is now controlled and ruled by this technology, called The Great C. The VR adaptation of the 1987 short story includes a modern approach to our relationship with technology, while still retaining our fear of the potential destructive capability of our new inventions. For both versions the plot revolves around a young man, Tim Meredith, who is chosen to face an all-powerful machine which controls the earth after an apocalyptic event wiped out most of life on earth. In a ritualistic fashion one member of the human race has to go and "report" to the machine, to prove mankind's loyalty to its machine overlord. Part of the charm of the tale is the mystery about what caused the catastrophic event. Was it man-made or done by Artificial Intelligence? In the VR

¹ I tried to acquire the scripts to the VR version of *The Great C* and *Halcyon* but the companies refused to share them, so my references cannot be minutely specific. Where possible, I transcribed the text as experienced in VR and used that transcription as part of my research.

version, man resists and fights back. In the text version man is doomed to his fate; his existence is dependent on the will of the machine.

The VR version is accessed via a digital platform and experienced through VR hardware, both of which require a machine with extremely strong computational power. The experience runs for about 30 minutes and consists of 3-dimensional computer-animated characters and environments. The viewer, who is wearing a Head-Mounted display (HMD) and using controllers to navigate on the VR platform, has the freewill to turn their gaze wherever they choose. The HMD has built-in stereo speakers that can simulate surround-sound.² Once the viewer presses play, the cinematic experience unfolds similar to any other cinematic experience, whereby the viewer can just sit back and enjoy the visuals and audio playing off in front of them. The VR experience is a clear example of how immersion in VR can be maintained by staying true to traditional cinematic conventions.

Bucher provides a series of scriptwriting tools specifically aimed at the creator of VR experiences. Bucher revisits traditional three-and five-act narrative structures and speculates on implementing these for VR experiences, as well as emphasising the importance of backstory structures (2018:109-118). I consider how traditional narrative theories can be applied to narrative in VR. I investigate the following aspects of traditional and VR storytelling as it relates to each of my chosen texts: temporal and emotional immersion, the reader or viewer's role in decision-making and point of view, character representations, narrative dynamics and participative narrative forms. According to Bucher theatre is a mediated attempt at creating real

² "Sound produced by surround sound technology is from a 360° radius in the two-dimensional plane [...] Surround sound is a technique that allows the perception of sound spatialization to be enhanced by manipulating sound localization" (Technopedia, 2019).

life experiences, similar to those that VR industries are striving towards (2018:91). With this statement he is referring to (among others) immersive live theatre as a genre.

In Chapter 2, I investigate *Halcyon* (Secret Location, 2016), a 15-part TV series made up of 10 short form episodes shot in traditional cinematic style, with five additional interactive VR episodes which are viewable through a VR headset only. This text shows greater potential for interactivity options, which is lacking in the first text. However, I also highlight the dangers inherent in having such a heightened sense of interactivity – immersion starts to suffer. *Halcyon* (Secret Location, 2016) consists of ten episodes presented as short TV episodes accessible through a webpage (or viewable in various VR platforms). The ten episodes should be watched chronologically as they follow a traditional TV-series format and narrative structure, including an exposition, several false leads, a build-up, a climax and a cliff-hanger at the end. There are five VR episodes which are interspersed between the TV episodes. According to the plot, these VR episodes fit in chronologically between the TV episodes and the viewer is invited to view them in a suggested order (as indicated by the company/product website).

The plot revolves around a human detective, Jules Dover, and her virtual assistant, VI Asha, which the product website describes as “a fully functioning digital person with her own thoughts” (Secret Location. 2016). They are tasked with solving a murder and the viewer-interactor is invited to help solve the murder case. The victim was the owner of a technology company responsible for the creation of these virtual assistants (VIs) and was found strangled in his office. The VR recreation of the murder scene is scrutinized, together with the usual interviewing of (human and digital) suspects.

The VR episodes are reconstructions of a murder scene, which can be viewed from any angle and replayed endlessly. This tool assists in engaging the viewer in the mystery of finding the killer, possibly more so than the traditional TV episodes do. The VR experience, however, is deeply dependent on the storyline, plot and character developments which take place in the linear episodes. Watching these prior to entering the VR experience is essential to giving credence to the scenes and heightening the drama and mystery. If the viewer decides not to view the VR episodes, the narrative still makes complete sense as the plot of the TV episodes are written to provide a complete experience. This is achieved by repeating much of the information revealed in the VR experiences at the start of (most of) the TV episode following a (suggested) VR episode.

In Chapter 3, I investigate The MetaMovie Project's *Alien Rescue* (Moore, 2019a) which is a feature-length partly-improvised cinematic VR experience using improvisational theatre-style storytelling techniques and live actors. In this chapter I provide an example of a successful balance between immersion and interactivity, which provides a deeper sense of agency and a new take on contested authorship in narratives.

The MetaMovie Project is a group that creates a series of live performances done in VR with professional actors who, as an ensemble, create storytelling experiences in virtual reality. The actors perform from their own private locations using VR headsets, controllers and their computers. The performance is done live, but in a virtual environment, with none of the persons involved occupying the same physical space. The actors embody characters in the form of avatars who populate a virtual world. A script exists which the actors attempt to adhere to, but numerous opportunities for improvisation and branching storylines are built into the narrative. One paying member of the public is also invited into the performance as a character. This person

is called “the hero”. He/she is the “star” of the performance (as they are paying to be involved) and all the actors attempt to make his/her experience as pleasurable as possible. The hero is assigned a minor role and he/she is given an avatar to embody. The hero has free will to do any actions or react in any way he/she pleases, although the actors attempt to guide the hero towards the plot outcomes they wish to achieve. Other audience members can view the show without being involved in the action, by paying a fee and then donning a tiny robot avatar, called an “Eyebot”. These Eyebot experiences allow the person who embodies that avatar, to fly around the virtual space and view the action from any angle, with very limited ability to interfere with the scene.

The company’s first VR-theatre production, “The Heist”, had a year-long run in 2018 and was performed numerous times on a VR social platform called High Fidelity (Rosedale, 2019). The company’s following production, *Alien Rescue* (Moore, 2019a), is currently in production and accessible on a different social VR platform, NeosVR (Mariančík, 2020). The move to the new digital platform allowed for a much greater range of avatar-creations, richer world-building and a more intricate plot (Schultz, 2019).

As the name suggests, the plot of *Alien Rescue* (Moore, 2019a) centres around a team of animal-rights activists who break into a medical facility on a distant planet, in an attempt to free alien species who are being held captive for medical experiments and possibly military research. The hero’s character is asked to assist in the rescue operation and join the gang of rogue science fiction characters in their (seemingly noble) plight. According to Jason Moore, the creator and director of The MetaMovie Project, one of the aims of his project is to push the limits of storytelling technique in order to utilize the unique opportunities provided by VR technology. Moore (2019b) believes that embodying alien bodies and intersplicing believable, earth-like

worlds and characters with alien ones, is part of the strength of this new virtual medium of storytelling. Allowing the characters to be driven by believable motivations such as animal rights, albeit in a futuristic form, provides the opportunity to exploit the empathetic potential of the storytelling medium.

The comparative method of analysis was employed in order to explore the differences and similarities between the case studies when examined through a lens of immersion, interaction and authorship in the texts. Each text had different strengths where VR narrativity was concerned and the comparative style seeks to expose that. Through my chosen texts and chapter structure, I cumulatively highlight how the future of screenwriting is becoming significantly more interactive. By comparing the level of immersion and interactivity between the traditional textual and VR adaptation of *The Great C* I highlight the differences and similarities between these two mediums. Worldbuilding is used in a traditional way to allow for a slow unwinding of the narrative in the textual version. In the VR adaptation the environment creates most of the immediate dramatic tension through its imagery and visceral depiction of the plot, with the viewer experiences these actions from “within” the world. *Halcyon* provides the opportunity to analyse the potential of more interactive worldbuilding whereby the participants play an active role in engaging with the script through their handling of digital objects. I also investigate how storytelling in this hybrid VR/TV format is still influenced by traditional storytelling techniques. I show that traditional writing skills and filmmaking techniques still provide valuable tools that can be employed in the future. The limitations of only utilizing these traditional methods of story creations are also discussed.

An engagement with *Alien Rescue* proved that much more complex considerations will have to be taken into consideration by writers in the future. The text employs the use of improvisational

theatre techniques that allows for unscripted dialogue to form part of the storytelling experience. This form of story creation is encouraged by the creator of the experience. A branching narrative structure further enhances the interactivity of the text and creates shared story creation where authorship is shared by all participants of the VR experience.

VR is sometimes called the “empathy machine” as it is speculated that the immersive potential of VR can provide an embodied point of view that has not been experienced before in communication media (Ramirez, 2018). Ryan mentions that empathy for other people is “one of those evolved abilities that enable humans to form the strong social groups necessary to their survival as a species. Once we develop empathy, it does not have to be limited to people that we know nor to real people” (2015:109). What is needed for empathy to occur is the reader’s or viewer’s identification with the plight of the character he/she is reading about, watching or embodying. According to Peter Rubin in *Future Presence* “storytelling, then, has evolved to find ways to draw you out of yourself, to make you forget that what you’re hearing or seeing or reading isn’t real. It’s only at that point, after all, that our natural capacity for empathy can kick in” (2018:93). If agency is specific to VR experiences, then writers of VR experiences should be able to utilize empathy. This dissertation investigates how immersion influences the creation of characters and plot in VR experiences and whether these VR narratives can become more successful, stronger vehicles for development of empathy than traditional forms of narration.

With the advent of new ways of telling and experiencing stories, the naming-convention of the intended audience is rapidly changing. The correct description of this intended consumer, whether referring to the reader, interactor, player or audience is dependent on *how* that person is

consuming and interacting with the medium. Descriptors such as reader, viewer and audience, which all imply a passive interaction, may need to be adapted to fit the new mediums of digital storytelling. The term user of player is also inaccurate with regard to the texts under discussion as the consumer of these VR experiences is not necessarily “winning” anything. The appropriate naming conventions for these emerging interactive VR experiences are in flux because the medium of storytelling itself is still forming and undergoing changes. Riggs states that she chooses to refer to participants as guests because “experiences are inherently personal, existing only in the mind of an individual who has been engaged on an emotional, physical, intellectual, or even spiritual level” (2019:143). She believes that each guest’s experience will be unique as each individual guest’s interaction will be unique. I agree with Riggs that the meaning-making process is unique to each individual reader or guest as each person has a unique way of observing and interacting with the real world. However, a reader may bring some knowledge from his/her frame of reference of real life (RL) but the text determines what the laws are of the new, fictional world. I use different naming conventions for each of my chosen texts, as they are all different with regard to how the narrative is consumed. This dissertation will show that the consumer of *The Great C* (Secret Location, 2018) can be referred to as a viewer because the text provides extremely limited forms of interaction. I use the term viewer-interactor for *Halcyon* (Secret Location, 2018), as this text provides a hitherto unique option of experiencing the narrative in both forms of televised-consumption and VR-experience. The term guest player is attributed to the member of the public who joins the cast of actors in *Alien Rescue* (Moore, 2019a) in their shared storytelling experience, as this emerging medium of story creation and consumption seems to provide an opportunity for a hybrid form of embodied theatre, film and gaming experience where all the story elements are provided, but authorship is contested.

Murray (2017) predicts the rise of new genres of storytelling from the convergence of traditional media forms and computing. This new form of storytelling, she suggests, will contest the idea of authorship traditionally taken for granted as belonging to the writers alone. Through the analysis of my chosen texts I will prove that authorship still seems to be firmly held by the creators of VR experiences and that only the illusion of choice has (mostly) been granted to the player of these specific texts. In *Alien Rescue* (Moore, 2019a) authorship does seem to be contested: the hero is given complete free will to choose his/her actions and to react to the other players in the improvised scenes even though the existence of a partly-predefined script still brings into question the range of control the hero has over the outcome of the script.

Research into how the craft of writing is changing due to technological innovation is extremely timely, as we live in a world where computational advances are expanding exponentially. VR hardware and software will continue to develop and to evolve into better mediums for storytelling. This paper aims to contribute to the above research. By viewing these technological aspects through a literary lens, I will show how the latter can grow and adapt in tandem with the former, providing benefits to both industries. I believe that a symbiotic relationship will need to be struck between the writer of the narrative and the VR participant in order for this new mode of storytelling and story consumption to succeed. A certain amount of shared authorship will become the norm when creating and consuming VR narratives, as the medium lends itself to this type of collaboration. With the ever-growing demand for digital narrative stories told via VR technology, research into how the craft of writing needs to adapt to remain in service of the medium will become a growing field of interest. It is my hope that this dissertation may contribute to that body of work.

Chapter 1:

The Great C

Modern audiences of storytelling are increasingly being exposed to new types of technologies that offer new possibilities in story-consumption. Utilising the accepted conventions of our modern ways of reading and viewing stories will no longer be enough, when faced with the challenge of writing and presenting narrative in digital mediums. In this chapter I explore storytelling tools that the VR filmmakers of *The Great C* (Secret Location, 2018) employ to immerse their viewers in the content. By comparing the textual and VR version of the texts, I will illustrate how *The Great C* implements and utilises immersion extremely effectively while not entirely delivering on all of its interactive potential. In order to do so, I investigate the use of traditional filmmaking techniques, such as breaking the fourth wall, retrospective versus real-time storytelling, editing, POV manipulation, sound, characterisation, viewer engagement and the role of environment in immersive storytelling. In addition to these film devices I also describe which literary and 3D game design devices are employed to drive the plot forward for the viewer, how world building is accomplished, and how character development is revealed. This undertaking is significant when considering the recent exponential growth in VR technology. With the growing availability and attraction to this emerging field of communication comes a growing need for narrative VR experiences.

Bucher states that “immersive storytelling is a return to form rather than an invention of it” (2018:81), meaning that the conventions and storytelling techniques inherent in traditional forms of entertainment such as theatre, film and television, have proven to be useful starting points for

analysing how storytelling in virtual reality (VR) is evolving. Most academics discussing writing for VR and gaming draw upon the mediums we, as audience members and writers, are familiar with, in the hope of finding similarities we can “hook” new theories onto and differences that can point towards novel ways of writing and consuming VR stories. The conventions associated with these traditional mediums have been applied to the texts under discussion, in order to highlight the varying degrees of success these storytelling devices contribute to the viewer’s degree of immersion and interactivity. I compare how the implementation of immersion and interactivity differs between the printed works and the digital adaptation, firstly, through close textual readings of the original text of the short story “The Great C” by Phillip K. Dick (1987).

The opening line of the text version of “The Great C” reads: “He was not told the questions until just before it was time to leave” (Dick, 1987:309). The story opens with the protagonist, Tim Meredith, being questioned by the tribal leader of their village as to whether Meredith has a good memory and how many books he has memorized in general. The tribal leader then whispers three questions in his ear, which apparently took the tribe a whole year to compose. There is a mystery around what the three questions are which humanity is set to ask their machine overlord, a plot device employed to invite the reader into the post-apocalyptic world. The text also mentions Meredith’s respect for his tribal leader as “it was said he had knowledge of letters” (Dick, 1987:309) which implies that he could not read himself. These references to the importance of the written word and its connection to knowledge in the opening creates a desire for both the characters and the reader to make sense of the post-apocalyptic world they find themselves in. They have lost most records of what life was like before they were born, other than fragments of information which they now try to splice together into a new history of mankind.

In the VR adaptation, *The Great C*, the mystery revolves around what caused an apocalyptic event called “The Smash” and who the Great C really is. Emphasis is placed on the mystery surrounding Man’s transgression and his surrender to a former state of existence. The opening scene of the VR experience places the viewer in a forest near a young man, Walter, and an older gent who is trying to hunt a deer with primitive weapons. The voice over can be heard saying “The herd has grown too large. If we don’t cull them, the deer will overrun the forest” (Secret Location, 2018, 00:00:15). This opening line could hint to the threat that Man’s regression to a former state of existence translates to humanity being subordinate to Nature. Man has reverted to fighting the natural elements again in order to survive. In the VR version the deer runs away just as the arrow is released by the shooter. The narrator fetches his arrow and comes upon an old 20th-century-style military tank which is clearly not in use anymore. The narrator then says that this was his first introduction to the past, to “what Man once was” and proof of his (Man’s) “insatiable hunger for war [...] the inevitability of his downfall” which seemingly lead to all of humanity’s undoing (Secret Location, 2018, 00:00:55).

I would argue that both openings attempt to immerse the reader or viewer immediately. With the text version the reader is drawn into man’s quest for knowledge and understanding with regard to humanity’s part in causing the cataclysmic event which resulted in the state of their current civilization. In the modern version the focus shifts slightly towards the reasons for an apocalyptic event; both man-made and possibly a result of autonomous machines. The viewer’s interest is piqued by both the state of the current post-apocalyptic society and the historical events which caused them.

In the text version it is indicated that the Smash was done by the Great C, who could do it again. In the VR version it is stipulated that man himself caused the catastrophe. It is suggested that the

Great C brought about the Smash, but that the superpower was compelled to do it, as man was busy self-destructing. This responsibility for the calamity which the characters face at the opening of both versions of the tale, draws the reader or viewer into the world, as one seems compelled to somehow share in that burden. The VR version of the tale seems to place more urgency on the threat of such a (fictive) catastrophe happening in the real world.

In the text version the rest of the exposition is used to describe the clothing they wear, the tools Meredith takes with him and the people who care for him, who send him off on his journey. A pistol and a compass are mentioned. The description of his home-life and tribe is used by the writer to paint a clearer image of the character and to allow the reader to identify with him. This literary technique builds the world of the characters and places the protagonist in the centre of a functioning, caring community, which could be relatable to the reader and thus enhance immersion. Ryan states that language-creation can be seen as a virtual act: “Life is lived in real time, as a succession of presents, but through its ability to refer to physically absent objects, language puts consciousness in touch with the past and the future, metamorphoses time into a continuous spread that can be travelled in all directions, and transports the imagination to distant locations” (Ryan, 2015:29). By identifying with the character and their world, the reader suspends disbelief thus become immersed in the tale. Yet with the use of VR technology, the reader becomes a viewer and is presented with visual interpretations of the written text. By wearing a head-mounted display the viewer is immediately and completely surrounded by a ready-made world and characters. Because it is significantly quicker to decode visual signifiers than in text-based language, the sense of immersion is enhanced.

The reader of the text version may also feel the character’s apprehension and fear at having been chosen to undertake the perilous journey, of having to travel to and face their machine overlord.

His head was protected by a rusty metal helmet. Around his neck binoculars hung from a rawhide cord. Kent touched the heavy gloves that covered Meredith's hands. "That's the last pair of those," he said. "We won't see anything like them again."

"Shall I leave them behind?"

"We'll hope they – and you – come back."

Kent took him by the arm and moved even farther away, so that no one would hear. The rest of the tribe, the men and women and children, stood silently together at the lip of the Shelter, watching. (Dick, 1987:309)

The word "watching" strikes an emotional chord with the reader. I imagine that most readers will find little difficulty in placing themselves in the shoes of one of the tribes-people watching the action from a distance. It is easy to feel empathy for a character who is possibly walking towards his death without any fault of his own. A reader may also identify with the main character and feel empathy for his plight. A more adventurous reader may even experience excited anticipation for the journey. The description of various everyday objects which the modern reader may find unimportant, is pointed out as being of extremely high value to the tribe. The character's suggestion of leaving the gloves behind, to not take them on such a perilous journey, further enhances the reader's empathy with the main character. One could interpret this section as the character inferring that the objects have more intrinsic value to the tribe than his own life, which in turn may enhance the reader's emotional response to the character and his situation. In the VR version, clothing and tools are visually present. Reference is made to old weapons, which those chosen to "report" take with them as a symbol of Man's remembrance of "the old ways" and their promise never to return to that state which, presumably, created their own downfall (Secret Location, 2018, 00:01:50).

In *Empathy and Identification in Cinema*, Berys Gaut (2010) makes a distinction between "imaginative identification" and "emphatic identification", stating that the former happens when viewers in cinema respond emotionally to the plight of a character, but remain external observers

of the action. With emphatic identification “film viewers frequently imaginatively project themselves into characters’ minds and respond emotionally from that perspective” (Gaut, 2010:137). The textual world-building employed by Dick (1987) ensures that the reader is able to construe a believable fictive environment wherein the characters are placed. The exposition of the literary text clearly stipulates the predicament the protagonist finds himself in. Together, these two devices create ample opportunity for imaginative identification with the protagonist, as the reader remains an observer of the action. Even though the reader can easily imagine him-/herself being placed in the shoes of the main character, this is still done from an external observer’s perspective. In the VR version the world-building is achieved through the immediate availability of visual aspects (the scenic environment) and visual objects (people, animals and objects) that can be interacted with. The viewer does not need to imagine what these elements look like (with the help of the writers’ descriptions) but can rather consume instantaneously as they are immediately available.

The VR version includes a campfire scene where the narrator is surrounded by fellow tribesmen and women and concludes his description of their world and exposition on how things came to be the way they are in this world. A visual sense of community is displayed by showing these fellow tribespeople who share in Meredith’s plight. Having immediate access to these visual equivalents of textual world-building is, however, not enough to create emphatic identification with the character. A strong emotional relationship will provide the final, necessary ingredient which may lead to empathy. In the text version the reader is introduced to Meredith’s female partner as “his woman, a young brunette captured from a neighbouring tribe” (Dick, 1987:310) who pleads with him to be careful. Not much more about their relationship can be garnered from the text than this brief mention of her and his gentle caress of her hair. She is never mentioned

again and no romantic notions are entertained in the text hereafter. In comparison, the writers of the VR version use romantic connection as a way to allow the viewer to care about the characters. The aim is to provide the viewer with the opportunity to emotionally invest in the plights of the characters, in order to (hopefully) draw the viewer into the tale and keep him/her immersed. Romance writer, Robin Lovett gives an example of the narrative structure for romance novel writing. Lovett's structure follows the following plot arc: "1. The Cute Meet, 2. Rejection of the Relationship, 3. Giving the relationship a chance, 4. Three Dates, 5. I-need-you-but-can't-have-you, 6. Pulling Back Together, 7. Falling for each other, 8. The Break Up, 9. The Sacrifice, 10. Declaration and 11. The happy ever after" (Lovett, 2018).

In the VR version, after the initial introduction to the world, the viewer is transported to a tranquil scene of two lovers on a small fishing boat, hunting for their breakfast. This is the first introduction to our two protagonists, Tim and Claire. The viewer is privy to a gentle, everyday experience between two people in love. They do mention that there is danger in this world, but the scene focuses more on displaying their relationship to the viewer: they are young lovers about to start a life together. It would seem that, according to Lovett's structure, we are joining the lovers near the end of the romantic arc, possibly at point number seven. We join the lovers in a moment where they are happy and the relationship seems stable with lots of potential for positive growth. After having witnessed the horror of The Smash and being introduced to the new, post-apocalyptic state of this fictional world, exposing the viewer to a tranquil scene of two lovers going about their mundane existence, provides relief from the tension just experienced by the viewer of the VR version.

In the older text there seems to be almost no focus on romantic bonds between persons and the view of women's place in their society differs greatly from the VR version. They call the female

characters someone's "woman", and mention how one was stolen from a neighbouring tribe, thus hinting at how they treat women in their society. In the VR adaptation Claire is portrayed as Tim's equal from the start, and she moves into the role of the protagonist halfway through the tale. There is a wedding scene which further cements the romantic relationship between the two characters. There is also a romantic dinner scene in a deserted diner and a montage sequence of romantic imagery straight after they verbally express their love and joy of being together. All these scenes of love and prosperity seem to be a continuation of point number seven of Lovett's romance structure. The creators of the VR experience use these three romantic scenes (the introduction on the small boat, the wedding and in the diner scene) to solidify the characters' relationship for the viewer, in the hope that the viewer will identify with the romantic notions displayed and thus also emotionally invest in the relationship they see played out in front of them. The function of this moment in the romantic arc is thus to allow the viewer to emphatically identify with the characters, in order to prepare the viewers for an inevitable catastrophe that is about to happen. From this moment onwards the viewer will hopefully care about the characters enough to be emotionally shaken by what is to come: Tim dies and Claire is forced to carry the burden of reporting to the Great C.

The writers of the VR version of *The Great C* go to great lengths to establish the romantic relationship between the two main characters, in order to have the viewer emotionally invest in their plight. Yet after watching the experience numerous times, I found that I could identify with their feelings for each other and the dire situation they find themselves in, but did not feel heavily emotionally involved in their fate. I feel a much stronger emotional connection with the main character in the text version of "The Great C" (Dick, 1987). I feel sympathy for the

situation he finds himself in. I can also imagine being in that situation myself and imagine what actions I would take or emotions I would feel.

The target market for this VR product may be teens and pre-teen audiences who may find the simple love story more appealing. The romantic arc seems to be geared towards the young romance reader. Gwen Hayes (2016) in her book *Romancing the Beats*, speaks about the romantic character's journey, whereby a romance writer needs to ensure that his/her protagonist moves from being heartbroken to "whole hearted" through a process of self-discovery and healing. The protagonist(s) harbours a character flaw or fear. The character may feel he/she does not deserve love (for example) and it is *this* flaw that must be conquered in the book. Hayes suggests "looking at the beats of your plot through the lens of that fear" (Hayes, 2016:12). When Tim dies, Claire is obviously emotionally devastated. The rest of the plot in the VR version reveals Claire's struggles at fulfilling her destiny to save mankind, to avenge her husband's death and become whole again.

After the death of Tim, the apparent protagonist, the focus shifts to Claire who becomes the new main character of the VR version. From *this* moment onwards the plot structure seems to follow that of the Quest narrative. Christopher Booker (2004) in *The Seven Basic Plots* investigates the quest storyline. He comments:

[T]he Quest usually begins on a note of the most urgent compulsion. For the hero to remain quietly 'at home' (or wherever he happens to be) has become impossible. Some fearful threat has arisen [...] From the moment the hero learns of this prize [or threat], the need to set out on the long hazardous journey to reach it becomes the most important thing to him [/her] in the world. (Booker, 2004:69-70)

A quest narrative thus implies a doctrine of individual action, an individual drive, need or compulsion to succeed at a task where the stakes are incredibly high. The text version also

follows this same structure and places emphasis, indeed the fate of a whole village, on the shoulders of one individual. At the opening of the textual narrative the protagonist is told to “remember that no none has ever come back. If you come back you will be the first. The first in fifty years [...] The tribe turned and walked away. He was alone. There was nothing to do but go” (Dick, 1987:310-311).

This doctrine of individual action is central to the experience a viewer may have in the VR version as current VR entertainment consumption mostly allows for solo experiences of the content. The viewer may be completely immersed in the content but it remains an individual experience, not shared by a whole audience (as it is in traditional theatre and cinemas). The Quest narrative neatly supports this type of experience then, as it too focuses on the individual and his/her individual actions. Any choices made by the individual viewer or player results in consequences which affects the individual’s experience. This may enhance the sense of immersion further as the viewer may become very aware of his ‘role’ in the narrative and become emotionally triggered by the events.

The illusion of being bodily present within the virtual world you are experiencing greatly enhances the immersion for viewer. VR technology has the ability to place the viewer physically in the world of the narrative, to create a near-immediate sense of embodiment. Yet it remains unclear why the literary text still provides so much more scope for empathy than the digital version. It could be due to the fact that character development is revealed in a slower manner and, because of this slowness in revelation, it is absorbed by the reader on a deeper, more profound level. The human imagination has to work harder in visualizing all the textual descriptions and this “hard work” has a greater, more vivid pay-off than having the visuals presented to you in the digital format.

Ryan makes a case for the power of the human imagination when she states that a reader may find him-/herself reliving the same emotions time and again, when rereading a text he/she is familiar with. “It is on the playground of mental simulation, where emotions happen but do not count, that we learn about our own feelings and prepare ourselves for the trials of life. In the case of fictional suspense, both first time and repeated, the reader contemplates the unasserted proposition that the hero is in danger, and the intensity of this contemplation generates the emotional response” (Ryan, 2015:113-114). The power of human imagination is thus to blame and to thank for its ability to create believable characters and narratives inspired by the words on the page. The reader is aware that he/she is engaging in an activity that will generate the illusion of a fictive reality. The reader finds enjoyment in this knowledge and chooses to redo the activity many times, as it provides enjoyment. It is, however, the reader’s intense focus on the plight of the protagonist and his/her ability to identify with that character that induces immersion. I believe that if the “intensity of this contemplation” that Ryan mentions can be caused by stirring the viewer emotionally because he/she has witnessed that their actions, while embodied in the experience, have made a difference to the narrative, the viewer will become an active participant in the telling of the tale.

Another method of eliciting empathy from the reader/ viewer is to introduce a life-changing event into the plot, one which is almost guaranteed to elicit a strong emotional response and thus draw the viewer into the narrative. Gaut states that “we standardly talk of empathy, as feeling something, rooted in imaginatively grasping that person’s perspective on the world and thereby sharing a sort of emotional intimacy” (2010:138). The death of a loved one will surely provide such a response. It draws the viewer/reader in. Emphatically identifying with a character in cinema creates the empathy needed for further immersion in the story.



Figure 1: Screen grab of in-VR action. Octopus-like creature destroying a man-made building in *The Great C* (Secret Location, 2018) 00:03:28.

Another such life-changing event is included in the plot of *The Great C* (Secret Location, 2018) and serves the same function. A terrible apocalyptic event is experienced by the viewer. There are several horrific scenes where crows are attacking humans, reminiscent of Hitchcock's film *The Birds* (1963). Throughout the VR version the crows are portrayed as spies, the 'organic' eyes and ears of the machine overlord. During the attack the birds swarm around and aim for isolated humans. They bore down on their victim and smash into the human body, causing the human to appear alarmed, disorientated and fearing for his/her life. The action takes place against a very poorly lit background. Almost no scenery is visible with the focus being on the humans under attack. According to Charlotte Chandler's (2005) biography on Alfred Hitchcock, the intended mood of the film was to create "the sense of bleakness and madness in a kind of wilderness expressing an inner state". He insisted on a subjective approach, so that the audience would emotionally share in the characters' feelings as well as their fears of physical danger. The

visions that the VR viewer is confronted with is indeed reminiscent of a wild, dark forest, of an enclosed space from which no exit is possible. The viewer's sense of enlacement (established by the set design) is further heightened when he/she becomes witness to the terrible attacks the humans endure from the birds. The sense of danger is so real for the viewer that empathy is inevitable and immersion in the immediate events before him/her is guaranteed.

Gene Adair (2002), author of *Alfred Hitchcock: Filming Our Fears*, says that the film is “probably the director's purest statement about the fragility of the civilized order and its vulnerability to chaos” (2002:130). The use of animals was central to conveying the sense of “the precariousness of human existence and the puniness of human responses to the irrational” (2002:130). The fragility of Man and the collapse of society is also thematically demonstrated with the help of natural elements. Other than the attacks by menacing birds huge, black octopus-like tentacles are responsible for some murders and in one scene these tentacles topple an entire man-made building, which seems to infer that nature is overtaking the built environment once more. Because the tale is viewed through a VR headset, the viewer is free to look wherever he/she wishes. This freedom also holds the possibility that the viewer may miss a crucial moment as he/she was looking in another direction.

The depiction of the apocalyptic event is very action-oriented in the VR version by presenting it to the viewer in a visual format where the effects of the attacks on the humans are immediately apparent. In comparison, the text version relies on mystery, on withholding details about the actual horrors of that event:

It is said that the Great C knew everything. For a century it had answered questions, within its vast ruined house. If he did not go, if no youth were sent – He shuddered. It would make a second Smash, like the one before. It had done it once; it could do it again. He had no choice but to go on. (Dick, 1987:312)

When Meredith is finally facing his machine overlord, The Great C denies him an answer to how the machine caused the Smash:

“How? Meredith asked cautiously. “Tell me how.”

“The same way as before,” the Great C said vaguely. “I did it before – as your tribe well knows.”

“Our legends tell us that all the world was put to [sic] fire. Made suddenly terrible by – by atoms. And that you invented atoms, delivered them to the world. Brought them down from above. But we do not know *how* it was done.”

“I will never tell you. It is too terrible for you to ever know. It is better forgotten.”

(Dick, 1987:318).



Figure 2: Screen grab of in-VR action. Violent actions of the Henchman during “the Smash” in *The Great C* (Secret Location, 2018) 00:03:45.

In comparison to the vague allusions in the textual version, the VR experience shows the violence of the event in graphic detail, as illustrated in the image above. The temporal framework of reading and cinema is different because exposition and world-building takes time

in literature whereas it is instantaneous in cinema. The facial expressions of the animated characters in the VR version do, to a certain extent, replace the inner dialogues of the characters as the viewer can assess how the characters feel by viewing their reactions to events and to each other. Both storytelling tools (the use of inner dialogues and facial expressions) lend to the immersion of the reader or viewer, provided that they can identify with the character whose thoughts and emotions they are privy to.

Narrative virtual reality experiences allow the viewer the illusion of being physically present in the world of the narrative, which leads to an immediate sense of immersion. The extremely visceral event, *The Smash*, is used to establish the current horrors humans find themselves in: they are most certainly underlings, enslaved and ruled by a higher power whose wrath has been visually illustrated to the viewer through all the death and destruction they are privy to. The religious undertones of the VR version of the tale are again hinted at through the narrator's voice: horrifying visual imagery is accompanied by voice narration stating that under the Great C's leadership humans should "be humble, live simply, deny their dark impulses, lest we return to the dark times" (Secret Location, 2018). The use of a voice over recording is especially effective in this moment as the effect creates the potential equivalent of omniscient narration, where the narrator is experienced as being all-knowing and everywhere at once. This lends power to the narrator, and can make characters appear small and insignificant.

The descriptions and presence of animals and insects in the texts are used to further enhance the believability of the post-apocalyptic world the humans find themselves in. The original text mentions the existence of giant insects:

Occasionally huge insects scurried in the grass ahead of him. Once he saw a purple beetle, almost as large as his fist. Had there been such things before the Smash? Probably not. One

of the books he had learned was about life forms in this world, before the Smash. He could not remember anything about large insects. Animals were kept in herds and killed regularly, he recalled. No one hunted or trapped. (Dick, 1987:312-3)

Through his inner dialogue, Meredith thus ponders the size of the insects in his world and tries to recall how Man treated their animals before the apocalyptic event. The writer uses this reference to the treatment of animals as an indication that the world has now dramatically (abnormally) changed and reverted to a former, archaic state. The text mentions threats of lethal levels of radiation, which further enhances the probability that the fauna could be abnormally affected.

That night he camped on a slab of concrete, the foundation of a building that no longer existed. Twice he awoke, hearing things moving nearby, but nothing approached him, and when the sun appeared again he was unharmed [...] Far off, there was a splash of black in the centre of the endless expanse of green. A burned-out place. A great swathe of ruined land, fused metal and concrete. He caught his breath. This was the ruins; he was getting close. For the first time in his life he was actually seeing the remains of a city. (Dick, 1987:311)

As Meredith moves through the forest and gets closer to the dangerous machine he is tasked to face, the mystery of the apocalyptic event grows for the reader. The mention of abnormal fauna and wreckage of unknown buildings is used by the writer to build suspense and create a sense of trepidation in the reader.

Michael Rabiger (2008) in *Directing – Film Techniques and Aesthetics* states that there are two forms of literary narrative: a simple form which serves to supply exposition of events and usually works in chronological order. The second form is plot driven narrative which often reorders plot events out of sequence in order to generate suspense. “Getting us involved, or identifying, with the characters makes us buy into the stakes for which they play. Tension is often raised by withholding information or creating disorientation—familiar from the mystery story, where the reader tries to interpret clues and spot the killer” (Rabiger, 2008:166). In the text version the reader (along with the protagonist) is never quite sure about what they are being led into. Only

left-over artefacts of the Smash are mentioned with no physical actions of the event ever related to the reader. It is only at the very end of the tale that the full horror of the situation is revealed. By withholding some of the details regarding the Smash, the literary text creates a sense of mystery and tension which the main protagonist feels throughout his narration. This literary technique invites the reader to associate with the main character, to share in trying to unravel the mystery, an activity which draws the viewer in and creates further immersion.

The VR version employs a different type of narrative arch. Instead of withholding information from the viewer, the digital experience places him/her in the centre of the action. The viewer is privy to all the visually disturbing details of the horrific event as the animation of digital characters and their actions are shown to the viewer. The VR version uses visually enticing cinematic events to enhance the level of immersion for the viewer, while the text-based version relies on suspense, withholding information regarding the cause, thus keeping the reader in the dark about what actually happened at the apocalyptic event. World-building takes time in the text, while it can be instantaneously presented to the viewer in the digital version. The two versions of the tale both employ their strengths of their mediums in order to build suspense and draw the viewer into the action and mystery.



Figure 3: Screen grab of product title overlaid on top of 3-dimensionally animated world of *The Great C* (Secret Location, 2018). 00:00:51.

The role of environment in immersive storytelling becomes a tool towards better immersion for the viewer, as world-building can enhance the believability of the world and situation that the protagonist finds him-/herself in. Ryan states that the concept of a world has four features: “a connected set of objects and individuals, a habitable environment, a reasonably intelligible totality for external observers, and a field of activity for its members” (2015: 63). All of these elements are instantaneously available to the viewer of the VR experience. From the first opening scene of the VR experience the viewer is made privy to the visual details of the world as he/she is placed in the midst of this world. A voice over further introduces the characters to the viewer and provides exposition. It is immediately apparent that stylistically all visual elements form a cohesive whole in the VR world, including the design of the characters, their world and the objects they use within that world. Textual world-building, however, takes time as all the

elements need to be described to the reader. In the text version a lot of time is spent describing the environment and the terrain the protagonist is walking through, in order to facilitate world-building:

Toward the middle of the day the counter at his waist began to tick ominously. He stopped, breathing deeply and considering.

He was getting near the ruins, all right. From now on he could expect radiation pools continually. He patted the counter. It was a good thing to have. Presently he advanced a short distance, walking carefully. The ticking died; he had passed the pool. He went up a slope, cutting his way through the creepers. A horde of butterflies rose up in his face and he slashed at them. He came to the top and stood, raising the binoculars to his eyes. (Dick, 1987:311)

In the VR version the information is visually available to the viewer. Here, instead, the narrative (in the form of a voice over) focuses on giving exposition as to why the Earth is in this post-apocalyptic state. The horrific event of ‘culling’ humanity during the Smash is visually shown to and heard by the viewer. The viewer is immersed in the experience and therefore no audible description of the environment is needed.

Rabiger (2008) also warns about the dangers inherent in providing too much visual information to the viewer at once. “Compared with literature, the screen has both advantages and handicaps. Cinematography can set up a situation and a gripping mood in seconds, avoiding literature’s lengthy tracts of exposition, but its inclusiveness can present a bewildering array of detail” (Rabiger, 2008:166). In the horrific scene of the Smash, as expressed in the VR version, a lot of different events are happening at the same time. The viewer is privy to different persons being attacked by crows and octopus-like tentacles, and several man-made structures are being destroyed. The viewer cannot appreciate all of these actions with equal amounts of focus and may perhaps look rapidly from event to event. This may create a visually jarring experience for the viewer, which enhances the sense of the traumatic event. A sense of helplessness may be experienced at this moment, just as the Great C’s main henchman is introduced to the viewer.

This sets up a sense of trepidation in the viewer and further enhances the mystery of the event, as the identity and intentions of this character are as yet unclear.



Figure 4: Screen grab of in-VR action. The positioning and point of view of the Henchman. *The Great C* (Secret Location, 2018) 00:01:12.

In the VR version, after the juxtaposition between Nature and Man has been made, and it has been established that man has regressed from his former state of being where he is now forced to live in symbiosis with nature, the viewer is introduced to the first antagonist of the tale. The viewer sees a menacing character: a female “henchman” of the Great C who has both anthropomorphic features and lethal-looking tentacles similar to those of an octopus. The new character is placed on a fallen tree trunk looking down upon the two human characters while the narrator’s voice can be heard continuing his description of the downfall of man, which changed with the rise of the Great C, who seemingly caused the Smash, an apocalyptic event that “washed away the evils of the world” (Secret Location, 2018).³ This gives the opening of the VR version of the tale religious overtones, which could be familiar to the viewer and thus creates a more immersive experience, as the viewer can relate to the belief system of the fictional world.

³ This description of a mass cleansing of the world is reminiscent of many versions of the biblical Flood (or similar events in other religions).

Lars De Wildt, Stef Aupers, Cindy Krassen and Iulia Coanda in ‘Things greater than Thou’: Post-apocalyptic religion in games state that “the traditional function of religion [is] ultimate meaning-making in the face of this-worldly illness, suffering and death [which] becomes an important asset in game design” (De Wildt *et al.*, 2018:5). Building religious belief-systems into a post-apocalyptic narrative provides an opportunity for the characters to make peace with the less-than-perfect situation they find themselves in. In real life, religion is also used as a source of relief for persons enduring hardship in our (real) world. People often fall back on scriptures in books of their faith, to search for answers or to provide proof of why some calamity occurred. Using a belief-system as part of the narrative can further immerse the reader or viewer into the tale, as the faithful mindset is easily recognisable to him/her and thus provides more believability to the world.

The world of *The Great C* has advanced to the point where it seems to be controlled by an extremely smart, self-aware artificially intelligent (AI) machine. In the dystopian world of the tale, technology has advanced to the point where it has become incomprehensible to man. Humanity is seen to have regressed in various ways (few of the clan-members can read, the function of tools such as a pistol, is beyond their knowledge) and they thus fall back on bestowing divinity onto this powerful force which they find opaque, incomprehensible and frightening. In order to make sense of this higher intelligence, man has fallen back on what has been done throughout the early developmental stages of man: he considers these higher powers to be gods and worship them as such. De Wildt *et al.* (2018:5) believe that “science fiction-based religion places the sacred into the technological, rather than the (super)natural. As a consequence, these dystopian futures are often motivated by a fear of the potential of technology”. The creators of the VR versions stay faithful to Dick’s (1987) choice of creating a

religious aspect to the ceremony of sacrificing a community member to their god. The modern version, however, does not denounce technology as inherently evil, as the short story does. Instead, it presents the possibility to the viewer (and to Claire, in the climactic scene) that man and machine could work together, or could even merge and become one entity, which could (possibly) be mutually beneficial. It is a titillating juxtaposition to consider that the viewer of VR science fiction films concerned with dystopian futures which fear technological advancement, are consuming these products via hardware and software that have the potential to dominate and/or disrupt their own sense of self. Experiencing the VR version via technology associated with the fears expressed in the text, does seem to make the experience more immersive as it lends a unique believability to the tale. It may also, possibly, create a sense of trepidation or a thrill of excitement in the wearer of the technology, as he/she is confronted by the possible negative impact of futuristic technology (similar to that which he/she is wearing).

There seems to be a primal antagonism between man and machinery which is still in existence today. Modern man seems to simultaneously welcome forms of technology that will improve his life and fear that same technology when it becomes ubiquitous and advanced to the point where it exceeds human capabilities. We can see this process in the work of Czech writer Karel Čapek. The word ‘robot’ was first introduced into literature by Čapek in his play, *R.U.R.*, or *Rossum’s Universal Robots* (Čapek, 1923). The word was derived from the Latin word ‘labori’, which means forced labour. Čapek eventually opted for ‘roboti’ (robot in English) over ‘labori’ to describe the mechanical beings in his play which were able to perform any function on earth. They only lacked a soul and thus could not express or experience any emotion. The word robot is thus associated with a lack of humanity and enslavement, both states of being that are extremely unattractive to modern society.

With the possible consequences of a fourth industrial evolution, where extremely advanced computer systems with artificial intelligence (AI) are set to automate many industries in society, the threat of human annihilation seems to be looming near. According to a *Harvard Business Review* article, “Technology and human vulnerability”, modern society remains both fascinated and in trepidation of the technology we are creating:

We are ill prepared for the new psychological world we are creating. We make objects that are emotionally powerful; at the same time, we say things such as “technology is just a tool” that deny the power of our creations both on us as individuals and on our culture [...] Some things are already clear. We create robots in our own image, we connect with them easily, and then we become vulnerable to the emotional power of that connection. (*Harvard Business Review*, 2003)

Modern society seems to be in a state of flux, however, forever pushing for new technological inventions yet fearing the consequences of the implementation of such technology on the human psyche. Similarly, using state of the art VR technology to experience a tale where machines have reclaimed the earth and forced man into regression is both ironic and thrilling. The knowledge that a viewer is utilising technology that could be detrimental to his/her wellbeing could provide a further sense of immersion and enjoyment in the narrative. It may also provide a sense of catharsis for the viewer. He/she may find emotional relief in the fact that the viewer is using technology in the safety of their homes in order to access a fictive tale of other humans being under attack from the technology they created in their fictive world. Richard Kearney (2007) in his article “Narrating pain: The power of catharsis” asks “How, then, is catharsis actually expressed? Often as a power of vicariousness, of being elsewhere (in another time or place), of imagining differently, experiencing the world through the eyes of strangers” (2007:52).

Both versions of *The Great C* portray human civilization as scattered communities living in an unfriendly wilderness, where they fight to protect themselves from neighbouring tribes and the

natural elements. There is a ritualistic aspect to their existence whereby a community member is annually sacrificed to a higher power. Through this action they believe that they prove their worth to this higher power and undergo a spiritual cleansing resulting in a slightly higher state of existence. In the text version they seem to gain basic scientific knowledge and in the VR version they believe they gain absolution of their sins. Kearney (2007) argues that a balance needs to exist for the viewer between feeling empathy for the character's plight and keeping an observant distance, so to speak, from the action. When this balance is struck, catharsis can take place. The fact that the viewer is wearing technical hardware on his/her face (with wires and hand controllers physically present) may provide the player with cause to be reminded that they are watching a fictive story in a digital world.

Another method of immersing the viewer in the plight of the characters, of allowing him/her to emotionally connect with their situation while still reminding the viewer that he/she is standing outside of the action, is to make create a sense of voyeurism for the viewer. This is achieved in the textual version by giving the reader access to the inner thoughts of the main character. In "The Great C" (Dick, 1987) much of the plot is revealed through snippets of information given to the reader through the inner dialogue of the main character, Meredith. Through his descriptions of the present environment and his memory of past events and general knowledge, the post-apocalyptic world and the current regenerative status of man is revealed. This information is provided to the reader in a non-linear fashion, with the writer often interspersing inner dialogue about the past, with descriptions of the current landscape:

The sun was beginning to set as he climbed the side of a hill of boulders and looked down at what had once been a city. He took his belt-light and snapped it on. The light dimmed and wavered; the little cells inside were almost gone. But he could see the ruined streets and heaps of rubble. The remains of a city in which his grandfather had lived. (Dick, 1987:312)

In the VR adaptation the narrative is unfolding in the present. The viewer is experiencing it as it actually occurs because all the action is unfolding before his/her eyes and (mostly) in real-time. After the initial exposition, the viewer is privy to the horrific event which caused the death of many of the human inhabitants. At the opening of the narrative, the viewer is told that this apocalyptic event happened over fifty years ago, but the viewer is experiencing it for the first time and viewing the action in real-time, inducing the sense that the event is happening in the present. In cinematic terms, this is a “flash-back” used to submerge the viewer in past events and to provide a context for current events.

According to Michael Rabiger in *Directing – Film Techniques and Aesthetics*, the definition of a flashback is to “temporarily move backward in time. Sustained, it becomes a new present” (Rabiger, 2008:533). *The Great C* uses the flashback quite successfully in the beginning of the story to reveal the horrific event to the viewer, and also at the climactic scene where Claire is physically in the presence of the machine. This scene is continually intercut with flashbacks to an earlier scene where Claire points a gun at the female henchman and threatens her life.

Present. Claire is standing in front of the machine.

Flashback to Claire pointing a gun at the female henchman, who is strapped to a mechanism which seemingly rejuvenates her.

Claire: You killed him.

Henchman: I’ve killed many and I’ll have to kill many more.

Cut to the present.

Machine: Do I frighten you?

Claire: *Yes.*

Machine: Good. Come closer. Tell me Claire, what is the greatest source of evil in the world?

Flashback to the same standoff between Claire and the henchman.

Henchman: Do it. Get your revenge, but it will change nothing.

Cut to the present. Claire answers the machine’s question.

Claire: *We are.*

Machine: Correct. In the past humans made life nasty, brutish and short. (*Sound effects of war can be heard*) Their choices necessitated this cull. A chance to reset.

Flashback to the same standoff between Claire and the henchman.

Henchman: A long time ago, it made me an offer. Willing or not, we all eventually become instruments of the Great C.

Cut to present.

Machine: And how do we ensure that humanity does not stray again?

Claire: Through you. You bring order to chaos, reason to ignorance.

Machine: Yes. In order to save you from yourselves, humans must be carefully controlled and, when necessary, culled.

Flashback to the same standoff between Claire and the henchman.

Henchman: My mind and body are no longer my own... (*begging*) Set me free.

Cut to present

Machine: My plan has a place for everyone, but some are called to play a greater part than others. What part are you to play?

Claire: That isn't for me to decide.

Machine: Why are you here, Claire?

Claire: I am lost. I thought I knew better and I don't.

Machine: Yes. You and your whole tribe. Tim failed to report. I cannot leave that unaddressed. Your village must face the consequences.

Claire: I know.

Machine: Come forward.

Flashback to the same standoff between Claire and the henchman.

Claire: I'll give you your freedom, but I want something in return...

Cut to present.

Machine: We can accomplish many things together. Where others must die, you can live.

Flashback to the same standoff between Claire and the henchman.

Henchman: It may seem like a god, but it's just another machine made by man. If you can get close enough, you can destroy it. (Secret Location, 2018, Chapter 3)

The flashbacks in this scene create tension, by showing conflict between the protagonist and the killer of her husband. It provides anticipation as the female henchman reveals to Claire that the machine can be destroyed. This continual jumping back and forth between past and present provides the viewer with vital information as to why Claire seems so emboldened when she is facing the machine. Bucher mentions "the structure and recall of human memory is often

nonlinear, and this category of story is often meant to mimic that process” (2018:83). The viewer can identify with this type of memory recall, as it seems familiar, which further enhances his/her immersion. By being privy to “inside information” (information withheld from the machine), the viewer may feel that he/she is sharing in this climactic moment as the viewer is physically present at the vital moments of revelation. It may also assist in helping the viewer to empathise with Claire’s quest, willing her to succeed.

The flashback provides an explanation as to why the henchman suddenly attempts to destroy the machine herself during the climactic scene. From the flashback dialogue it is implied that Claire spared the henchman’s life and freed her. In return, she (the henchman) agreed to assist in overthrowing the machine. It also gives context to the moment when Claire yelled to the henchman to hold off on attacking the machine, because she (Claire) was considering joining the machine, in order to save her husband (as the machine implied that it could bring Tim back from the dead).



Figure 5: Screen grab of in-VR action. Claire confronting the Henchman in *The Great C* (Secret Location, 2018) 00:25:58.

Murray states that “by rotating our point of view at a single moment of dramatic illumination, we capture both the shared reality and the separate experiences that compose it” (2017:203). In “The

Great C” (Dick, 1987) the reader experiences the climactic moment of Meredith facing his technological overlord through the use of an omniscient narrator. The reader is an observant bystander witnessing the dialogue between man and machine. The VR version, *The Great C* (Secret Location, 2018) makes use of opposing and shifting POVs throughout the experience. Both the camera angle and opening shot choices seen after an edit (the scenario revealed by the camera framing straight after the cut) can, at times, become jarring to the viewer. The ability of VR experiences to place the viewer right in the midst of the action may provide a novel enjoyment, but this may soon wear off as the viewer tries to become invested in the narrative. *The Great C* makes use of both “straight cuts” and “fade to black” as editing techniques. The former happens when one scene ends and is abruptly followed by the next scene, without any colour change of visuals fading from one to the other. This type of cut can generate a stark emotional reaction from the viewer and compared to the fade, is seen as a harsher method of transitioning to a following scenario. The fade to black is a much softer way of ending a scene and leading the viewer to the next one. It can also be indicative of time having lapsed between the scenes. Fades are used mostly at the beginning of the tale, when the characters and his/her world is being introduced to the viewer. This “gentler” form of editing contributes to the exposition of the tale by benignly introducing the viewer to the characters and the world they live in. Straight cuts are employed during the visual display of The Smash in order to enhance the horror and trauma of the event. During the climax of the VR version of *The Great C*, when Claire is physically present in front of the machine, straight cuts are again employed to heighten the drama and reveal unexpected events (such as the female henchman suddenly appearing). Cinema editor, Walter Murch states in *In the Blink of an Eye* that “a good film that is well-edited seems like an exciting extension and elaboration of the audience’s own feelings and thoughts,

and they will therefore give themselves to it, as it gives itself to them” (1995:72). By ensuring that the method of editing employed corresponds to the emotive mood at that specific plot point, the director can manipulate the emotions of the viewer and, hopefully, ensure that the viewer becomes immersed in that cinematic moment in time. In *Technique of Film Editing*, Russian filmmaker Sergei Eisenstein’s technique on film editing is discussed. One of the components of his method of splicing film together was the Metric montage which “refers to the length of the shots relative to one another. Regardless of their content, shortening the shots abbreviates the time the audience has to absorb the information in each shot. This increases the tension resulting from the scene. The use of close-ups with shorter shots creates a more intense sequence” (Dancyger, 2011:17). The opening scenes of the VR version makes use of fades between shots, but the shot lengths themselves are also quite long compared to the much shorter shot-lengths of the climactic scenes. Thus, the VR creators employ both shot lengths and types of edits to create a sense of tranquillity and stability for the opening of the tale, which allows the viewer to really immerse themselves in the world and to become familiar with the characters and their needs. In contrast, the quick shots and “harsh” editing employed during the climactic scenes creates a sense of urgency in the viewer, a sense of anxiety, if you will, which corresponds to the emotions portrayed by the characters in the climactic scene. This also provides the viewer with the opportunity to become completely immersed in the story and completely suspend their disbelief, as not only the narrative itself points towards a heightened state of emotion but the filmic devices too, enable this same type of emotional investment.

The keen viewer’s attention may possibly be drawn to the editing, but an aspect of traditional filmmaking techniques that is employed quite unobtrusively, is the use of the moving camera. Very few of the shots in *The Great C* are static. There is a sense of motion in almost all of the

shots, which is done through the mimicking either camera zooms or dolly shots. When the camera zooms into the frame, all objects in the frame become larger to the viewer. When a camera dollies in, the camera lens does not zoom in, but instead the camera physically moves closer to the object being ‘filmed’. This latter technique creates a sense of embodiment, of the viewer physically “falling into” the frame. The dolly shot is used extensively in the VR version because of its ability to immerse the viewer in this manner.

Cinematic VR experiences afford the viewer the chance to explore his/her environment at will, to break away from the point of view (POV) suggested by immersive shots such as the dolly shot. But breaking away from the suggested viewing material can cause the viewer to miss vital narrative information, which may hinder the immersion for that viewer. In the VR version of *The Great C* the camera (the image constantly captured by the camera frame) is used as the POV of the viewer, the same technique which can be used in traditional filmmaking. This technique allows for strong authorial control over the narrative, as the writers/creators of the VR experience can control what the viewer sees. The viewer does have free will to look wherever he/she pleases, but as Riggs (2019) argues, the use of the camera as a framing device in traditional forms of entertainment has caused viewers to habitually direct their attention to the front. Viewers expect the story to only play out directly in front of them. This convention can result in the viewer forsaking the option to explore his/her immediate environment.

One solution to this problem is to use sound as a main driver of attention, a technique which is used extensively in traditional filmmaking and theatre. In *The Great C* the sound of menacing crows indicates the ever-present threat of the machine to the viewer and the characters. At certain plot points the sound cues are used to invite the viewer to look in the direction of the sound, in order to allow the viewer to witness some action taking place in that direction. With this same

action, in some instances, a quick edit (quick cut) is made between scenes, which become almost unnoticeable to the viewer, as his attention was diverted by the sound (Secret Location, 2018). The presence of characters who were hitherto obscured by buildings and then suddenly revealed, is done with the assistance of ominous background music. The henchman has a specific musical score which accompanies her entrance and hints at the threatening scene to follow, as the viewer hears the music first and then becomes privy to the visuals (seeing the antagonistic character).

Modern viewers are so used to consuming visual information via a frame, to such an extent that the existence of the frame disappears from their experience completely. This leaves the creators of narrative-based VR experiences free to employ traditional filmmaking technique within a new, emerging medium. The editing and camera techniques discussed all originate from traditional filmmaking techniques and are very familiar to modern audiences. Riggs warns, however, that the new medium (VR) may need to break away from the constraints of this traditional way of creating narrative. Instead its own hitherto undiscovered qualities should be explored:

We cannot advance the art of story in immersive mediums without altering our approach to it. Nor can we create powerful experiences while chained to these conventions. The labels “Square” and “Sphere” are admittedly an over-simplification of the contrast between how we present stories through frames, or squares, and the spherical environments that surround us through immersive technology. But they’re useful. The Square approach tells a story within a boundary; the Sphere approach creates an experience within an environment. (Riggs, 2019:140)

As mentioned in the introduction, I find Rigg’s terminology quite useful. Describing the environment wherein a narrative is consumed as a sphere already suggests limitless possibilities. It also suggests that storytellers can finally “break the fourth wall” of the cinematic experience, dispensing with the boundary between the audience and the world and its narrative being viewed.

A fundamental change in the way viewers or players perceive VR experiences is through what Bucher calls “playing with the Z-axis” (2018:89), using the viewer/ player’s body as a marker for presence (and thus immersion). Storytelling in VR allows us, for the first time, the ability to move seemingly freely within a physically immersive, three-dimensional space where the viewer or player has the potential to effect change. Bucher believes that “the relationship of actors and the audience to the space is key to creating immersion” (2018:91), but how is this relationship influenced by the viewer or players ability to make free choices, which can potentially change the storyline or characters’ action?

Ryan notes that “a novel is figurative mapping” (2015:92). A sense of space is created by describing the landscape from a dynamic perspective. This process of experiencing the fictive world is placed solidly in the hands of the VR participant/ viewer, who discovers the landscape by moving around within it. Even if the person wearing a VR headset is physically standing still in real life, his/her digital avatar is being guided through controls and sensors to explore the digital environment. The VR participant /viewer’s point of view becomes central to the experience and telling of the tale.

In current VR technology, the POV of the viewer is the most fundamental computational aspect which needs to be in place for a user to have an immersive and believable experience in a digital reality. Making sure that the point of view of the user is fixed, that the camera is fixed to exactly where the viewer is looking at ensures that the wearer of a head-mounted-display believes in the reality of his digital world. His/her head movements in real life corresponds to those in the simulated world.

Jaron Lanier describes this sense of presence in both time and space as a consciousness which gives VR worlds their purpose; “VR lets you feel your consciousness in its pure form. There you are, the fixed point in a system where everything else can change [...] VR is the technology that [...] highlights the existence of your subjective experience. It proves you are real” (Lanier, 2017:56). Taking on the point of view of a living entity in an artificial environment, interacting with its world and being interacted with, all from a fixed perspective, is thus proof of your existence. The creators of VR experiences rely on this “law” of VR technology to enhance the believability of the worlds and situations the player/ viewer finds himself in.

The type of narrator the viewer experiences, whether he/she embodies a first-person protagonist or becomes an omniscient observer, influences the overall experience and emotional immersion of the reader/viewer in the story. This creative choice is also used to manipulate the viewer’s experience by manipulating his or her POV. The reader is made aware of the protagonist’s mental and emotional state by being allowed to embody his POV in the narrative. In “The Great C” (Dick, 1987) the reader is made privy to the protagonist’s thoughts via the use of the first-person narrator, while in the VR experience, the viewer experiences the unfolding action simultaneously with the characters. There is no inner dialogue presented to the viewer. All plot and character revelations in the VR version are done through dialogue and action. Allowing the viewer in VR to be physically present where characters are engaged in dialogue with one another, allows the viewer to experience a sense of engagement with them by proxy, by being a silent witness to the actions and emotions expressed. The viewer’s POV in the VR version of the text, as well as the POV of the narrating character in the text, play a vital role in enhancing or hindering immersion for the viewer and reader. The VR adaption constantly shifts the viewer’s POV, drawing you in as a near-seated confidante at one moment, only to be forced away to

observe the action (literally) from a bird's-eye point of view immediately after. Even though the VR viewer has free will to look away from the action, the contrasting POVs tend to keep the viewer actively engaged in the plot (as they provide different POVs on the situation at hand). The same device also tends to distance the viewer from that action, by drawing attention to itself as a filmic device, thus lessening the level of immersion.

There is a significant moment in the narrative of *The Great C* where the camera stops following the male protagonist, Tim and instead starts following Claire, the female protagonist. From this moment onwards she is the driver of the action, her choices move the plot forward. It happens during a montage sequence of the brave couple struggling to overcome physical obstacles (falling staircases, crumbling building walls and menacing tentacles reaching for them). Both characters are exerting themselves physically while encouraging each other to keep going. The “screen time” is shared by both parties, meaning that both the male and female character get to be viewed in shot an equal amount of times. Prior to this montage, it was the male character's POV and narrative that the viewer was forced to experience/ view.

Within this jumble of action, the camera starts following the female protagonist, ending the montage sequence with the camera POV now wholly following her experience. This is significant as the scene after the transition of perspective is where Tim, her love-interest is killed by the henchman of machine. From this moment forward Claire becomes the sole protagonist of the narrative and it makes sense that the camera and the viewer would now follow her POV. Using such an unobtrusive technique to shift the viewer's POV to the new narrative shows the writers' intention to create an immersive experience, one which hides the technique used to manipulate the viewer's experience.



Figure 6: Screen grab of in-VR action. Claire confronting the machine overlord in *The Great C* (Secret Location, 2018) 00:25:10.

In the text, “The Great C” (Dick, 1987), not much focus is given to Meredith’s female partner. She is called Anne Fry. In the VR version she is called Claire. As Claire turns out to be the saviour of mankind (she faces off and causes the machine to destroy itself by shooting at its core with a pistol), it could be argued that what the title of the narrative refers to is Claire. This motivation for the name-change to refer to the female protagonist rather than to a masculine machine overlord seems to be a political choice, at the service of a commercial film industry that needs to cater to a feminist zeitgeist. With the rise of the #metoo-movement that has recently swept across the film industry, a renewed call for on-screen female representation was heard. Viewers and artists alike called for a more balanced representation of male and female characters in film and TV productions, both in the amount of screen time allocated to each gender, as well as the type of characters portrayed on screen (Serjeant, 2020). The current zeitgeist in society seems to be calling for the representation of strong female characters who are the main

protagonists in charge of affecting lasting change to the narrative. The need for the VR product to appear to be relevant and follow the current trends in commercial entertainment could be a motivation. As Claire does indeed save mankind, superficial or not, the reference to her character through the title remains an effective choice. The equivalent of this in a literary text would be to, perhaps, write from the first-person-POV of the male character, shift to an omniscient narrator and then move to a first-person-POV account of the female character's experience. Such a technique may be glaringly obvious to the reader, leading the reader's attention to the writing technique and thus detracting from the immersiveness of the reading experience.

VR technology has the ability to place the user physically in the world of the narrative, to create a near-immediate sense of embodiment. In many of the scenes of *The Great C* the female protagonist views her adversary from a low camera angle. This shot choice is meant to create a sense of power and menace around the antagonist. The viewer's POV becomes important again when considering its potential to elicit empathy. When the viewer physically embodies the POV of the protagonist and is thrown in a high-stress situation, it is very likely that the viewer will completely suspend his/her disbelief and become emotionally invested in that moment. He/she is experiencing the action taking place as if they were in the shoes of the protagonist. The viewer is introduced to this initial POV through editing but can break away from it and look elsewhere, if he/she so wishes. I do believe that if the viewer is experiencing empathy for the character, he/she is likely to not divert their attention elsewhere in that exact moment.

Much of the enjoyment of experiencing *The Great C* hinges on the hope that the viewer will remain immersed in the tale. Most of the traditional cinematic tools discussed and the literary devices employed through both story versions create a successful immersive experience for the viewer and reader. The use of interactive devices and tools, however, seem to detract from the

overall experience in the VR version. Interactivity as an action has always been part of the traditional reading experience as turning the pages of a book engages the senses. Through a combined effort of the writer's descriptions on the page and the reader's imagination, the world and characters of the text become known. The reader conjures up images, smells, sounds and emotional states associated with these conditions. Interactivity in the literary sense thus only engages the tactile senses (and therefore interactivity) through page turning. Interactivity as understood in the technological sense consist of various pre-determined computational input options, such as clicking a button with the expectation that a change will appear on screen, typing in a command with the belief that an action will be executed, among a myriad other cases. Interactivity in the world of computers refers to both the routine procedural actions available to execute on a machine as well as the way creators of digital content allow users/viewers to consume that content. According to Murray interactivity "is the vague word we use for two different affordances—the shaping of the interactor's behaviour and the shaping of the computer's behaviour—which when well fit together lead to the characteristic pleasure of agency" (2017:113). Unlike cinema, where the viewer is expected to consume the content in a passive mode, the user/player of digital content is allowed some affordances that can alter certain states in the digital gameplay.

New technology ushers in new ways of interacting with the narrative being consumed. Ryan refers to four types of interactivity which can be built into the scripts of the original texts and the structure of the VR experiences. She proposes "a taxonomy of interactive devices that relies on two dichotomies: internal versus external to the story-world, and ontological versus exploratory" (Ryan, 2015:162). Internal interactivity, according to Ryan, takes place when the user can affect the events in the story-world through his/her actions. When he/she cannot see themselves as an

active part within the fictional world, or can only create changes to the world through god-like actions, their interactivity is external. Exploratory interactivity allows the user to examine the world he/she inhabits, but without making any lasting changes. Ontological interactivity allows the user to make lasting changes to the fictional world which allows the story-world to evolve because of those actions (Ryan, 2015:162). A cross-classification between these dichotomies is also possible.



Figure 7: Screen grab of in-VR menu options useable during gameplay of *The Great C* (Secret Location, 2018)⁴

⁴ The interactive nature of VR allows for the option to pause the experience at any moment and be presented with control options. This window can appear at any moment during the experience, whenever the “pause” button is pressed, hence no exact time stamp is possible. Given that exact timing is in flux in VR worlds, a referencing anomaly arose throughout my research practice where many images in this dissertation are without timestamps.

The type of interactivity present in the VR version of *The Great C*, as per Ryan, would be external and exploratory interactions (Ryan, 2015:162-164). The viewer can only sit/stand and experience the tale. Prior to pressing play, the viewer has the option to choose clickable buttons, which navigate him/her to: the full experience, different chapters, settings (visual and audio) and controls (adjusting). The viewer has the choice to view the story from beginning to end chronologically, or interrupt the immersive experience at any time and/or visit all the locations prior to delving into the VR narrative.

It may be argued that these actions may lessen the immersive experience for the viewer once he/she has resumed watching the digital narrative. I do not believe that this is the case, as the viewer knows these tools are there for him/her to use, if they choose to. It is an option and they may also choose to ignore them completely.



Figure 8: Screen grab of in-VR menu options prior to entering the experience. *The Great C* (Secret Location, 2018) 00:00:10.

There are also other clickable buttons designed to cater for the viewer's comfort and visual experience. The viewer can choose to view it in different cinematic formats and levels of visual comfort which influences the possible amount of motion sickness the viewer could experience, depending on their sensitivity towards it. This all provides the viewer with choices to control his viewing experience but does not offer any interactivity within the actual experience.

There is almost no sense of agency in the VR version of *The Great C*. As mentioned in the introduction, agency is closely linked to the ability to experience a sense of presence in the virtual world as well as having the inherent potential to affect change to the world and its narrative. In *The Great C*, however, the viewer remains a silent observer throughout the experience. The viewer has free will to direct his/her gaze anywhere in the scene and are present at intimate scenes in the plot. One could describe this as a sense of presence, as the viewer is capable of deciding his/her own point of view on the action. The viewer has the ability to view the scene he/she is enclosed in from a 360-degree perspective, but he/she does not have the ability to affect any change within the scene. All the viewer can do is interact with the controls at his/her disposal: stop, play, skip scenes and choose specific chapters to watch. The viewer has no power whatsoever to affect change within the narrative.

I propose that the viewer would experience a deeper sense of involvement and agency if the viewer had the ability to interact with the characters (to perhaps persuade them to take a different course of action, both from the POV of the protagonists and the antagonists), which would then have altered the narrative. This type of interaction would require the existence of alternative branching plot strains that the viewer's influence could be a catalyst for. If there are moments where the narrative is paused and the viewer is offered a choice of options which the character could take (for example, allow Claire the options to shoot the henchman, to free her or not), the

enactment of the viewer's choice would provide a sense of agency generated by the interactivity provided. This type of interactivity is, however, not present. Both versions of *The Great C* only allow for limited interaction and a weak sense of agency. The viewer of the VR experience is still reduced to a mostly passive consumption of the narration. He/she is never invited to actively assist in solving the dilemmas faced by the characters, which may provide a deeper sense of immersion. Providing the viewer of VR experiences with interactive tasks to complete that will further the plot, may prove to create a sense of presence that enhances immersion. Consequently, in the next chapter I investigate whether actively embodying a main character in the narrative and having more interactivity possibilities in the narrative, contribute to a deeper sense of agency.

Chapter 2:

Halcyon

My second text under examination, the short-form TV/VR hybrid series *Halcyon* (Secret Location, 2016), provides stronger interaction opportunities for the viewer/ interactor and, to a certain extent, a lesser sense of immersion when compared to the texts from Chapter 1. A balance seems to be struck between the level of interactivity and immersion where both are in equal supply in this VR narrative. The result is an experience of average immersive enjoyment and an interesting use of interactivity. However, a trade-off seems to exist between the two elements since, as demonstrated in the previous chapter, less interactive control seems to lend itself to a more immersive experience. Providing more interactive options does seem to remove some of the immersive strength of the narrative, as the VR experience under investigation will demonstrate.

The immersiveness of the series is brought into question when you consider that the narrative is broken up into short, digestible TV and VR episodes which the viewer needs to consume in chronological order. The greater interaction possibilities which the VR episodes provide has drawbacks as the user's suspension of disbelief is challenged whenever he/she is requested to interact with the virtual world. This action requires using controllers (VR hardware) which draws attention to the mediated nature of the world. The text also provides the user varied clickable options that allows him/her to investigate the narrative world. These options allow access to interactive virtual museums displaying models of products that demonstrate a developmental timeline for the technology, the ability to embody one of the main characters who is privy to

clues (mostly in the form of virtual objects that the user can physically hold and rotate. These interactive options thus provide the user with the opportunity to assist with a murder investigation. Various technological and traditional narrative elements will be examined to investigate the presence of and level of immersion and interactivity in the text.

The exposition is accomplished through traditional means of providing information to the user-interactor. The narrative of *Halcyon* attempts to grab the viewer's attention from the very start. The first episode opens with a murder being committed in full view of the TV/internet audience. This choice of introducing the plot through a violent act results in grabbing viewers' attention. The viewer is immediately drawn into the action portrayed on screen. Having an awareness that he/she is privy to a secret act, a murder, taking place might cause the viewer to maintain interest as he/she is also given access to clues of the identity and motive of that murder. A futuristic product, an (addictive) VR headset is also introduced and poised as the possible catalyst for the murder. Introducing the world and its narrative with such a visceral act is a very successful attempt at viewer immersion.



Figure 9: Computer screenshots of *Halcyon*'s two main characters, Asha and Detective Dover, in an intimate conversation. August 2020

The personalities, needs and inner motivations of the two main characters are introduced and developed throughout the TV episodes. In both the TV and VR episodes of *Halcyon*, the narrative focuses on creating fleshed-out character personalities and believable relationships with one another. In the TV episodes we are privy to private moments between the main character, Detective Jules Dover, and her deceased brother and between Jules and Asha, her Virtual Assistant (VI). The dialogue between the characters, both in VR and in the TV episodes serve the same function as in traditional television; it provides insights into their personalities and relationships with one another. Extending this traditional tool into the VR experience gives continuity to the player as to the development of the characters, which hopefully keeps the player immersed in the storyline and invested in the characters. Full-rounded characters enhance the believability of the tale and enrich the dramatic journey for the viewer. Regarding the creation of characters for digital media, Murray states that “the challenge of writing a character [...] is to

distract people away from the machinery, to make the illusion more interesting than the technical wizardry” (2017:272). This desire to create life-like believability in characters is a central theme in *Halcyon* with regard to the Virtual Assistants (VIs) who populate the story. There are several moments where the virtual characters question how life-like they appear to their real human counterparts. This is an interesting marriage of the use of futuristic technology (Artificial Intelligence) and the writer’s tool of adding detailed description of characters’ peculiarities in order to enhance the believability of that character and therefore enhance immersiveness. The systematic revelation of characterisation allows the viewer/interactor to become immersed in the narrative by identifying with and developing empathy for the characters.

Yet, the viewer’s interest needs to be piqued from the start, and held throughout the tale. Therefore, cliff-hangers are built into the end of each episode which creates suspense. Cliff-hangers are the climactic scene at the end of a segment or episode, written in such a way as to keep the viewer immersed in interested in the future action and plight of the characters. This suspense can entice the viewer to return to the narrative and tune in for the next episode. *Halcyon* follows a traditional five-act structure based on the narrative model created by German playwright Gustav Freytag in the 1800s. Freytag noticed recurring structures in the works of Shakespeare and the Greek playwrights which he labelled as Exposition, Rising Action, Climax, Falling Action, and Denouement (Freytag, 1900:115-140). Known as “Freytag’s Pyramid,” this structure still forms the foundation of many contemporary story structures and provides a simple model for narrative analysis of these stories (Bucher 2018:113). Neuroscience researcher Paul Zak states that several early theorists like Freytag, “have contended that the rising and falling tension of dramatic performances facilitate the audience’s emotional connection to the characters” (2015:2). Simply put, Freytag’s type of narrative structure facilitates neurological

reactions in the human brain, which causes the reader to develop emotion and empathy for the characters in the tale, which in turn leads to a sense of immersion. Bucher states that “with television, these five acts took on additional modifications to situate a narrative around commercial breaks but also to provide intrigue that would bring the audience back to the story after the break” (2018:113). These old structures are still employed in new media creation as the modern product might still be distributed on these older platforms, where these structures might still be required (Bucher, 2018:115). It is interesting to note that the killer’s identity is revealed in the VR episode first, rather than in a TV episode. Perhaps the creators hoped it would be an incentive for new players to commit to viewing the VR episodes too and thus experience the “full” product, instead of just opting to watch the free TV episodes available on the internet.

Zak contests the validity of Freytag’s findings through researching how viewers of visual entertainment engage with characters, and not just their interaction with the structure of the tale. According to Zak a story structure such as Freytag’s does not guarantee viewer immersion, the viewer needs to emotionally identify with the character. The starting point for emotional engagement is the narrative’s ability to hold the viewer’s attention (which the structure does not necessarily guarantee), holding their attention engages the interest of the viewers through means of stirring their emotions:

Attention is a scarce neural resource because it is metabolically costly to a brain that needs to conserve resources. If a story does not sustain our attention, then the brain will look for something else more interesting to do [...] If you pay attention to the story and become emotionally engaged with the story’s characters, then it is as if you have been transported into the story’s world [...] Narratives that cause us to pay attention and also involve us emotionally are the stories that move us to action [...] This structure sustains attention by building suspense while at the same time providing a vehicle for character development. (Zak, 2015:2)

Thus, reader/viewer's attention span and emotional investment are the most important aspects in the immersive storytelling process. Zak's lab has done several studies confirming that emotional attachment to characters creates a transportation effect: if the viewer cares enough about the characters, he/she will become immersed in their world.

The world of the character refers to both the internal and external world that the character occupies and the user-interactor finds himself immersed in. *Halcyon*'s external world-building is conventional, providing recognizable settings and environments to the viewer, albeit in a near-future world. This provides a sense of the familiar to the viewer, which aids in the immersion of the viewer. In the VR episodes world-building is used to reveal clues to a murder and to deconstruct the scene of a crime. The viewer-interactor is invited into this scene and encouraged to explore the environment with the aim of finding clues that will unravel the mystery at the centre of the plot. Unlike in *The Great C*, where the environment is consumed passively, world-building in *Halcyon* is used in an interactive capacity, deliberately encouraging the participant of the experience to physically engage with the environment in the VR scenes. In the TV episodes the environment is used in a more traditional sense, to aid in the believability of the depicted futuristic world.

Editing in *Halcyon*'s TV episodes follow the traditional techniques employed for television. The director makes use of close-ups for emotional scenes and intimacy, medium shots for dialogue scenes between two characters and long shots where three or more characters are present and communicating in a relevant environment. The cinematography makes use of traditional shots of the environment in order to build a believable world for its characters and one the viewer can suspend his/her disbelief in. This is accomplished by showing exterior shots of buildings followed by interiors shots of homes and rooms occupied by the characters. This editing

technique relies on the human ability to make associations between two consecutive shots. According to Bordwell and Thompson in *Film Art: An Introduction*, “editing may be thought of as the coordination of one shot with the next” (2008: 218) and “Editing permits the filmmaker to juxtapose *any* two points in space and thus imply (sic) some kind of relationship between them” (2008: 227). By showing an exterior shot of a building and then cutting to an interior shot, the viewer assumes that the room he/she now sees is housed in the building which he/she saw an exterior shot of a moment ago.

In the reconstructed VR murder scenes, no editing is employed by the creators of the product. Each VR scene opens with a point of view (POV) shot which is chosen by the writers as their preferred POV for the viewer. The viewer can thereafter change their POV as they choose, immediately after entering the space. No other cuts or fades are employed and the scene plays itself out without forcing the viewer (through editing) to focus on any aspect of the narrative. Instead, there is an attempt to manipulate the viewer’s gaze through verbal cues from the voice over of the detective’s instructions and the invitation to examine the clues. The choice to not employ any forced perspectives on the viewer in these VR scenes and instead to exploit their willingness to explore the space, heightens the believability in the environment and characters, drives the plot forward and may provide enjoyment in the immersiveness of the situation. It also facilitates interaction, as the viewer is invited to explore the environment by physically moving about within the space and handling virtual objects.

Bordwell and Thompson state that careful editing, which allows for spatial continuity,

...show[s] how film technique draws the spectator into an active process. We assume that setting, character movement, and character position will be consistent and coherent. Our prior knowledge of filmic conventions lets us form strong expectations about what shot will follow the one we are seeing [...] What makes the continuity system invisible is its ability to

draw on a range of skills that we have learned so well that they seem automatic. This makes spatial continuity editing a powerful tool for the filmmaker who wishes to reinforce habitual expectations. (2008:245)

Thus, through exposure to the film and television mediums, viewers have been conditioned to “read” and understand an unspoken, but well understood, cinematic language. The viewer’s consumption of television programmes and films has trained him/her in the ability to predict what the obvious next choice of shot would be after an edited cut. Throughout the evolution of cinematic editing as art form, editors have learnt from viewer-expectations as to what type of cuts would be most easily understood and accepted by an audience. Simultaneously, viewers have been trained to make connections between two consecutive shots in a sequence and to create meaning from that combination of shots. This combined effort towards the creation of a cinematic language has provided the tools which can now be transferred into the domain of VR storytelling. By using the same techniques within this new digital medium, the understanding of what the editing is trying to communicate, remains clear. It is familiar to the consumer of the VR narrative and sustains his/her suspension of disbelief.

Thus, the spatial continuity facilitated by the editing enhances the sense of immersion. However, the text also draws attention to its own construction which lessens the overall immersive experience for the viewer. The writers of *Halcyon* attempt to ensure that the viewer does not miss any clues to the murder by repeating vital information embedded in the VR episodes, at the beginning of the following TV episodes. For the viewer who views the VR episodes, and in the order prescribed, this repetition of information can become irritating. Repeating information draws attention to itself as a bridging-device and detracts from the overall immersive experience of the product.

In *Halcyon* descriptions of the environment the viewer finds him-/herself in, are needed and given. The narrative contains much fictive near-futuristic technology and terms which require explanations in order for the user to make sense of and become part of the world. These types of writing techniques also contribute towards world building. Due to the futuristic nature of the narrative, the viewer cannot be left to surmise the importance of objects and facts which are visually displayed, he/she needs to be informed of its importance or place in the fictive world. This information is mostly conveyed through dialogue between the two female detectives, discussing the clues, suspects and the conflict between those suspects, as they perceive it.

Below are some textual examples of the dialogue between Detective Dover and Asha, her Virtual Assistant (VI), in the VR episodes:

Asha: Ok we are using Creighton's [the victim's] implants to render this scene from his memories. These are the last moments in Creighton's life reconstructed backwards from the time of death [...] Creighton is in yellow, his attacker in red. The simulation will become more detailed as we spend more time investigating in here, but also more unstable as Creighton's memory degrades [...] Looks like he dropped that glass by the window, before he was attacked.

Dover: Try approaching the evidence marker and picking it up... (*Beeping sound effects can be heard suddenly from the direction of the "evidence marker"*).

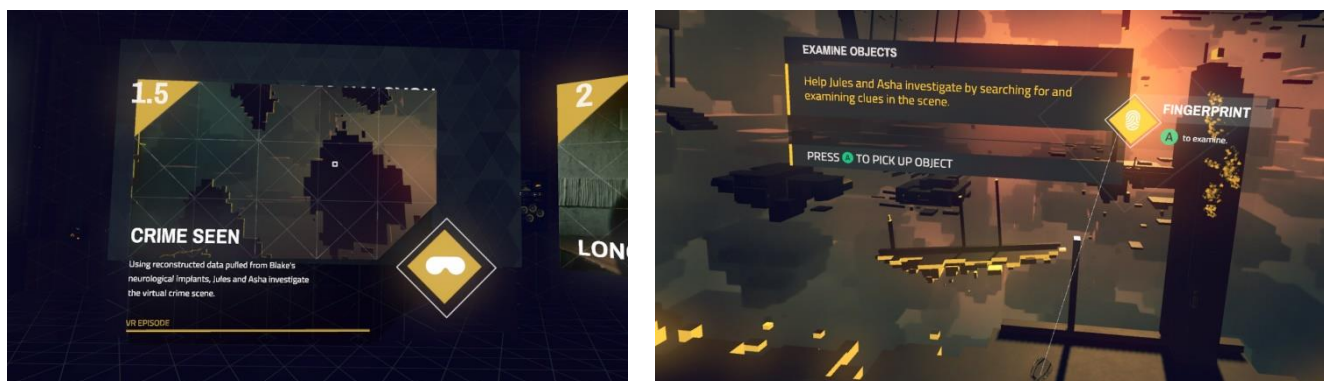


Figure 10: Computer screenshots of *Halcyon*'s in-game VR episode 1,5. 1 Dec 2019 00:01:26.

Dover: Let's see who else was in here, not just physically but in VR as well. Pull up all implant-signatures in the last 36 hours.

Asha: Wow there are a lot of them. Not surprising though that the CEO of Halcyon will have lots of virtual visitors.

Dover: Let's try and narrow things down. Most of these are likely to be routine. Find those and filter them out.

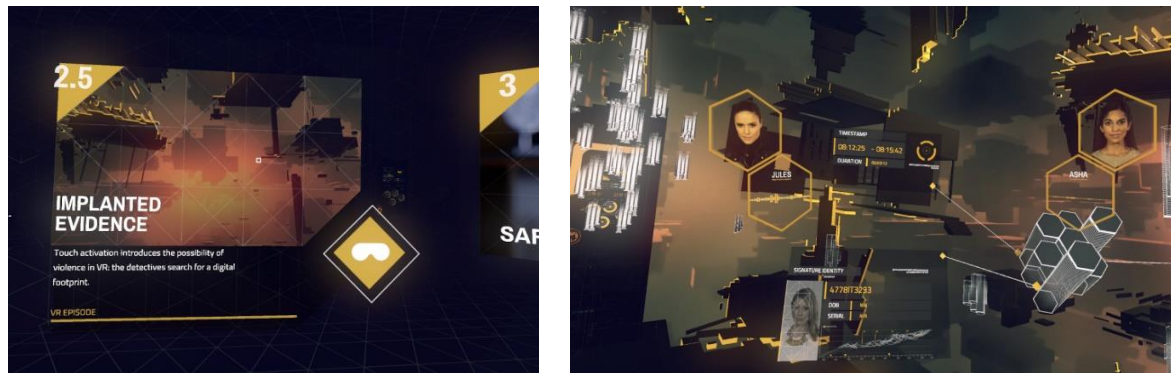


Figure 11: Computer screenshots of *Halcyon's* in-game VR episode 2,5. 1 Dec 2019 00:01:55.

Dover: Let's go back through the crime scene and check for anything we may have missed. Hold up, the memory reconstruction has expanded. Search the desk for any clues. (*Halcyon*, VR eps 4,5)

Apart from creating a believable fictive world in which the viewer can immerse him-/herself, the narrative explanations of these fictive elements present positive benefits in themselves for the viewer's sheer joy of discovering the fictional objects' purpose and function in the fictive world. It also provides an extra layer of enjoyment, analysing these weird and wonderful objects in order to find clues towards solving the murder. Through the voice over of Detective Dover in the VR recreated murder scene, the user is encouraged to interact with the objects.

Julian Symons, in *Bloody Murder: From the Detective Story to the Crime Novel* states that the primary characteristics of the detective novel are that the narrative should "present a problem, and that the problem should be solved by an amateur or professional detective through processes of deduction" (1972:9). The 'whodunnit' mystery of the crime narrative genre enlists the viewer

as an additional detective – so dramatic suspense allows for interactivity in this case. The narrative of the VR experience thus attempts to provide information to the viewer in such a way as to entice him/her to interact with the clues and actively assist in the investigation. Fictive television news reports and TV interviews give more information about the founder of the Halcyon technology, the CEO's (Creighton's) apparent murder and the technologically advanced world the viewer finds him-/herself in. In the opening scenes of the first TV episode an interview is playing on a TV screen in the background, while two seemingly human bodies are grappling with each other in the foreground. In the interview Creighton can be heard explaining the technology that his company has developed and the new haptic technology they are about to release. The TV interview is thus used as a means of world-building but also serves to enhance the dramatic effect of the moment the murder takes place. As the victim falls to the floor and his face comes into shot, the viewer immediately knows the importance of the person who is murdered, as he/she connects him with the information seen and heard on the TV screen. All of this information serves as clues which the viewer can thus use to become actively involved in solving the murder mystery.

All five VR scenes occur in a digitally reconstructed version of the murder scene. The viewer-interactor is privy to the same visuals and clues as the two detectives are. This may allow the viewer to feel actively involved in solving the murder case, even if you can only be a bystander in the room, witnessing the clues being gathered and discussed. You can hear a dialogue with the two lead actresses discussing the clues. Instructions for examining clues are voiced by Jules (mostly) and the viewer-interactor (who is conducting the detection as the character, Asha) is invited to follow up on the actions suggested. These actions include moving to several positions in the digital room and picking up objects of interest to the investigation. The viewer-interactor

(through the body of Asha) is able to rotate the object under discussion, through the controls in the hands of the player. This type of interaction gives further support to the feeling of physically being part of solving the crime. The evidence becomes “real” to the player when they are physically present in the room where the clues are found. Thus, both the embodiment as a character and the interaction with objects add to the immersion of the viewer-interactor.



Figure 12: Computer screenshots of *Halcyon*'s in-game VR episode 1,5. 1 Dec 2019 00:01:35.

Once the dialogue between the two detectives is finished (the dialogue revolves around the clues hidden in the particular object which the viewer-interactor is holding in his/her hand), the narrative does not continue until the viewer-interactor clicks a certain button on the controller, which releases the object. Only after doing so, does the voice over between the characters continue and further clues are investigated. The viewer-interactor is also able to move anywhere within the digital space and able to ignore the request to move towards a certain object location. If the viewer-interactor does comply and move towards the object, he/she needs to be close enough in proximity to the object in order to press a button on the controller which

“activates” the scene. Only then will the voice over resume between the two female detectives discussing the clue. These moments of enforced action on the part of the player can serve to lessen the immersion of the scene and remind the player that the narrative is indeed only fiction and the player an audience member. The player is reminded of their own suspension of disbelief, but also of their power in controlling the speed of the narrative. In this instance the interactivity allowed to the user has the potential to hinder immersion, as it draws attention to itself and the construction of the VR experience.

Sound in the form of voice over narration is used successfully to aid in immersion. In the reconstructed VR room of the murder scene, the digital surroundings need to be explained to the viewer, as the environment is in an unfamiliar virtual realm and unknown to the viewer. The voice over recording of dialogue between the two detectives are used to direct the viewer’s attention towards possible clues that may reveal suspects and thus drives the plot forward. With each new revelation of a clue, new suspects come to the fore. These suspects are then interviewed in the TV episode which follows after the VR episode.

Both the technology present in the reconstructed VR room and the experience of being in such a virtual space, is possibly new to the viewer. The fictive aspect of the environment enhances the believability of the space, as the viewer may find enjoyment in discovering how this virtual space “works”, what it is constructed of and the “rules” of the space. Having the ability to physically navigate the space enhances immersion and provides interactive enjoyment. *Halcyon* thus provides a hitherto unique example of immersive and interactive qualities working together, each supporting the other in a symbiotic nature, causing difficulty in differentiating precisely between the influence both have on the viewer-interactor. The VR murder scenes provide an excellent example of this situation. Without embodiment of the character Asha, the viewer-

interactor would be reduced to a viewer only, an omniscient presence which cannot interact with the world or affect any change in that world. The ability to interact with objects in the virtual space while doing so with the motivation of the character (the need to solve a murder) enhances immersion. The one condition thus supports the other and leads to a more believable and enjoyable experience for the viewer-interactor.

The ability to enter a virtual representation of the murder scene and to actively examine clues in this space is an exciting activity to undertake and return to within the narrative. However, these scenes in VR run the risk of relying too much on audience's surprise and delight with the interactive possibilities and visual aesthetics. According to Riggs "immersive creators often rely heavily on the "wow" of the technology. That first moment when the guest turns around to see the world existing outside an expected frame can be spectacular. But while spectacle leaves a memorable impression, it often lacks the substance of a meaningful engagement" (2019:126). The ability to examine the murder, to replay it and to examine the evidence in a VR scene may become a mundane experience for the viewer-interactor. If the player has consumed the experience once, then all clues will have been exposed, the plot will have run its course and the ending will have been revealed. To instil a need in the player to want to return again to the narrative, a stronger motivation is needed than to solve the mystery and perceive the inevitable outcome of the narrative. I propose that meaningful engagement would rely on having the user be emotionally or intellectually committed to the narrative. The viewer-interactor must firstly be enticed to engage with the narrative and then, hopefully, become emotionally invested in the characters. The viewer-interactor must care for the characters or have a need to solve the crime, for the experience to have an impact on him/her.

Another method which could possibly create immersion beyond the “wow” factor, is to give more purpose and agency to the viewer-interactor. I believe that extending an internal-ontological interactivity to the user may enhance the engagement in the VR episodes. According to Ryan internal interactivity refers to a user who feels like he/she is an individual within the virtual narrative, as opposed to being an observer without an identity. Ontological interactivity provides the user with the sense of having an influence on the choices made within the narrative and experiences lasting change within the virtual world because of those choices. Ryan believes that this type of game-play shares some qualities present in living one’s life in the real world. It is for this reason that internal-ontological interactivity could be a beneficial choice for creators of VR experiences, as the user can immediately identify with the condition and suspend his/her disbelief. If the viewer could affect lasting change in the VR murder scene without being prompted or even forced to do certain action, the discoveries may be of greater enjoyment to the viewer-interactor as the illusion would have been created that he/she is executing free-will, just like in real life.

If the viewer-interactor was granted such options, then the discovery of certain clues or missing others leads that would solve the murder, would result in branching narratives. Branching narratives are alternative plot strands that are available to a reader or player at certain given points within a story. The choice to follow path A or action A over option B, will result in an alternative storyline with different consequences for the characters and, possibly, a different ending. Branching narratives became quite popular in the 1980s and 1990s with narrative-based computer games providing limited interactive choices with simple branching structures (Murray, 2017:95). It is a common element in modern computer and VR games as well, as it allows a player with the ability to control the narrative, within the designed options for story structure.

Halcyon offers no such options. I believe that this storytelling tool would have provided an attractive opportunity for interactivity for the viewer-interactor. Unfortunately, whether the viewer chooses to watch the VR episodes or only consume the TV episodes, he/she will be presented with the same plot outcome.

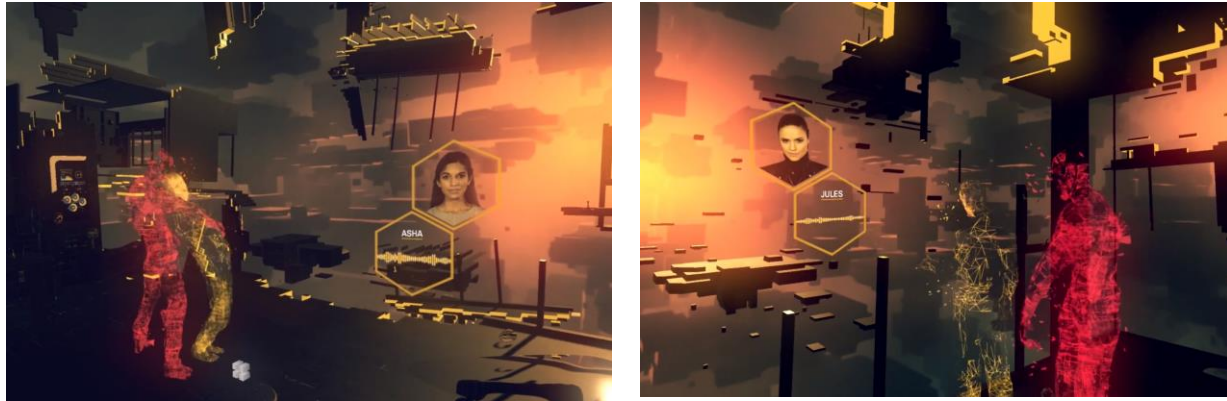


Figure 13: Computer screenshots of voice over dialogue made visual in *Halcyon*'s in-game VR episode 4,5. 1 Dec 2019 00:00:07.

In the VR episodes the viewer-interactor can only hear the voices as a pre-recorded dialogue between the two main characters with a still image of each character next to a waveform pattern of her voice. The voice over audio continues to present and build the believable relationship between these characters, but only because we have been introduced to the real “flesh and blood” characters portrayed by physical actors in the TV episodes. Even though the character Asha is a non-human entity, a machine in anthropomorphic form, she is portrayed by a human actor in the TV episodes and the voice you hear in the VR experience is the actress’s voice. No digital avatar body of either of the two detectives are physically present in the VR environment, only their voices are heard alongside the head shot of their faces.

The absence of the physical presence of the actors in the VR episodes could draw into question the quality of the immersion for the viewer. In the TV episodes the actors are physically present but in the VR episodes they are not, the characters are represented by recorded voice overs only. This choice of filmic device is believable as the conversation between the two characters sounds realistic, their dialogue being a continuation from what was discussed in the previous episodes. The characters had been introduced to the viewer through the first two TV episodes, so the substitution of their physical presence with vocal presence, is believable and sustains the immersion. Their relationship and attitudes towards each other have also been introduced in these prior TV episodes. Thus, being privy to their voices alone does not take away from the immersiveness of the VR scenes, as their personalities and the relationship has been established as believable. It may only have been a financial decision by the creators of *Halcyon* to decline investing time and effort into creating animated, digital versions of the two lead actresses. Alternatively, the intention behind this choice could be to help the viewer-interactor experience a post-human state, as described by Katherine N. Hayles in *How We Became Posthuman*. Hayles states that “In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals” (1999:18). By allowing the viewer-interactor to embody a character in VR within a scene where there is no visual evidence of that body (only auditory proof via voice over dialogue), the boundaries of the physical “real” and the virtual become blurred. It is, in essence, precisely what VR technology provides for the user: the ability to submerge oneself in a believable alternative reality.

One of the themes of *Halcyon* is the threat and promise inherent in new technology. The human characters discuss it between themselves, as do the human to VI and the VI characters among

themselves. The cliff-hanger-endings also utilise this (fear/ “what-if” question) prevalent in science fiction. The writers allow most of the characters to question the line between what is human and what constitutes being a machine thus creating a juxtaposition of the real and the virtual. There is an intimate scene between the two female leads, where the VI asks her detective partner what she thinks of her.

VI Asha: What do you think of me?

Dover: mmm?

VI Asha: What do you think of me? Am I your friend? Your partner?

Dover: I...

VI Asha: I mean if I were to somehow get wiped out tomorrow, and a different VI was sitting here, would you mourn for me? Or would it be as though your car broke down and you had to get a new one?

Dover: I love my car...I...Ok...look. About the other night.

VI Asha: I'm sorry. I shouldn't have...[overheard a private moment between Dover and a digital version of her deceased brother].

Dover: No, it's. It's just that I really miss him. And sometimes I wonder if I made the right choice by not seeing him before he was gone... What about you? Aren't you afraid? That people might hurt you once they turn it [haptic feedback] on?

VI Asha: To be honest. I don't think they could. And that's part of being a human anyway, isn't it? At least they could touch me. They would know I was there. (*Halcyon*, eps 8 50s -2:01).

In this same scene they discuss the VIs' ability to register being touched. They feel real to the humans interacting with them, even if the VIs cannot feel touch-sensations themselves. Asha states that even this seemingly small addition would be closer to being “real” for her. Displaying these recognisable basic human traits draws the viewer in further as it allows for identification with the characters.

One of the themes in *Halcyon* is Fake vs Real: the murdered human victim was strangled by a digital VI, which had the power to have his body and strength “felt” by the human. According to the narrative no other VI obtained this quality yet, and it is only revealed at the final few

episodes that the specific VI possessed this quality and was therefore able to strangle the human victim. The fictive debate over whether VIs should be given the ability to be viscerally perceived by humans through physical touch, while they, the VIs themselves, cannot receive the same tactile input, is central to the storyline and one of the driving motives behind the killing. These intrinsic human abilities, which are desired by the digital beings, make the VIs relatable, as the viewer can identify with such needs. The viewer may therefore invest emotionally in the character's plight and possibly even sympathise with the murderer. It is also the question on which the cliff hanger-ending is poised: will Jules give all VIs globally access to this quality or not? What will happen to the human race insofar as they have become addicted to their VR escapism? Will VIs be perceived as more human and therefore treated equal to humans? The real success of this climax is dependent on the aforementioned ability of the viewer-interactor to emotionally invest in and express empathy for the characters.

Consumers of literature and cinema have always had a fascination with the comparison between man and machine. Sue Short, in her book *Cyborg Cinema and Contemporary Subjectivity* dissects the history of the term cyborg and states that the depiction of cyborgs in film depicts, amongst others, the position of social class in society (2005:56). By highlighting the seeming differences between organic man and synthetic machine, which subjects them to different experiences of treatment and acceptance, the writer makes a comment on that society. The need for acceptance within a community is an easily recognisable human characteristic, and by making this need a central theme in the narrative of *Halcyon*, the writers provide the user-interactor with the opportunity to identify with the characters and their plights. What it means to be human is a subject which any viewer can identify with and thus provides a strong point of interest to hinge the plot and character choices on. Juxtaposing the qualities of man and machine

against one another in a future where the distinction between the two is disappearing, is familiar to the viewer and thus enhances immersion. Hatice Övgü Tüzün in “Welcome to the desert of the Anthropocene: dystopian cityscapes in (post)apocalyptic science fiction” states that we humans make the same mistakes over and over again, that we critique our own self-destructive nature and that “throughout their evolutionary history, humans have always wanted to transcend their limitations through science and technology” (2018:182). The creators of *Halcyon* use the question of whether Artificial Intelligence (AI) holds benefit for humanity or harbours destructive powers, as a means of creating a filmic climax which draws the viewer in. By the end of the final episode, the writers of *Halcyon* have provided information and character opinions regarding this issue which results in sufficient suspense for the final climactic scene. All the characters who represent opposing views on the theme are present in this scene and are at loggerheads with each other. The writers create escalating tension between the characters, which results in an extremely immersive moment that keeps viewers on the edge of their seats.

Writers of science fiction are tethered to current social and technological zeitgeist. Their dreams and nightmares become the fictive futures theorists discuss and argue about. Their texts also remain a constant reminder of how humanity tries to make sense of identity and its place in the world and how we attempt to make order out of chaos and pretend control over our efforts. Virtual Assistants (VIs) who work along-side human beings start to question what it really means to be a sentient human being, while human protesters launch campaigns to stop the further development of these technologies, as they claim these machines cause wide-spread addiction to virtual worlds. Humans have become so addicted to being in virtual reality (VR) that their physical health has deteriorated. Humans are pushing back against the announcement that VIs will be given haptic abilities, the abilities to perceive touch, which in the world of *Halcyon*

translates into them becoming indistinguishable from humans. The virtual and the real will become indistinguishable from one another. Again, consuming the narrative using the latest VR hardware can create a mental link for the viewer/interactor between the awe and dangers of advanced technology, which could cause greater immersion into the tale.

De Wildt *et al.* state that “by playing apocalyptic games about machines on machines, players inhabit digital worlds that imagine ways to deal with the super-humanly powerful and intelligent technologies that will surround us, or already do. The God metaphor, so it seems, plays an essential role in this imagination” (2008:18). When the virtual becomes indistinguishable from the real, it poses a threat to the humans of the text because technology has demonstrated to have powerful capabilities that greatly exceed human skills. When the tools which man created to be in service to himself supersede man’s ability, humans become threatened by it as they cannot control it. The technology becomes feared as it harbours the potential to dominate and enslave man. Depicting dystopian futures as self-imposed, technologically driven near-annihilated worlds, reminds us humans of a possible impending doom if humanity’s technological advances remain unchecked and unconstrained. The creators of such dystopian worlds who design the experience to be consumed on cutting-edge technology, are using the immersive potential of that technology to further emphasise their themes. Due to the current exponential growth of computational power and threats of AI, philosophers have started debating man’s view of himself in this world. Just as the earth’s ecology is undergoing risks of extinction, man himself is also undergoing an existential crisis. Philosopher Slavoj Zizek states in *Living in the End Times* that “life in these apocalyptic times can be characterized by ecological breakdown, the biogenetic reduction of humans to manipulable machines and total digital control over our lives” (2010:327). Thus our “function” as human inhabitants on this planet is changing. Allowing the

viewer-interactor to be privy to this debate knowing that access to the consumption of the narrative is granted through technology that can harbour these threats, draws attention to the themes in the narrative and thus further enhances the immersion. It also provides for irony because the viewer-interactor is knowingly, by interacting with the headset and controls, allowing technology to manipulate his/her senses with the intention to gain an immersive experience.

Halcyon provides multiple examples of where the text intertwines its immersive and interactive qualities. Firstly, the reflexivity of the VR technology pointing to a thematic crisis in the text, serves to support this intertwining. Symbolically, the use of synthetic beings in the text; cyborgs whose existence challenges the definition of humanity also contributes to this notion of interlaced immersive-interactive states. The VIs in the narrative are able to perceive and understand human reality by interacting with that world through their limited senses. These synthetic beings are also empowered with god-like knowledge of the world, as they are privy to all the knowledge data-bases which man has accumulated through time. The text allows the viewer-interactor to virtually embody the character of one of these synthetic beings but he/she is dependent on the visual and auditory inputs of the VR hardware to experience that fictive reality. The more realistic the VR depictions of the fictive world and relationships of the characters, the more immersive the experience may become for the viewer-interactor. Furthermore, a hybrid experience exists for the viewer-interactor: the consumer of the experience is both privy to an omniscient point of view (by watching characters interact with one another in the TV episodes) and a first-person point of view (embodying the character of Asha in the VR episodes). By giving this interactive choice to the consumer – Do I only watch the TV episodes, or the VR episodes as well? – the option exists to immerse deeper into the text or to decline the opportunity

and instead enjoy only the omniscient telling of the tale. If the viewer-interactor denies him-/herself the opportunity to watch the VR episodes (and thus do not experience the VR world through the eyes of VI Asha) much of the intrigue of the murder mystery is lacking and the immersive quality of the overall experience is much lower.

However, there are some instances where interactivity can be isolated quite successfully and examined. As stated in chapter one, Ryan examines four types of interactivity: internal or external, exploratory and ontological. With internal interactivity the user can affect the events in the story world through his/her actions. When he/she cannot see him/herself as an active part of the fictional world, or can only create changes to the world through god-like actions, their interactivity is external. Exploratory interactivity allows the user to examine the world he/ she inhabits, but without making any lasting changes. Ontological interactivity allows the user to make lasting changes to the fictional world which allows the story world to evolve because of those actions.

The scope of interactivity available in *Halcyon* is limited to internal-exploratory interactivity. This visual-digital experience provides a hitherto unique opportunity for a viewer of a TV-series to become actively involved in the solving of a murder mystery in VR. The viewer is invited to take the leap from passive cinematic viewer to participant, but can also refuse to break through the fourth wall if he/she does not want to.

In *Halcyon* sound also helps to enhance interactivity. It is used quite deliberately as cues for the viewer-interactor to engage with the environment and objects within the space. Sound cues are used in the VR scenes to indicate to the player that some clue needs “activation” somewhere in the virtual room. The player is thus invited to firstly look toward the direction where the sound

effect is generated from (it plays in only one speaker of the player's headphones) and then to move towards it for engagement, if he/she wishes. The narrative will not progress without this interaction, however, so the viewer-interactor's choice is clearly limited: adhere to the request or end the scene.



Figure 14: Computer screenshots of *Halcyon* in-game VR option: Museum. 1 Dec 2019

Included in the *Halcyon* product is access to a VR platform which includes various clickable options. One option is to watch the series; another is to investigate a museum with fictional products and a fictive timeline of how the Halcyon product developed over years of innovation. This museum and its fictive history, together with the ability to investigate the clues in VR, generates more believability in the world created by the writers as it provides the viewer-interactor with the ability to interact with the fictional world and technology created by the writers. Just as with the VR version of *The Great C*, the player of *Halcyon* can also skip through TV and VR episodes and return to or watch any episode he/she wishes again. This allows for a very basic level of interactivity, already known to most TV viewers.

In the last VR episode, the scene in which the identity of the murderer is revealed, the hardware control which a viewer-interactor uses to navigate within the digital space starts to physically vibrate in the hands of the player. This physical action in the real world coincides with the

supposedly digital disintegration of the murder scene. A voice over can be heard of Jules urging Asha to find the last clues before the room completely disintegrates (and with it all hope of finding more evidence). These storytelling choices are used to heighten the drama and tension, which leads to a climax: the revelation of the killer's face. In theory this may seem to be a very good choice, with regard to both immersion and interactivity. Experiencing this specific VR episode proved to be extremely nauseating for me, up to the point where I wanted to end the experience completely. Different players will have different levels of tolerance towards motion sickness in VR, which is a very real issue VR content creators are currently trying to solve (see Mason, 2017). The major objection against immersion is the alleged incompatibility of the experience with the exercise of critical faculties: viewer-interactors seem to remain aware that they do not intrinsically, physically belong in the digital world they are observing. It is as if the human brain needs to be “tricked” into believing that what the eyes are seeing, is real, in order for the viewer-interactor's physiology not to become adversely affected.

Sook-Lei Liew, who studies the neurological effects of VR technology on the brain, states that we “have very little knowledge about what happens when they look at screens in VR. Specifically, regarding motion sickness and dizziness – it's definitely a limiting factor. The hope is that as the technology improves, these symptoms will be reduced, but it's a wait and see scenario” (Kee, 2018). Biologically we seem to be geared towards consuming the written word, while our bodies still need time to adjust and evolve to this new visual virtual method of consuming stories. If, or when, we reach the point where there is no negative effect on our physical bodies, we may see immersion and interactivity being used to its fullest extent. What this could result in is a strong sense of embodiment where any evidence of the real world is excluded from the user. Bucher agrees with Liew's point of view and states that “in VR, there is

still a divide between the mind and the body, though most would agree that it is only a matter of time before mediated representations of the body will mirror our actual organic beings to such a degree that they may be indistinguishable” (2018:139). The choice to have the VR controller vibrate in the viewer-interactor’s hands while the visuals are blurring and disintegrating before his/her eyes thus creates a conflict in interest within the user. There is an imbalance in the application of immersion and interaction. The vibration is drawing attention to the fact that a device is being held in your hands, while the visuals and the audio are trying to convince you that the world you are supposedly inhabiting is falling apart. The former is distracting from the latter condition. The fact that this imbalance can cause physical discomfort is a clear indication that the use of heavy-handed interactivity is distracting from the immersion of the tale.

It is difficult to say if all players would experience this scene with the same level of nausea as I did. Even a small amount of discomfort, however, will detract from the immersion and may cause the player to pause or exit the experience, which would work against the climax that the writers are building towards. Nevertheless, experimentation with integrating real world (RW) technology, such as a vibrating control, with virtual scenes of destruction may be commended as a step towards more believable embodied experiences in VR. The current advances in this new medium offer opportunities for new research and development in writing and storytelling. Unfortunately, our human physiology still needs to evolve to accommodate this new type of story consumption or digital ‘states of being’.

Ryan discusses the relationship between immersion, presence and interactivity by pointing to the work of Maurice Merleau-Ponty. He examined the embodied nature of consciousness and stated that “it is by imagining ourselves physically reaching out toward things that we acquire a sense of their presence” (Ryan, 2015:54). This points towards an element of storytelling in VR that is

unique to the medium: the viewer-interactor's ability to move forward into the digital environment, to break the fourth wall of cinema and TV. The viewer is no longer restricted to consuming narrative in a two-dimensional form, a third dimension has opened up where consumers of a VR narrative can explore the spaces he/she occupies in the virtual world. This ability mimics how we experience real life and thus greatly aids in immersion. It also opens up myriad possibilities for interaction as the player he/she can execute their free will to explore the world he/she is submerged in. This mirror sensation from real life and the ability to execute free will creates a sense of presence for the viewer-interactor. Merleau-Ponty said that there is no space to exist in without a body registering an interaction with the space, and also that this interaction happens through movement of the body; "this active engagement of the mobile body with space and time produces a succession of points of view through which the spectacle of the world smoothly unfolds to perception" (Ryan, 2015:54). Thus, the interaction between a body and the environment it finds itself in provides a sense of presence. When an individual experiences this sense of presence within a virtual environment that world becomes real to him/her and the experience is thus believable, which assists in the sense of immersion of the moment and allows for a sense of agency to develop.

If presence is the sensation of being bodily present in an environment, agency is the experience of having the ability to create lasting change within that environment. *Halcyon* attempts to give a semblance of agency to the user by allowing him/her to interact with digital objects in the VR murder scene that harbour clues that can assist in solving the murder case. It provides the illusion that the user is affecting change, but, in fact, this narrative device is merely interaction disguised as agency. Once the viewer-interactor is instructed to investigate a clue, the narrative will not proceed until the user acts upon the instruction. Technically speaking, however, this is not

agency but mere interaction. Agency would exist if the narrative continued on a different story-branch if the user-interactor refused to follow the instruction. Furthermore, the same plot actions are revealed to the viewer-interactor if he/she decides not to experience the VR episodes at all. Regardless of whether the interaction was undertaken by the viewer-interactor, the killer is still revealed in the final TV episode.

With the advent of this new medium of storytelling VR, the importance of agency should not be underestimated. It may become the central feature of the most immersive VR narratives created in the near future. As we have seen in this dissertation, the use of empathy, a narrative tool with its origins in traditional literature and cinema, can be employed to immerse the viewer-interactor in the experience. Certainly, in the VR recreations of the murder scene of *Halcyon*, it can be argued that the viewer-interactor may experience more empathy (if any) with the victim (because he/she is embodying a character who is physically at the murder scene) than viewing the same murder scene on a 2-dimensional TV screen. This sense of presence, the belief that the viewer-interactor is enclosed in the physical space where a horrendous act was committed, can trigger a visceral re-enactment of the scene in the imagination of the user. He/she may experience bodily sensations of fear and anxiety while reliving the crime committed. These physical reactions may then prompt empathy for the victim of the crime. Yet a much stronger sense of agency would have contributed to the tension of this cliffhanger ending. True agency in VR experiences translates to the viewer-interactor becoming a guest or participant in the tale, one who has the ability to effect lasting change to the narrative. *Halcyon* does not provide such opportunities. The viewer-interactor's options for physical engagement with the environment, the scope of interactivity, remains limited. Only a certain number of interactive options are available in each scene and are pointed towards. I believe that the intention behind this choice is to invite the user

into the deeper experience, to enhance the overall enjoyment of assisting with unravelling a mystery and thus facilitating immersion. However, the constraint in interactivity is self-reflective and actually reduces the immersion for the viewer-interactor. Whenever the user is barred from moving to the next plot-point because a certain action has not yet been taken, then immersion is interrupted and a sense of agency becomes diminished. Unlike in *The Great C*, where story-consumption was a completely passive experience and any true sense of agency was absent, *Halcyon* is taking a step towards improved interactivity that provides the beginnings of presence for the consumer of the narrative. The power to affect change within the story and/or having the option to branch off into different narrative strains with alternative endings are, however, still missing. In order to investigate the potential and impact of agency, we must turn to the next text, an interactive improvised theatre experience in virtual reality which allows for varied opportunities to change the outcome at any given moment of the story.

Chapter 3:

The MetaMovie Project

Alien Rescue (Moore, 2019a) is the second of three improvisational performances which the company The MetaMovie Project is performing in virtual reality (VR). Five actors embody digital characters in real time, while several members of the public access the same VR narrative event at the exact same time. One member of the public is a guest player who has the ability to affect change in the VR story world. The rest of the public participants embody smaller avatars, called Eyebots, which cannot make any lasting changes in the VR narrative, they are simply observers who occupy the same VR world and can watch the VR narrative unfold in real time. For my research I embodied the VIP's avatar, as well as two other major characters in the VR play and I took on the point of view of an Eyebot, on several occasions.

A skeleton-script is provided with character traits laid out for the actors and a basic plot-structure exists. The VIP-player (VIP), who is a paying customer and (most likely) not a trained performer, is also assigned a minor character. The VIP is given an avatar (an anthropomorphic digital character whose movements in the virtual environment mirrors what the user does in the real world) and a character description which the ensemble would like the player to try and embody. The VIP's success in embodying the character (thus 'acting well', like one would expect of a professional actor) is of much less importance. Instead, what is crucial is the guest player's willingness to become complicit in the successful telling of a partly predefined story. The VIP is asked to 'play along' and pretend to be the assigned character, so that the other avatar characters (embodied by professional actors) may engage with the VIP character convincingly,

which would move the plot forward. By agreeing to be the guest player in the VR narrative, the VIP is, in essence, agreeing to play along with the script and to follow the ‘rules’ as set out by that script and the actors. However, the guest player has complete free will to break away from this contract between the players and do whatever he/she wants to. However, this freedom of action could work against the suggested plot and shatter the sense of immersion for all involved. Not only does this emerging method of storytelling risk working against immersion but it also results in contested authorship within the experience. As this chapter will argue, a symbiotic relationship needs to be struck between the writer of the narrative and the participant in order for this new mode of storytelling and story consumption to succeed. To a lesser extent, the emergence of a new relationship between humans and the virtual worlds they live in will remain problematic as, physiologically speaking, human beings are not yet ready for such a deeply immersive experience and may also be ill equipped to deliver a rich narrative in VR. It is still unclear whether viewers are ready to assume control over storytelling to this extent.



Figure 15: *Alien Rescue* VR promotional movie poster. 26 August 2020

According to Riggs,

...the frame is so ubiquitous that we rarely notice it. But once you start seeing it, it's everywhere. Billboards. ATMs. Menus at restaurants. The frame separates pre-scripted content from our naturally interactive reality. It's no wonder that when someone over the age of twenty puts on an HMD to experience immersive technology for the first time, they sit down and look straight ahead without turning their heads. (2019: 67-68)

Riggs motivates that whatever format we choose to express ourselves in, there is always a frame that physically restricts the creator. This type of constraint can also cause a mental inhibition, both for the creator of material and the consumer of that experience. Because consumers have been conditioned to consume media through a frame, suddenly breaking away from that habit when a new medium of storytelling is introduced will be challenging. The youngest generations of consumers grew up with the existence of the internet and smart phones, so they will be quicker to adapt and experiment with digital storytelling platforms. Older generations may find it more challenging. As this dissertation has shown, there is immense value in drawing from the traditional arts and applying that knowledge to new mediums. However, only relying on traditional methods of communication and expression runs the risk of inhibiting the growth of new techniques required for effective VR storytelling and this involves the inevitability of removing the frame.

For, as Riggs states “how we frame a story, frame a concept, or frame a situation has the power to change how we view that information. Removing the frame not only alters the content; it also dramatically changes our relationship to the content” (2019:71). Once the frame is removed, the viewer's gaze is no longer boxed in and directed in a particular way, he/she is free to explore and focus their gaze wherever he/she pleases. With this new-found freedom the viewer's position as story consumer is suddenly altered. He/she moves from a position of passivity to one of active

participant. The world-building in *Alien Rescue* not only facilitates but demands that the participant of the experience actively engages with the environment.

Unlike with *The Great C*, where the environment is consumed passively, and in *Halcyon*, where interaction with the VR scenes is encouraged but restricted in the limited number of interactive options available, *Alien Rescue* provides a plethora of possibilities available to the hero. The futuristic sets (spaceship interior, planetary surface, alien laboratories etc) are extremely detailed, which enhances the immersive quality of the overall experience. Each scene in *Alien Rescue* allows the hero to physically interact with numerous digital objects, some that inform the plot and others that just enrich the environment the hero is in without driving the plot forward. The hero is given freedom to interact with the world (or not) while the actors gently steer the hero towards an important object within the scene, if that clue is vital to the storytelling experience and overlooked by the hero.

This interaction with the text holds the potential for stronger agency and the power of partial authorship for the participant. By allowing the hero to explore the world and consume its artifacts unrestricted and at leisure, a sense of presence and immediacy is instilled in the experience. The hero is made to feel that he/she is really discovering the world in real time, by being physically present in that world and interactive with it, just as in real life. The creator of this VR experience is also allowing the hero to overlook certain clues embedded in the world and thus to miss certain details of the plot or the world, which allows for a unique rendition of the story each time the experience is done.

The leap into VR is a cultural moment of learning a whole new mode of visual engagement; it holds the potential for powerful immersion and shared storytelling experiences. By removing the

traditional convention of separation between author/director and reader/ audience, the responsibility of authorship is partially given to the formerly passive consumer turned active participant storyteller. Though exciting, the success of this joint attempt at storytelling in the medium of virtual reality is still tentative.

The performances by The MetaMovie Project, via *Alien Rescue*, is taking a bold step towards complete immersion in a fictional VR world. Moore (2019b) is aiming for a deeply immersive experience by providing the player with numerous opportunities for interaction with the narrative's plot and characters. With the help of improvised theatre techniques, the player is given as much free choice and agency as current VR technology and knowledge of writing for narrative VR allows. The VR experience is about 60 minutes long, depending on the amount of extra dialogue, action of the VIP guest and the reactions to their choices. The skeleton-script is set and the actors embody their characters (via avatars and pre-developed character personalities). Depending on the VIP's action, the actors will respond to and change their actions and reactions accordingly. Thus, all participants work to interact with each other and their shared environments as a unified ensemble with the communal goal being to create a successfully immersive storytelling experience.

The VIP is invited to handle a gun, to participate in 'dangerous' action scenes and to make important life-saving decisions that can save the team. These plot-moments are (mostly) presented as interactive options that the hero can choose from. His/her choice of action will determine the path of action the rest of the cast takes and his/her choice at this moment in the narrative may be referred back to, at a later stage in the story. Thus, the hero is very much in control of the narrative when presented with these interactive options. However, as there is a desired storyline as penned down in the skeleton-script, it is the desire of the cast and creator of

the VR experience that the hero will choose a course of action that would contribute positively to the narrative. If the hero makes choices that are irrelevant to the story world or the plot, his/her choices will break the immersion for all involved. The desired narrative plot points are dependent on the VIP ‘playing along’ and fulfilling his/her role in the skeleton script. The VIP has complete freedom of actions, even though he/she will be coaxed by the actors to perform certain tasks. Authorship is placed in the hands of the hero at certain points within the narrative, but transferred back to the players soon after, if the guest player allows this, of course. This “back and forth” quality of the shared authorship of the storytelling experience in *Alien Rescue* is facilitated through improvised storytelling techniques. Keith Johnstone in *Impro for Storytellers* states that “storytelling is frightening (and exhilarating), because it involves a journey into the unknown” (1999:75). Even though the player is urged to ‘play along’, the possibility still exists that the VIP will ‘break’ the narrative and not go along with the prescribed (authored) plot moment, and this is also what creates enjoyment and suspense for all involved. This unknown aspect of the experience is also what may convince VIPs to return again to do the VR performance.



Figure 16: *Alien Rescue* director Jason Moore and an actor in rehearsal at the virtual bar, embodying avatars and accompanied by two Eyebots. August 2020

Certain aspects of the narrative VR experience remain constant, providing an unchangeable foundation for the narrative to build upon. These aspects are the different environments the players find themselves in as they move through the experience, the lighting and music cues, and the avatars of the characters in the show. All of these world-building elements were designed and constructed long before any hero was allowed to experience the narrative. Authorship of these storytelling elements thus lie squarely in the hands of the story creators. They remain fixed and unchangeable, regardless of any choices suggested or executed by the hero and cast. Even though these aspects of story creation are vital to the narrative, the improvisational aspect of *Alien Rescue*, makes it a truly unique experience, as this is what drives the shared storytelling experience and contested authorship.

In *Alien Rescue* (Moore, 2019a) the actors and the VIP-player are invited to gather at a virtual bar before transporting themselves to the location where the fictional story will take place. The participants thus interact with and travel between different digital locations through the use of their hardware controllers and clickable digital gateways, which are visible to them through their head-mounted displays. This method of transportation is done as a group by all participants, enhancing the sense of a shared experience. Referring back to Ryan's dichotomies of interactivity, this virtual experience displays internal-ontological interactivity. The user plays the role of an individual member of the world, and can affect lasting change within or to that world. The narrative is being enacted rather than being represented by past events. The actions of the VIP player are central to the plot as the guest player's choices dictate the narrative direction the plot will follow.

An instructional note to the actors is included in the rehearsal script for *Alien Rescue*:

As you read, consider yourself the VIP, make decisions as you like (when prompted) and follow those instructions, like a choose-your-own-adventure. But please know that while we have several pre-written story arcs and endings, we embrace the unpredictability of the VIP and hope they will contribute new story arcs and new endings we have not yet thought of. (Insana, 2019)

This unpredictability of human reactions fits perfectly with the nature of theatre improvisation. Improvisation builds in affordances for unique player perspectives and unknown outcomes. Each hero will contribute unique interpretations of the situations presented to him/her.

Riggs refers to building blocks as story-units in a narrative that are individually understood by each viewer/player. Riggs states that "each building block should be considered separately and individually relative to the actions of the person in the experience, rather than part of a prescribed linear narrative. This accommodates agency" (2019:122-3). She believes that a story

is constructed at a personal level for each person who derives a unique meaning from how he/she constructs the narrative out of these blocks.

The interpretation of each moment in the VR narrative will thus be unique to each participant in that narrative. This is not a unique quality, as the reading of any traditional text provides the same opportunities and reactions. However, when the consumer of a narrative is also provided with the power to affect the story, his/her unique choices (and the individuated motivation behind those choices) become important to the creators of VR experiences.

As individuals we have different frames of reference, and this knowledge influences how we respond to stimuli in the world. Jacques LeCoq, a French professor in Physical Theatre, Mime and play, states that for a human “to react [to a situation] is to throw into relief suggestions coming from the external world. The interior world [of the individual] is revealed through a process of reaction to the provocations of the outside world” (LeCoq, 2000:30). An individual’s reaction to a stimulus in the real world provides a window into the inner world of that individual. The reaction reveals a little about how that person perceives themselves and their attitude towards the world. It may be assumed that this awareness and attitude towards life can be transferred to a digital world too, especially if the virtual world seem to share similarities with the real one. Each participant’s perception and attitude towards his/her real world will thus influence how he/she responds to a virtual environment and actions created by characters in that environment.

This unique quality that each hero brings to the (partly-improvised) narrative creates a vehicle for a unique storytelling experience each time the VR narrative is performed. The choices of the hero and his/her reactions to the players and the situations they find themselves in, will remain

unpredicted and influenced by the personality of the guest player. This allows for nuanced interpretations of situations in the experience and unpredictable narrative/plot outcomes. It also underpins the unpredictable nature of improvised theatre, which can fuel the enjoyment of the successful storytelling experience for all involved.

The improv-actor must be ready for any outcome, just as in our everyday lives, which remain largely unscripted. The immediate and ‘real’ reaction to events most definitely creates immersion and a great sense of agency. According to Johnstone (1999), improvised theatre has its origins in ancient oral storytelling traditions where the narrative is guided by one orator, but supported by all the listeners. Improvised theatre also draws inspiration from staged professional wrestling, where audience participation forms a crucial part of the performance. The decision to use the genre of improvised theatre as the basis for narrative creation in *Alien Rescue* is a strong one, as it also opens up many different possibilities for interaction between the players and the VR environment. It provides the opportunity for all the participants to experience agency in its truest sense, as the actions of the guest player is undefined and fairly unpredictable.

Regardless of where authorship lies, for the narrative to be successful all parties must agree on and, through their actions, prove that they are complicit to an enjoyable experience and outcome of the tale. This can be accomplished more easily if all participants trust in each other’s abilities and/or willingness to suspend their disbelief and submerge themselves entirely in the reality of the VR experience. In *Alien Rescue* the VIP is forced to choose sides aligning either with a character who is an animal right’s activist or with a character who participates in the same series of action, but only for financial gain (he plans to steal some of the rare species they have been entrusted to save). Whichever option the VIP chooses, the guest may experience a sense of acceptance or trust between him-/herself and his/her chosen partner. Zak discovered that “the

neurochemical oxytocin is synthesized in the human brain when one is trusted and that the molecule motivates reciprocation [...] If you treat me well, in most cases my brain will synthesize oxytocin and this will motivate me to treat you well in return” (2015:2). The reciprocation of trust assists in emphasizing the complicity of all the players in the experience (the actors and the VIP) and may heighten the overall enjoyment of the moment. At this moment in the plot, all the characters are embodying the same virtual space and are virtually in close proximity. This level of cohesion between all players harks back to the essence of traditional theatre: each moment of the show is unique, unrepeatable and is reliant on the complete involvement and immersion of each player, in each moment of the play. The sense of immediacy that theatre productions instil depends on the hope that the players on stage are completely immersed and have all suspended their disbelief. *Alien Rescue*’s choice of enlisting a theatre technique to evoke agency is a strong creative choice made during the writing-creating stage of this project.

The skeleton script exists as a guide for all players involved, it outlines the most successful plot paths to take that will guarantee that the story is told. The guest player is not privy to the information in the script and can exert his/her free will to go against the actions which the actors (who are cognizant of the contents of the script) suggest should be taken. Any choices made by the guest player must be responded to by the professional actors in such a way as to be in line with the ‘rules’ of the narrative world. The level of commitment from all participants provides a stronger sense of immersion for everyone involved.

For the VIP player every new choice to be made and introduction to new characters are emotional charged, as these scenarios and interactions are very akin to real life situations and characters (even though the narrative has a science fiction setting, the themes explored and

personal interactions are very familiar). As an improvised performance the players act and react to each other in the moment, which generates instant emotions and emotional feedback. It is the bedrock on which theatre improvisation is founded upon. Players continually act and then react to the reaction of their fellow player, *ad infinitum*.

Grabbing the user's attention at an emotional level, is the strongest, surest method of keeping their interest and enhancing player immersion. Murray states that enactment within a virtual story-environment can provide an emotional and/or psychological transformation for the participant as "we assimilate them [VR moments] as personal experience" (2017:212). She elaborates that storytelling is a vehicle for personal transformation and that physical enactment in those stories can heighten and enhance the personal development of the participant. The narrative of *Alien Rescue* provides ample opportunities for shooting at enemies, finding clues and interacting with objects necessary for the team's survival, but the script also attempts to delve into more emotional territory. Choosing to discuss subject matter that may, potentially, elicit strong emotional responses from the guest player, is an attempt by the creators of the VR experience to guarantee engagement from the guest player. In the following extracts the VIP is asked to give his/her opinion regarding medical experimentation on animals (in this case defenceless alien creatures) and also whether blindly fighting for a righteous cause is the morally superior choice to one that is more self-serving:⁵

Z
You disgust me.

BAXTER
It might not be pretty but

⁵ The quoted text is laid out as in the original.

biological testing on aliens have saved millions of lives. The scientific community largely backs it, and the Galactic Health Organization has sanctioned and monitored it.

Z

These are living creatures, and no amount of medical progress can justify torturing and murdering any living being.

BAXTER

In a perfect world, maybe. But life isn't perfect: it's messy, it's dangerous, and it's us versus them. When I was a little kid I picked up a bad viral infection from working in the Gorn Swamps. In bed, sweating and puking for months. Only thing that saved me was antivirals and we all know antiV's were tested on creatures like that Tu'Vathi back there.

Z

What do you think, [VIP Name]?

The VIP contributes to the conversation. They must clearly choose a side, pro- or anti-. Z and Baxter will improvise a short debate with the VIP. (Insana, 2109:20)

And

Z

[VIP Name], be honest with me. Are we doing the right thing or is this all a giant mistake?

The VIP responds.

Z (CONT'D)

I don't know how this all happened. Cello and I planned everything out

do diligently. I was naive. Cocky.
Stupid. And it cost the life of the
one person I care about. Is his
death my fault?

The VIP responds. Z nods slowly at the response.

Z (CONT'D)

And the worst thing is, even if we
free the Zibanejor - and that's
looking like a mighty big if at
this point - this war won't stop.
So we stopped the development of
one weapon at one facility. How
many more secret operations does
each side have? What difference are
we actually making? (Insana, 2019:45)

In both instances the VIP is free to give his/her personal opinion on the matter which the actors then skilfully debate on and weave into the narrative. Even though the VIP is tasked with playing a fictive character, the script allows for the personal (and possibly emotionally charged) views of the VIP to surface and become part of the narrative. This provides a strong sense of agency and immersion for the guest player as he/she is most likely expression an opinion he/she holds in real life. Transferring your moral and ethical points of view held in real life to a virtual world provides for a believable sense of presence and belief in the reality of the fictive world.



Figure 17: Emotionally fuelled scene in *Alien Rescue*. August 2020

Viewing an emotionally fuelled debate between parties with opposing points of view can be engaging to an outside observer too. The Eyebots are tiny avatar robots embodied by humans who choose to experience the live action events in VR but from the point of view of observers only. During the above discussion these witnesses may also experience emotional reactions towards the topic under discussion while swarming around the characters who are debating the issue. The VR script makes no attempt to include these beings in the action, they are merely observers. That does not mean that the humans embodying them are not becoming emotionally involved in the discussion. The opposite can also hold true, viewers of the debate may follow the logic of that debate and pass judgement on it without ever becoming passionate about the subject matter themselves.

Ryan (2015) says there needs to be a distinction between represented emotions and those felt by an audience. The viewer can understand and identify with the plight of a character, without

feeling the emotion themselves. She distinguishes between three types of emotions conducive to immersion that are present in *Alien Rescue* (Moore, 2019a) leading to a deep sense of immersion and engagement for all the participants.

Subjective reactions towards characters (such as liking or disliking them) involve “distanced evaluation rather than identification with the characters” (Ryan, 2015:108). This type of emotion could be elicited by the Eyebots during the debate above or at any point during the VR experience. When the VIP is confronted with the choice to either align with the protagonist or the antagonist, his/her decision will most probably be (subjectively) influenced by whether the VIP likes or dislikes one of the two characters more. As human beings in general we all possess the ability to instantly approve or disapprove of someone simply through the way they speak or conduct themselves. Thus, subjective reactions will be experienced by the guest player towards the professional actors and vice versa. The guest player’s performance and level of engagement may be influenced by these emotions. The actors, being professionally trained in improvisation that accommodates various “types” of personalities, should not be affected by this.

Ryan further states that empathetic emotions are “felt not for oneself but for others” (2015:108) which is usually manifested as either sad or happy for a character (even though the exact emotion may be more nuanced i.e. apprehension, grief, relief, etc). There is a moment in the VR experience where one of the characters, Cello, gets badly injured by an antagonistic creature. His cries for help cause his team mate, Z, to risk her life to save him. An empathetic moment may occur for the VIP when it is revealed that the now deceased character Cello and Z were romantically involved (Insana, 2019).

Z
I’m finishing what we started.

Cello died for this. And I'm the one that convinced him to do it.

BAXTER

So what? You didn't force him.

Z is silent.

BAXTER (CONT'D)

You two were-

Z

Yeah.

BAXTER

I didn't know.

Z

He did this for me. He told me he'd do anything for me (Insana, 2019:42).

Such dramatic moments are written into the script and convincingly portrayed by the actors. The guest player who is witnessing this action in real-time in the VR experience may become swept up in the emotional climax him-/herself because of the empathy he/she feels towards those characters. Being privy to such an emotionally laden moment in the experience while physically present in the same scene provides for great engagement and a deep sense of immersion.

This exchange of meaning and emotional influence should, in theory, provide ample opportunity for immersion for all involved. Yet, in comparison, the Eyebots are simply ignored by all the players and have no impact on the narrative. For this VR experience audience participation falls into two categories: one can either choose to be a VIP who embodies one of the characters in the play or view the action as an unobtrusive observer in the form of a tiny robot avatar which can fly around unencumbered but has no physical bearing on the scene being played out.

Murray describes a live-action theatre game and suggests “that plot satisfaction in an interactive environment is very different from plot satisfaction in an audience situation” (2017:248). The plot may unravel slower and appear less interesting from the outside but may be profound to the interactor. She likens it to playing chess, where very little action may be seen to happen from the outside, but a huge amount of mental labour is taking place with high-stakes consequences for any action. My experience of being an Eyebot in *Alien Rescue*, has strong parallels to Murray’s observation.

As an Eyebot the viewer is ‘reduced’ to experience only subjective reactions and empathetic emotions for the characters and the situations they find themselves in. As an omniscient observer there is less sense of urgency to move the plot along in order to relieve tension or reveal some clue, as there is while one embodies the VIP. Embodying this type of character in *Alien Rescue* is a significantly less engaging experience for the Eyebot as he/she cannot affect the VR world. It may become a frustrating or unpleasant if the person embodying the Eyebot does not agree with the actions of the VIP player, but is nevertheless ‘forced’ to observe the consequences of the VIP’s choices. Johnstone mentions that “the spectators create a ‘shadow story’ that exists alongside the improvisers’ story. Storytelling goes well when there’s a close match between the players’ stories and the spectators’ shadow stories” (1999:79). Thus, it may be assumed that the spectators embodying Eyebots will create their own preferred version of the story and mentally make choices on behalf of the VIP as they will imagine placing themselves in the position of the VIP. Whether the spectators enjoy the way the narrative evolves in the VR experience or not, becomes part of the enjoyment and risk that the spectator takes in consuming the narrative through the point of view of an omniscient observer only. This possible unspoken dynamic and frustration between action-taking participants and observers only, can be extended to the

dynamic between the professional players, the writer and the director of the VR experience and the VIP player who can exert his/her free will. When the VIP's actions go against the intentions of the professional ensemble of the VR experience, authorship becomes contested and this may lead to frustration for the initial creators of the narrative.

In *Alien Rescue*, all parties are complicit in the VR experience which they perform together as a unit. All the actors and the VIP have the ability to affect the narrative or create variations in the partly predefined story. The VIP plays a vital role as a member of the story world where his/her interactivity with the VR environment and characters lead to real-time story generation. This absolute freedom to affect the narrative is both dangerous (from the POV of the writers, as the whole narrative could collapse and the 'story' may not be told) and exciting (from the POV of the VIP player, as he/she is creating their own version of the tale). This balance between allowing risk-taking while unobtrusively manipulating the narrative towards desired plot points is what the emerging field of VR narrative storytelling is focusing on. Storytelling in VR is currently experimenting with the boundaries that this balance imposes and limitations inherent within it: give the VIP too much freedom to make decisions and the story risks becoming mundane, with the execution of uninteresting choices initiated by the VIP. The initial story may also not be told at all, as the actions and choices of the VIP pulls the narrative towards a different conclusion or nonsensical endings. Providing such absolute agency may be of short-term enjoyment for the VIP but it may not lead to a rich storytelling experience for all involved. Yet, on the other hand, being too rigid and constricting with the amount of freedom granted to the VIP, could result in a less immersive experience as the VIP may feel that he/she is reduced to a non-active observer again.



Figure 18: Eyebots and some of the cast of *Alien Rescue* viewing their avatars in a virtual mirror inside the NeosVR platform. August 2020

The VIP player should be granted both presence and agency, he/she should be acknowledged by the fellow characters and encouraged to interact with them. In fact, it is scripted into the skeletal plot that the VIP must be encouraged to lead the action at a certain point, which builds towards the climax of the story. This is done to ensure that the paying customer feels like he/she is the central character, the hero/ine, of the story and that he/she gets as rich an experience as possible by feeling completely immersed in and in control of the situation. The strength of *Alien Rescue*'s narrative relies on providing a balanced amount of storytelling responsibility to all its participants. Authorship is only partly taken out of the hands of the initial creators of the VR project. The function of the skeleton-script is to provide a guideline which, when followed, will ensure that the narrative unfolds in an understandable, yet dramatic manner and ends with a conclusion of events. Built within this script are numerous opportunities for the VIP to make

changes to the narrative and to change the course of action which the team takes, including the final ending of the play. The balance remains in flux as the VIP may choose the more interesting path of action (according to him/her) or just the quickest, most obvious solution. There is a paradox here with giving the player so much autonomy. Ryan states that “life is lived looking forwards, but is told looking backwards” (2015:182). When we face a problem in real life, we usually search for the quickest, most effective solution. When authors create conflict, they do not want the quickest resolution, rather they seek action and choices from their characters which will deliver interesting plot twists, not quick resolutions. Through my research of actively being part of the VR experience, I have observed that guest players mostly tried to take the most obvious path, he/she usually tries to solve the problems using the most direct route or most obvious solution. The professional actors, knowing that there are other, more dramatic choices to be made, try their best to steer the VIP towards those choices by making these options clear to the guest player. If the VIP chooses to ignore these suggestions and insist on executing their own choices, the narrative can become less dramatic, as some of the more interesting, nuanced plot options are skipped. Yet in an attempt to keep the guest player as immersed as possible within the experience, the choices in plot direction must be allowed.



Figure 19: Early rehearsals of *Alien Rescue* with actors using scripts. August 2020

Authorship of The MetaMovie Project experiences thus becomes highly contested. Ryan makes her position clear regarding where she stands on the topic of combining user-freedom with narratology in the digital domain (she refers mostly to narratives in computer games): "The systems must be *authored*, and users should respond to affordances built into the virtual world and programmed into the system, rather than being entirely responsible for constructing the story" (2015:183). She reasons that most people prefer to watch and read plays and novels, rather than to write and create these experiences themselves. The vast majority of consumers of entertainment would still choose to have a more passive involvement in the storytelling experience. It thus makes sense that the experience must have a dedicated initial author (the director of the VR experience) who engineers these moments of interactivity into the plot points, which the guest player then engages with. These moments should be brief, though, in order to allow the professional actors to steer the narrative time and again.

Similar to Ryan, Murray states that “there is a distinction between playing a creative role within an authored environment and having authorship of the environment itself” (2017:187-188). She believes that the ability to create within the system is not authorship but agency. She further states that agency can be enhanced by emotional investment in the story, instilling an emotional motivation in the interactor to solve a puzzle, or to find out the truth of what happened in a scene. In *Alien Rescue*, the guest does share authorship in the digital environment, but he/she definitely does not have authorship over the environment itself. For example, the guest player is asked to tell a joke (to an A.I who controls a door lock) that results in an escape route’s opening up. At a different point in the narrative, the VIP is encouraged to seek out a control panel with the hope that he/she will interact with it which results in a series of fans being switched off, easing the party’s journey along their route. These opportunities for interaction were crafted by the author and director of the VR experience. Through deliberate construction of digital worlds and interactive tools built into those worlds, the opportunity is created for the guest player to interact with tools and affect change in the world. The motivation for these actions is supported by a well-crafted narrative and emotionally-charged reasons to execute those actions. The actions are not out of sheer enjoyment, but are motivated by the characters’ goals and emotional needs, which enhances the immersive potential of the experience.

As can be witnessed here, the differences and relationships between Agency, Interaction and Empathy are difficult to establish in the new and evolving VR medium. For Murray, agency “goes beyond both participation and activity. As an aesthetic pleasure, as an experience to be savoured for its own sake, it is offered to a limited degree in traditional art forms but is more commonly available in the structured activities we call games” (2017:125). She argues that agency equals interacting in the world and affecting change. The player derives pleasure from

perceiving that his/her influence has made a difference in the virtual environment and/or narrative. Pleasure may certainly be derived from the knowledge that all players are complicit in the game as a whole and not attached to one particular outcome, but to the overall experience itself. Pleasure is also derived from the knowledge that all are complicit in the performance and playing their part while enhancing a story arc.

These simultaneous experiences of pleasure reflect on a longstanding debate in game studies which centres around ludological versus narratological approaches to storytelling in digital games. According to Bucher, ludologists insist that stories are only a subset of games and that they should not be analysed in terms of narrative. Narratologists, however, believe that games are a subset of stories and thus open to literary examination. Bucher sums up his stance on the debate by arguing that “as VR continues to progress, there should remain room for both types of creators” (2018:35-36). Narrative VR experiences are still vastly outnumbered by the amount of VR games that follow a similar pattern to earlier computer games: the goal of the game is to outwit opponents either by force or wit. The most basic example of this VR game would be the first-person shooter game where the player embodies a character that is equipped with some type of firearm and his/her/its goal is to eliminate any opposition by simply shooting them. The goal is very clear and basic with limited or no narrative component. The immersion of these games hinges on the sense of success the player feels when interacting with the enemies in the VR world by accurately targeting them with his/her VR controllers (that are transformed in to a digital weapon in the VR experience). Any storyline is simply a thin structure added to the experience with the aim to validate the character’s shooting these ‘enemies’. In contrast, the new wave of VR narrative experiences that are becoming available to consumers are heavily focused on story structure, believable characters and emotional story arch that can engage the guest of the

VR story. The aim is to engage the viewer and immerse them in the digital experience. Plot moments where physical actions with very basic goals (like kill or be killed) are limited and supported by a dense story world and believable character needs and motivations. Yet Bucher's statement that there remains space for both approaches is astute; different types of experiences will cater for different consumers.

Hence, Murray states that "the key to compelling storytelling in a participatory medium lies in scripting the interactor, the challenge for the future is to invent scripts that are formulaic enough to be easily grasped and responded to but flexible enough to capture a wider range of human behaviour than treasure hunting and troll slaughter" (2017:96). She places the responsibility for the initial construction of the interaction squarely on the shoulders of the writer of the VR experience (and by extension, the director as well). This emerging medium of storytelling in VR is generating a new approach to scriptwriting where authors must build interactive opportunities into the initial script, not just with characters and objects in the worlds, but also with divergent storylines. Writers of VR experiences must concede some grip on authorship and allow ample opportunity for user engagement through these interactions, with the hope that it will lead to agency and a more successful telling of the tale. This would require the use of a balance between narrative and game-based elements within the VR experience.

In *The Emergent Narrative Theoretical Investigation*, Ruth Aylett and Sandy Louchard lend their voices to the debate:

The [Emergent Narrative] EN seeks a character-based approach as opposed to a plot driven approach for [Interactive Storytelling] IS and the construction of systems in which users actively participate in the narrative process in a highly flexible real-time environment, where authorial activities are minimised. The development of the story is managed by both the user and embodied Intelligent Agents and depends entirely on the interactions between each other and their environment. (Aylett & Louchard, 2004:1)

Much of *Alien Rescue*'s success lies in a visual enjoyment of the digitally constructed VR world, but a deeper level of engagement is created through interaction with well-rounded characters believably enacted by professional actors. The guest's ability to improvise with other humans in real time, knowing that all parties are complicit in the dramatic fictive scenario, creates agency for all involved and a deep sense of immersion. It is salient that a symbiotic system, where both the creators of the VR experience and the guests in that experience work together to create the narrative, provides an exciting future for the craft of writing for this medium.

According to Murray, narratives have strived to limit reader-participation in the past in order to maintain reader immersion in this world (2017:126). This condition is changing with the onset of storytelling in VR. Interaction in VR worlds and with digital characters can actually enhance the believability of the experience for the player. *Alien Rescue* executes a strong creative choice in the use of branching narrative story structures.

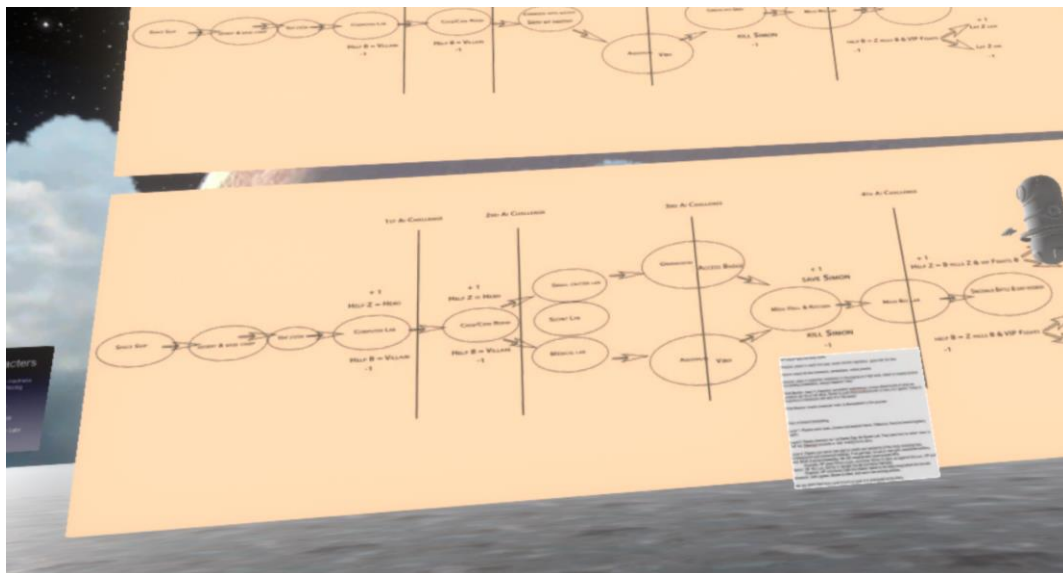


Figure 20: Director Jason Moore in rehearsal, embodied as an Eyebot, discussing the branching narrative structure of *Alien Rescue*. June 2020

Bucher defines branching narratives as follows: “the use of nonlinear story structure that allows users options that progress the story along. Options continue to be offered to users until either each option is given an ending or a series of options eventually leads to the same ending as a series of other options” (2018:311). At predefined moments in a plot, the writer constructs options for the guest; each choice leads the guest along a divergent narrative strand where the plot is slightly altered. The ending of each narrative strand could be completely different or, alternatively, the strands can merge again at some future point in the overall structure of the experience and thus lead to the same ending. This type of narrative structure is used frequently in *Alien Rescue*. The VIP experiences agency through the continual opportunity to fork in to a different narrative path than the one the acting ensemble is currently on. Numerous plot moments are worked into the script where the action is slowed down and the VIP is offered a choice of action or his/her opinion on a matter. Below are two excerpts from an *Alien Rescue* rehearsal script that indicates options that the VIP is able to consider, and that results in a branching narrative:

They exit the lab through the secret door, back into either the Small Critter Lab or the Robotics Lab, and continue on their way.

IF COMING FROM THE SMALL CRITTER LAB, PROCEED TO SCENE 13.

IF COMING FROM THE ROBOTICS LAB, PROCEED TO SCENE 14.

NOTE: there is 2nd hidden door in this room. It connects the Secret Lab to both the Small Critter Lab and the Robotics Lab. If the VIP discovers the 2nd hidden door, see Appendix 1 for improvisation and navigation notes (Insana, 2019:28).

And

Z/BAXTER

Please, let me in! Please, I’m sorry. Just open the hatch!

URSULA

What do you want me to do? I can open the air lock or keep it closed. There is a TacForce Plasma Rifle on the shelf to your right. You can use it to force them into one of the Cryo chambers on Deck B. I can sedate them until we reach our destination, where you can have them arrested (or handed over to Baxter's criminal friends).

ANY OF THE THREE ENDINGS CAN OCCUR, DEPENDING ON VIP.

IF THE VIP DECLINES TO OPEN THE AIR LOCK, PROCEED TO SCENE 29.

IF THE VIP LETS Z/BAXTER IN AND FORCES THEM TO A CRYO CHAMBER, PROCEED TO SCENE 30.

IF THE VIP LETS Z/BAXTER IN AND MURDERS THEM, PROCEED TO SCENE 31

(Insana, 2019:53).

Every time the VIP player enacts an improvised action, the narrative splits in a new direction. The different directions are controlled, however, by providing the VIP with a limited amount of options (usually two, stay or go, pick left or right door, etc.). Because all the other actors are intent on keeping the narrative on a linear track, they indulge this minor branch in the narrative, but skilfully guide the VIP back towards the plot-line they wish him/her to follow. In *Narrative as Virtual Reality 2*, Ryan examines many different narrative structures which she states are “interactive architectures that support various types of narratives or antinarratives” (2015:165). The structure which can be used most accurately to examine *Alien Rescue* is “The Flow chart” which Ryan visually demonstrates with the diagram below.

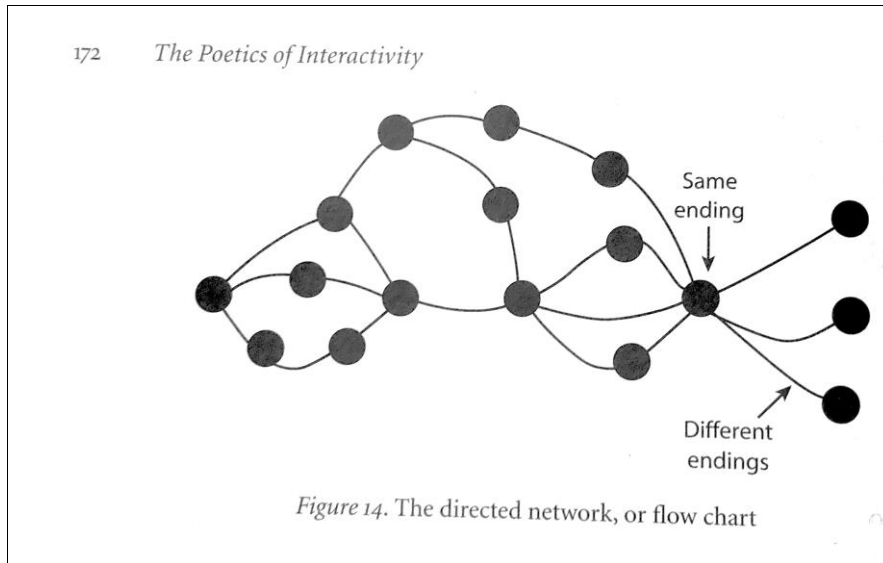


Figure 21: Image from *Narrative as Virtual Reality 2*

(Source: Ryan, 2019:172)

For Ryan, this type of structure follows a similar pattern to other branching narratives whereby it offers the player several choices throughout the narrative, all of which propel the story forward. There are no “dead ends” or choices resulting in the death of the player. What makes this structure unique is that it offers several different endings to the narrative all resulting from the same plot moment towards which the player was guided, regardless of their prior choices. In *Alien Rescue*, the VIP may choose to side with either the protagonist or the antagonist, but the VIP is still offered the choice to kill off his/her supposed alliance (Insana, 2019:53). Thus, the VIP was given the illusion of choice, really, as the various paths ultimately lead to one of three predetermined endings.

Ryan states that “one way to restore significance to the user’s decisions is to turn the text from a fully context-free to a context-sensitive transition system capable of narrative memory [...] the decisions made by the user in the past affect his choices in the future, and narrative causality

extends to nonadjacent episodes” (2015:172). Thus, by weaving into the present moment consequences from choices made by the VIP in earlier situations, give the player a strong sense of agency. This narrative causality is effectively employed in the following extracts, where the characters previous actions are reiterated, and their choices influence the current dilemma they are facing. The VIP was asked to tell a joke, which the narrative returns to and incorporates again at a later stage:

C.L.A.R.C.

I must admit, I am curious about humanoid life forms, you are very... complicated. I have observed you using (beep/whirr) ... humor... as a coping mechanism and a social tool. Fascinating. (beep/whirr). A joke. I would like to hear... An amusing anecdote. And then I'll unlock the doors.

Z, Cello, and Baxter look at each other. Then they all turn to VIP.

Z

[VIP Name], can you give it a shot?

VIP must present Clarc with anything funny. As long as it's in the general realm of what's funny-

Clarc laughs and comments on the particulars of the joke - he is trying to understand how humor works. (Insana, 2109:12-13)

This moment resurfaces again later in the narrative:

Z

But Clarc, that's why we are here.

These scientists are harming these aliens. All of them, including the Zib.

Silence.

Z (CONT'D)

Clarc?

C.L.A.R.C.

(sounding disoriented)

I rather enjoyed your joke, (VIP

name). The part about (improvises
around the VIP's joke). Haha.
Funny.

Z

Clarc! We need your help! How can
we get that badge! (Insana, 2019:30)

This type of weaving provides the VIP with a reminder that their choices mattered and changed the narrative and characters somehow. It thus enhances the sense of immersion and provides the VIP with a sense of agency.

Laura Mulvey in “Visual pleasure and narrative cinema” describes the cinematic experience for viewers as: “a hermetically sealed world which unwinds magically, indifferent to the presence of the audience, producing for them a sense of separation and playing on their voyeuristic phantasy” (1999:58). Mulvey believes that the darkness of the cinema theatre and the brilliance of light reflected on the flat screen in front of them, contributes to the separation which the viewers experience. This separation then enables voyeurism to take place, whereby the audience can identify with the characters on screen and lose themselves in the action taking place. The viewer is allowed to project their repressed desires onto the performer without having to be involved or responsible for the unfolding of events. When the limitations of the frame disappear in virtual reality, with it also disappears any semblance of safety it may have held for the viewer. For example, as already discussed, the VIP is prompted on many occasions to express his/her political and/or emotional stance on a subject. The VIP is also provided with two opportunities to take a human life which would most probably result in an emotionally charged moment for the player. The script excerpt below illustrates one of these moments.

Z

We're not murderers, we're letting

him go.

BAXTER

Hold on. Why do you have the final say?

Z

Because I'm the leader of this mission.

BAXTER

This concerns all of us and I'm not putting myself in danger. Now, as far as I see, there's one vote to kill him and one to let him walk.

(to VIP)

You're the deciding vote. What do we do?

IF THE VIP ELECTS TO KILL SIMON, PROCEED TO SCENE 17.

IF THE VIP ELECTS TO FREE SIMON, PROCEED TO SCENE 18 (Insana, 2019).

This moment in the narrative provides a deep sense of immersion for all the participants as the outcome of this moment can never be predicted. The VIP has complete free will to either shoot the character or allow him/her to live. The consequences of the VIPs actions in this scene raises ethical issues regarding the potential result of unbridled agency within VR. The portrayal of violence in cinema is commonplace to the consumers of this medium. It is to be expected and specifically sought after. Proof of this claim can be found by simply viewing the amount of action movies available for viewer consumption. Watching violence on screen while identifying with the characters portrayed may provide a strong sense of immersion. However, the viewer of cinematic and TV material is always aware that he/she is removed from the action. By occupying the same physical space in virtual reality and witnessing character actions and choices in real time, the guest participant in digital narratives can no longer claim this slight distance from the

action. The participants of VR experience presence and agency. Committing murder in VR may feel completely real.

There is no separation between the viewer and the action. The participants in a VR experience cannot hide in the shadows provided by visuals projected on a screen, as they themselves are projected into the action. They are physically there through the embodiment of their avatars who can react to each other in real time. No desires are projected onto a character the viewer identifies with because the viewer literally becomes the character. Choices made and actions taken in virtual reality thus carries consequences that become instantly recognisable and need to be dealt with by the participants in the experience. These experiences can be interpreted as agency in its purest form, as there seem to be no separation from real life experience of the same situation.

The VIP player has both presence and agency, as you are acknowledged by the fellow characters and encouraged to interact with them. In fact, it is scripted into the skeletal plot that the VIP must be encouraged to lead the action at a certain point, which builds towards the climax of the story. This is done to ensure that the paying customer feels like he/she is the central character, the hero, of the story and that he/she gets as rich an experience as possible by feeling completely immersed in and in control of the situation.

The level of immersion could become complete for the VIP (and for the other players too, even though they are tasked with continually attempting to keep the narrative ‘on track’, which would disperse their immersion somewhat) if the person embodying the role of the VIP finds the world and its characters convincing. The level of interactivity for the VIP would depend on his/her ability and willingness to respond to actions done and suggestions presented by the other players.

An individual's ability to respond to impulses in an improvised scenario are akin to his/her ability to do so in real life. Thus, interactivity levels would be highly individualised and unpredictable.

As this new medium of storytelling evolves, changes and continue to challenge traditional methods of creating and consuming stories, writers will need to “grow accustomed to combining participation with immersion, agency with story, and to perceiving the patterns in a kaleidoscopic fictional world” (Murray 2017:347). Whether we, as interactors of the VR experience, are ready for the responsibility of authoring stories, is a different matter.

The investigation of this text has highlighted that immersion is greatly enhanced by the existence of agency. Providing myriad possibilities for interaction with the digital environment while physically moving through that environment as an ensemble of players (who are all complicit in the storytelling experience) can provide an unparalleled sense of immersion and agency. Coupled with this new form of storytelling comes the responsibility for that story creation, where authorship is shared and passed between the story creators and the first-time participant of the VR experience. Sharing the responsibility for writing a “successful” narrative in VR throws into relief what exactly storytelling in VR wants to become, what should be deemed as “successful” storytelling in VR. If all the participants in the digital environment immersed themselves completely in that world, “played well” together to share the responsibility for creating a few believable scenes in the VR experience (via responding to all the interactive possibilities available in those scenes, that in turn heightened their sense of agency) then the storytelling attempt could be deemed successful, even though the initial plotline wasn't followed or all the plot-points met. The story still “works” and was enjoyable to all even though the initial creator's intentions with the narrative wasn't executed successfully at all times.

Writers and players are indeed in uncharted territory, carving out a new way of authoring narrative VR stories together.

The enjoyment in consuming VR narratives passively, as with *The Great C*, still holds value to the writers of these experiences and their audience, as the potential of expanding on traditional filmmaking techniques in VR still holds much potential. The enjoyment of these types of VR experiences relies heavily on the immersive qualities that these techniques afford. Giving the consumer of VR experiences limited interactivity that encourages engagement with the plot but still firmly controls the narrative experience, makes *Halcyon* an example of a virtual narrative that provides a balanced amount of immersion and interactivity. It is still obvious to the viewer-interactor that these types of narratives provide no real sense of authorship, the interactivity present functions to heighten the overall enjoyment of the user and serves as an invitation to engage with the medium. But the outcome of the tale is always predefined and remains the same, no amount of interactivity will change that. The writers of VR experiences such as *Alien Rescue*, where a shared storytelling experience is encouraged, are paving the way for a new form of narrative construction and consumption that will see a much closer relationship between the writer and consumer of stories. A careful balance is being crafted, not only between immersion and interactivity, but also including presence and a true sense of agency for the guest player, which allows for authorship to become a delicate dialogue between the creator and other participants of the VR experience. I believe that, in time, VR consumers will become masterful in creating narratives that are pleasing to them, but I do believe that the artistic responsibility will again find itself in the hands of the writers, once the ‘novelty’ of authorship has worn off and the responsibility of creating drama remains.

Conclusion

The free will of a VR participant is bringing into question who controls the narrative. With the ever-growing use of branching narratives within the digital storytelling industry, coupled with the user's freedom of expression within the VR space, there is a clear indication that authorship may indeed become contested and warrants thorough investigation and experimentation.

Traditionally, the plot and pacing of the narrative would be responsible for keeping the reader hooked on the tale. In cinema and TV, editing choices would place the telling of the tale firmly in the hands of the editor. Stage plays contain clear descriptions of the entrance and exit of actors, the placement of props and décor, and the use of lighting and sounds cues. With the advent of storytelling within VR, creators of these digital experiences are still attempting to use these forms of external manipulation in order to guide the user towards the point of interest. In many VR experiences, the user has complete freedom to ignore any indicators and look or move around within the virtual environment.

Throughout the ages new forms of media have always been built on top of the foundations of older forms of communication. The printing press replaced hand-written media but retained a similar format. The seemingly uniqueness of radio ushered in the moving picture, which introduced animated films to viewers, which in turn, resulted in the creation of computer games. These methods of communication all contained similar forms of content: news, documentaries and stories that all follow familiar structures that listeners and viewers are familiar with. A seemingly novel way of conveying meaning usually exists alongside older mediums of storytelling, without immediately replacing the older medium immediately. The addition of

visuals did not cause radio to become obsolete, but rather provided new tools for storytelling that has been unavailable to writers up until that point. Animation provided an acceptable new way for abstract representation that was far more difficult to achieve with traditional cinema. Computer games created a new mass media consumer in the form of the gamer, the individual who prefers the gamification aspect of the experience over the narrative one.

Strictly adhering to the rules and conventions of an older form of storytelling would inhibit the growth and potential of the new medium. Riggs (2019) states that the current language used to define and describe the aspects of storytelling in VR products are borrowed from established storytelling industries (such as film, TV and theatre) and that these terms are restrictive in nature and inhibiting the growth and understanding of new forms of meaning making. She suggests using labels like “square” versus “sphere when describing the environment in which the narrative is constructed. “The Square approach tells a story within a boundary; the Sphere approach creates an experience within an environment” (2019:139-140). Riggs’s approach juxtaposes the following concepts: the frame versus the sphere, a director of a predefined script versus the creator of an experience, the consumer of the product being called an audience/user versus a guest, an auteur in full control of the narrative versus the presence of agency where authorship can be contested, an audio-visual versus a psychological experience and a linear experience versus a dynamic one. She suggests moving away from *story telling* to *story experiencing* (2019:139-140).

Transferring tools from filmmaking to VR is not that effective in servicing the new medium. Creators of VR experiences are still treating the sphere like a frame and expecting viewers to focus their attention in a desired direction, similar to how a cinematic director ensures the point of view through his/her editing choices. However, the ability to execute free will within this

medium of storytelling is detracting from the director's authorial control. As the guest of a VR experience can execute a certain amount of freedom and turn his/her gaze anywhere, new methods of viewer manipulation need to be employed and made available to the creators of VR experiences. Attempts at manipulating the focus of users in VR include using sound cues, voice over narrated instructions for actions to be executed, embodied camera angles, amongst others. But these techniques are still rooted in cinematic traditions.

The suggestion of looking at the form which contains the narrative as being a sphere rather than a frame is very useful. It opens up a new way of reviewing the placement of action and world-building: with the concept of a frame restricting and dictating what is in view for the audience, it has always been understood that there must be a world which exists outside of the frame, the world which is currently not in shot and thus unseen by the viewer. With the use of the sphere, this unseen part of the environment can be offered to the VR user for exploration. There is no "hidden" world which needs to be suggested through dialogue or described through narrative, the world is immediately available for the user to experience at will. Without this ability to reveal new environments and actions by reframing or cutting to a new (framed) scene, story writers will need to come up with new, unique means of manipulating the viewer's experience of the VR narrative. Whatever these new authorial tools may be, they will need to be in service of creating a balance between the immersive and interactive qualities of the experience, in order to create the best storytelling vehicle possible.

The creators of narrative VR experiences are currently attempting to walk a tightrope between the dichotomies. As I have shown in this dissertation, immersion and interactivity are, in varying degrees, present in all the texts under investigation. Many of the scripts created for VR experiences are still reliant on the VR-creator's skill in manipulating the player's experience

through traditional techniques of world and character creation, as well as plot and action. Writers of VR experiences are currently still trying to control the user's experience to a certain extent. *The Great C* (Secret Location, 2018) is a perfect example of VR creators sticking to traditional cinematic forms of storytelling while *Halcyon* (Secret Location, 2016) attempts a hybrid-experience with one foot in traditional television and the other nestled in VR technology. In both these narrative VR experiences the final outcome of the story is predefined and cannot be altered by the player. For both texts the player has a huge amount of freedom to navigate the world of the tale, but the unravelling of the plot is in firm control of the writers. *Alien Rescue* (Moore, 2019a) provides fertile ground for exploring the user as author, because it provides many opportunities for story creation in the hands of the player.

As it is an improvised performance, all the players feed off each other's reactions and choose their next action accordingly. Improvisation could be a way of facilitating that experience, allowing the writer/director to exert an amount of control over the participant in order to guide him/her through the VR experience, without resorting to forced POV changes (via editing cuts, the use of sound effects to capture and manipulate viewer attention). The motivation for the guest player to participate in the production, may be the almost complete freedom to do as they please, knowing that their actions will affect a change in the story. I say "almost complete freedom", because the guest is still aware that he/she has willingly entered a game where there are rules that must be followed. Failure to abide by these rules will mean that the experience may not be as believable as the company intended it to be. Stepping into the shoes of another character and experiencing a day in the life of that character and the virtual world the plot takes place in, is the whole point of the experience. Thus, willingly breaking the rules would work against this intention of all involved.

Providing and expecting this level of agency in narrative VR experiences may seem to be a solution for creating that perfect balance between immersion and interactivity. However, expecting a level of shared storytelling experience that draws on all the complexities of real life might suggest that participants of such VR experiences will be expected to display a level of social knowledge and cultural sensitivity which is hitherto not a requirement for the enjoyment of narrative VR.

If authorship is continually in flux, where ownership is shifting between the VR creator and the participant(s) inside that experience, then a sense of respect and knowledgeable prediction of consequences would need to be instilled or developed by these new storytellers. An awareness of cause and effect and a sense of atonement for choices and actions that contribute and/or distract from the narrative being created would need to be agreed upon and shared by all involved.

Currently, my sense is that this level of responsibility and maturity is present in the average consumer of VR experiences. This does not mean that participants and creators of VR experiences will not develop with the growth in the complexity of these shared narrative VR experiences. Currently, a sense of escapism is what most users of VR experiences are looking for. One could argue that this need to be submerged in fiction that displaces the participant to a world far removed from his/her conditions in real life, mirrors what one of the primary functions of the early novels were (and still are, today).

The need for fantasy and imaginative explorations of fictive situations and worlds, seem to be part of the human condition, ever present and needed. But if the option to take responsibility for the scripting of these flights of fancy are placed in the hands of untrained writers, what will be the quality of that experience? Will the general public excel at the opportunity to contribute to

such flights of fancy or rather prefer to still be more passive observers and leave the writing to the authors? Time will indeed tell.

References

Primary Sources

Dick, P. 1987. The Great C. In: *Beyond Lies the Wub – The Collected Stories of Philip K. Dick*.

Vol. 1. (pp. 309-320). London: St Edmundsbury Press.

Insana, C. 2019. *Alien Rescue*. Rehearsal script. Version 5.1. Unpublished.

Moore, J. 2019a. *Alien Rescue*. The MetaMovie Project. Virtual Reality experience. [online]

Available at: <https://www.theMetaMovie.com/> [Accessed: 2 October 2020].

Ryan, M. 2015. *Narrative as Virtual Reality 2*. Baltimore, MD: Johns Hopkins University Press.

Secret Location. 2016. *Halcyon*. Internet-VR hybrid experience. [online] Available at:

<http://halcyonvr.com/#page-2> [Accessed: 2 October 2020].

Secret Location. 2018. *The Great C*. VR experience. [online] Available at:

https://store.steampowered.com/app/841460/The_Great_C/ [Accessed: 2 October 2020].

Secondary Sources

Adair, G. 2002. *Alfred Hitchcock: Filming our Fears*. New York, NY: Oxford University Press.

Aylett, R. & Louchard, S. 2004. *The Emergent Narrative Theoretical Investigation*. [online]

Available at: <https://pdfs.semanticscholar.org/e7b4/>

[edd81e6c20215dab720f723ab48abfd2c977.pdf](https://pdfs.semanticscholar.org/e7b4/edd81e6c20215dab720f723ab48abfd2c977.pdf) [Accessed: 30 March 2019].

Bell, V. 2010. Don't touch that dial! [online] Available at <https://slate.com/technology/2010/02/a-history-of-media-technology-scares-from-the-printing-press-to-facebook.html>

[Accessed: 25 September 2020].

Berns, G., Blaine, K., Prietula, M.J. & Pye, B.E. 2013. Short- and long-term effects of a novel on connectivity in the brain, *Brain Connectivity*, 3(11), 590-600. doi:

<http://doi.org/10.1089/brain.2013.0166>

Booker, C. 2004. *The Seven Basic Plots – Why We Tell Stories*. London: Continuum.

Bordwell, D. & Thompson, K. 2008. *Film Art: An Introduction*. 8th ed. New York, NY: McGraw-Hill.

Bucher, J. 2018. *Storytelling for Virtual Reality*. New York, NY: Routledge.

Čapek, K. 1923. *R.U.R. (Rossum's Universal Robots) A Fantastic Melodrama in Three Acts and an Epilogue*. New York, NY: Samuel French.

Chandler, C. 2005. *It's Only a Movie – Alfred Hitchcock, a Personal Biography*. New York, NY: Simon & Schuster.

Cole, L.B. 1953. *Cosmos Science Fiction and Fantasy Magazine*. Boca Raton, FL: Star Publications.

Dancyger, K. 2011. *The Technique of Film and Video Editing*. 5th ed. Oxford: Focal.

De Wildt, L, Aupers, S, Krassen, C & Coanda, I. 2018. 'Things Greater than Thou': Post-Apocalyptic Religion in Games. *Religions*, 9(6), 169.

doi: <https://doi.org/10.3390/rel9060169>

- Feldman, E.B. 1981. *Varieties of visual experience*. 2nd ed. New York, NY: Harry N. Abrams.
- Freytag, G. 1900. *Freytag's Technique of the Drama*. 3rd ed. Edited by E.J. MacEwan. Chicago, IL: Scott, Foresman and Co.
- Gaut, B. 2010. Empathy and identification in cinema. *Midwest Studies in Philosophy*, 34(1),136-157. doi: <https://doi.org/10.1111/j.1475-4975.2010.00211.x>
- Harvard Business Review*. 2003. Technology and human vulnerability. [online] Available at: <https://hbr.org/2003/09/technology-and-human-vulnerability> [Accessed: 12 September 2020].
- Hayes, G. 2016. *Romancing the Beat*. Woodland Hills, CA: FWS Media.
- Hayles, N.K. 1999. *How We Became Post-Human – Virtual Bodies in Cybernetics Literature and Informatics*. Chicago, IL: University of Chicago Press.
- Hitchcock, A (Director). 1963. *The Birds*. Universal Pictures.
- Johnston, J. 2008. Abstract machines and new social spaces. *Information, Communication & Society*, 11(6), 749-764.
- Johnstone, K. 1999. *Impro for Storytellers – Theatre Sports and the Art of Making Things Happen*. London: Faber and Faber.
- Kearney, R. 2007. Narrating pain: the power of catharsis. *Paragraph*. 30(1), 51-66.

- Kee, T. 2018. *Thrive Global. This is Your Brain on VR ... The Neuroscientist's Perspective*.
[online] Available at: <https://thriveglobal.com/stories/this-is-your-brain-on-vr-the-neuroscientist-s-perspective/> [Accessed: 14 August 2019].
- Lanier, J. 2017. *The Dawn of the New Everything*. London: Penguin.
- LeCoq, J. 2000. *The Moving Body - Teaching Creative Theatre*. Trans. D. Bradby. London: Methuen.
- Lovett, R. 2018. *The Structure of Romance*. [online] Available at: <https://diymfa.com/writing/structure-romance-writing> [Accessed: 3 October 2020].
- Mariančík, T. 2020. *NeosVR*. Virtual Reality platform. [online] Available at: <https://neosvr.com/> [Accessed: 3 October 2020].
- Mason, B. 2017. Virtual Reality has a motion sickness problem. [online] Available at: <https://www.sciencenews.org/article/virtual-reality-has-motion-sickness-problem> [Accessed: 30 March 2019].
- Moore, J. 2019b. In-person interview done by author. 2 July 2019. New York, NY.
- Mulvey, L. 1999. Visual pleasure and narrative cinema. In: Thornham, S. (ed.), *Feminist Film Theory. A Reader* (pp. 58-69). New York, NY: New York University Press.
- Murch, W. 1995. *In the Blink of an Eye*. 2nd ed. West Hollywood, CA: Silman-James.
- Murray, J.H. 2017. *Hamlet on the Holodeck. The Future of Narrative in Cyberspace*. Cambridge, MA: MIT Press.

- Rabiger, M. 2008. *Directing – Film Techniques and Aesthetics*. 4th ed. Oxford: Focal.
- Ramirez, E. 2018. It's dangerous to think virtual reality is an empathy machine. [online]
Available at: <https://aeon.co/ideas/its-dangerous-to-think-virtual-reality-is-an-empathy-machine> [Accessed: 4 March 2019].
- Riggs, S. 2019. *The End of Storytelling*. Beat Media Group.
- Roger, S. 2019. 2019: The year Virtual Reality gets real. *Forbes*. [online] Available at:
<https://www.forbes.com/sites/solrogers/2019/06/21/2019-the-year-virtual-reality-gets-real/#773173686ba9> [Accessed: 10 February 2020].
- Rosedale, P. 2019. *High Fidelity*. Virtual Reality platform. [online] Available at:
<https://www.highfidelity.com/> [Accessed: 3 October 2020].
- Rubin, P. 2018. *Future Presence*. New York, NY: HarperCollins.
- Schultz, 2019. *Ryan Schultz – News and Views on Social VR, Virtual Worlds, and the Metaverse*.
The MetaMovie Project is Moving from High Fidelity to NeosVR. [online] Available at:
<https://ryanschultz.com/2019/08/15/the-MetaMovie-project-is-moving-from-high-fidelity-to-neosvr/> [Accessed: 4 September 2019].
- Serjeant, J. 2020. *Reuters*. After Weinstein, #MeToo themes in film, TV reflect wider cultural reckoning. [online] Available at: <https://www.reuters.com/article/us-people-harvey-weinstein-culture/after-weinstein-metoo-themes-in-film-tv-reflect-wider-cultural-reckoning-idUSKBN20Z1AG> [Accessed: 2 August 2020].
- Short, S. 2005. *Cyborg Cinema and Contemporary Subjectivity*. London: Palgrave MacMillan.

Symons, J. 1972. *Bloody Murder: From the Detective Story to the Crime Novel*. New York, NY: Mysterious.

Technopedia.com. 2017. Surround Sound. [online] Available at: <https://www.techopedia.com/definition/262/surround-sound> [Accessed: 3 September 2019].

Tüzün, H. 2018. Welcome to the desert of the anthropocene: dystopian cityscapes in (post)apocalyptic science fiction. *American, British and Canadian Studies*, 30(1), 171-193. doi: <https://doi.org/10.2478/abcsj-2018-0010>

Zak, P. J. 2015. Why inspiring stories make us react: the neuroscience of narrative. *Cerebrum: The Dana Forum on Brain Science*, 2. [online] Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4445577/> [Accessed: 21 October 2020].

Zizek, S. 2010. *Living in the end times*. London: Verso.