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Storytelling in a frameless screen: Screenwriting for VR and AR at Pentridge Heritage Precinct

Abstract:

Cinematic virtual reality (CVR) and augmented reality (AR) technologies are emerging as storytelling media that enable practitioners to move from traditional 2D filmmaking to explore narratives within a frameless screen. This article describes the challenges of writing an interactive extended reality (XR) documentary for a site-specific location. It focuses on the award-winning, practice-led research project, *A Miscarriage of Justice XR*, produced at Melbourne's Pentridge Prison heritage precinct in 2020. It claims that the screenwriter is the principal designer of augmented and virtual reality documentaries and that conceiving and composing XR experiences requires taking an "experience design" (XD) approach, exploiting the "user's experience" (UX).

Biographical note:

Atalanti Dionysus is an interdisciplinary, award-winning XR creative writer, director, producer, and a graduate researcher in Creative Arts and English at La Trobe University. As a professional filmmaker, her projects have screened worldwide, receiving multiple awards. Her PhD practice-led research project, *A Miscarriage of Justice XR* (2020), has received eight nominations and five awards, including the Jury Prize for Journalistic Achievement at the 2021 Social Media Impact Media Awards and Best of Show at the Horizon Interactive Media Awards 2021.

Keywords:

Cinematic virtual reality, augmented reality documentary, site-specific screenwriting, *A Miscarriage of Justice*

Introduction

This article focuses on the writing of *A Miscarriage of Justice*, an extended reality (XR) documentary that uses cinematic virtual reality (CVR), augmented reality (AR), 3D scanning and 2D video installations at the Pentridge Prison heritage precinct in Melbourne, Australia. In 1967, Ronald Ryan was the last man hanged at Pentridge Prison for killing a prison warder in 1965. *A Miscarriage of Justice* offers spectators three distinct XR experiences of Ryan's story. Much of this story is experienced from the viewpoint of Jean Lee, a female prisoner who was convicted of murder and executed by hanging at Pentridge Prison in 1951. *A Miscarriage of Justice XR* is presented in three formats: CVR (docudrama, 18 minutes); AR (four AR experiences interweaving historical video content, audio recordings, still images and live-action video); and a 360 VR/3D virtual tour of the notorious B Division section of the former prison. Below, I discuss my novel approach to writing for these platforms, describing the challenges I encountered and how I overcame them.

Writing for a site-specific location

This practice-led PhD research embraces a moment in time when we are encountering historical realities through digital interfaces. By expanding the narration of the Ronald Ryan and Jean Lee story across multiple platforms, *A Miscarriage of Justice XR* modifies how visitors connect to a specific heritage site, giving it new meaning. For this to occur, the screenwriter had to embrace XR technology, utilise the location as a critical element of the story, and embed the spectator in the story world. The story world had to encompass two of Australia's most controversial executions. The CVR narrative favours the first-person point of view (POV) to provide an embodied experience and a sense of co-presence for the spectator playing the character of Jean Lee, the last woman executed in Australia. The AR narrative places the spectator at the site, discovering the stories engraved on the prison's bluestone walls.

Before writing the script for *A Miscarriage of Justice XR*, I undertook a self-guided walking tour of the former prison, retracing the steps of the protagonists, Ronald Ryan and Jean Lee. I also visited the Supreme Court of Victoria and sat in on a murder trial in Court Room 4 where verdicts of murder were bestowed on Ronald Ryan in 1966 (National Museum Australia, 2020) and Jean Lee in 1950 ("Woman, two men to hang", 1950, p. 1). These self-guided tours became an immersive, interactive experience without the technology. I spent time inside what remains of the original Pentridge Prison, getting a feel for the space, the sounds, the texture of the walls and the psychogeography of physical confinement. I wrote the script inside the prison, envisaging the moments leading up to Ryan's execution. As I walked through the site, from Ryan's cell to the gallows, I experienced the bodily sensation, or affect, of knowing that this was his last walk. I felt the lever as it was pulled and heard the trapdoors, below, open with a loud shudder. I imagined Jean Lee's fear the morning she was executed, collapsing at the sight of the hangman as he approached in green overalls, cap and welder goggles, worn to disguise himself (Lincoln et al., 1997, p. 201). Re-imagining these events on location, through the immersive technology and innovative perspective of CVR/AR, required me to re-interpret

traditional filmmaking techniques. Rather than writing the script from a fixed viewing position (with the spectator in the cinema, on the couch, in front of the screen) I had to adapt to writing from a wider field-of-view intrinsic to XR technologies (with a mobile viewer, spinning around in a chair or taking steps in a circumscribed space). In XR, the spectator becomes mobile to experience the work: sitting in front of a screen converts to roaming through a physical environment.

In addition to site-based research, I brought my own memories of the location to the scriptwriting. Raised in Coburg, Pentridge Prison formed part of my personal psychogeography. I walked past the prison almost weekly during the summer months, on my way to the outdoor swimming pool, intrigued by what lay behind the bluestone walls. Categorised as one of Australia's most notorious prisons, housing Australia's most infamous criminals with eleven executions onsite, Pentridge Prison dates back to 1851, officially closing in 1997. Returning to the site in 2018 (now a retail and residential precinct within the old bluestone walls), I felt compelled to tell the stories of the last man and woman executed in Australia. Both stories are significant. Ronald Ryan's execution was the catalyst for changing Australian laws regarding capital punishment. Many believed he was falsely accused of the murder of warder George Hodson during an escape. In public protests and vigils, political activists fought for both the abolition of the death penalty and for Ryan's innocence (Richards, 1976; Lorio, 2020). The Jean Lee story was also controversial. Convicted as an accessory to the murder of illegal bookie William Kent, her execution was noted as politically expedient, serving as a warning to other women not to deviate from the "socially approved path of femininity" (Lincoln et al., 1997, pp. 213-218).

XR technologies produce immersive experiences which augment reality as we walk through space, or they immerse us in virtual realities by moving us into new kinds of spaces. VR and AR offer experiences of historical events and locations that the traditional 2D form cannot realise (Broom et al., 2021). The emergence of the twenty-first century virtual, mobile spectator takes us back to the pre-cinematic technologies that mobilised the gaze and the bodies of spectators in the nineteenth century, producing experiences of the real (such as dioramas and wax works) where spectacle and narrative were unified (Schwartz, 1995, p.88). New technologies are hardly ever really new; they are enhanced ways of bringing reality closer. In a sense they reciprocate and borrow from other media (Bolter & Grusin, 1999, p. 51) in their representations.

Extending the spectator's reality

Crafting the spectator into XR storytelling as an active (immersed, mobile) participant gives the story's structure new meaning and sets new precedents. How different, then, is narrative scriptwriting when using XR technologies at a site-specific location? The challenge I faced as a writer was that different platforms require distinctive writing approaches: designing the user experience means writing for the specific technology. The process of writing for VR, AR and 3D poses different challenges. In *A Miscarriage of Justice* these were addressed through designing specific experiences and incorporating varying story features to enrich them. Once the technology and the writing were aligned this process produced some captivating results.

CVR has differing features to AR, but both offer novel ways to view content that bring entirely original dimensions to the storytelling platform. While CVR immerses spectators in a digital world, making them feel they are completely there, it does confine them to a fixed location while viewing the content. AR on the other hand has the capacity to allow spectators to view content within the story-world while roaming freely around the site in the real world. AR transcends the screen and expands into the physical world, turning the site into a virtual interactive history classroom.

Narrative design and the five-act structure of *A Miscarriage of Justice XR*

Writing multi-plot sequences creates the concept for an alternative narrative designed for impact. Principles used in design-thinking and speculative design are extremely transferable when working with VR/AR technologies. These include a strong focus on user experience (UX), user design (UD) and user interface (UI). Working with collaborators such as developers, set designers and cinematographers at the writing stage of the project is crucial. The writer's role is critical in steering the production, from the initial writing of the script right through to postproduction (Dooley, 2017, p. 11). The director's role is diminished because production methods and techniques are conceived during the writing of the script, with the writer or writer/director at the helm.

Each of the six experiences created for *A Miscarriage of Justice XR* were written as six sequences encompassing a three-act structure within each sequence/act. The narrative which ties all the elements together, is embedded in the five-act structure appropriated from nineteenth-century German playwright Gustav Freytag's dramatic structure, known as Freytag's Pyramid (Freytag & MacEwan, 1894, pp. 114-140). See Figure.1, used to visualise the five residing plot points of a narrative: introduction/set up, rising moment, climax, return/falling action and catastrophe:

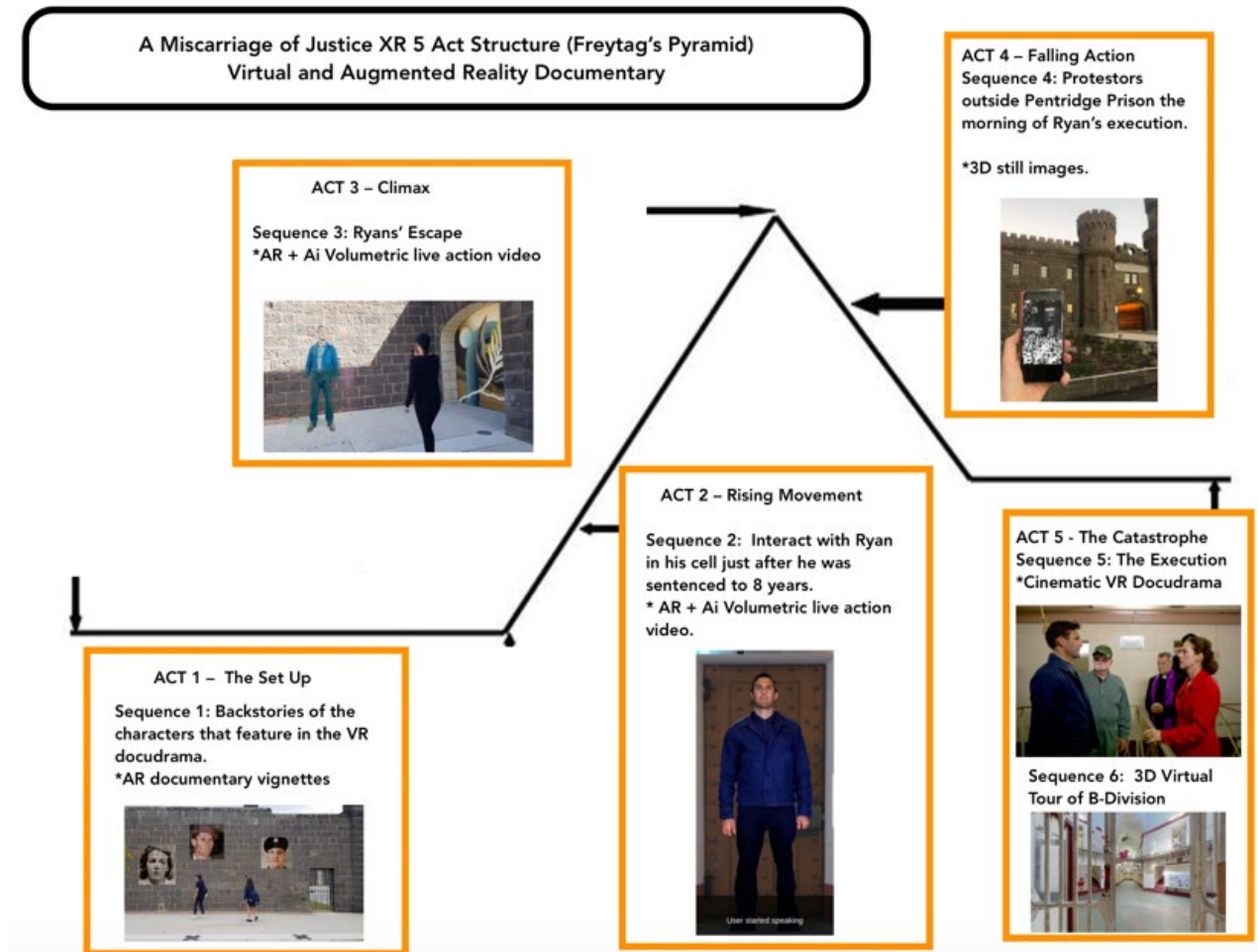


Figure 1: *A Miscarriage of Justice XR: Five-act structure* (Copyright 2020 Atalanti Dionysus).

In XR the five acts can be viewed in any order: they are presented as non-linear and self-contained, although they can be experienced in a linear mode. The predominant narrative arc is in the real world, the site-specific location in which the spectator starts to engage with the experiences. Consideration needs to be given to how the spectator might step into an experience and what it would be like for them when they step out of it. These questions were pivotal to identifying innovative approaches to the problem of how to tell stories at a site-specific location. Below is an outline of the narrative, describing how each experience aligns within the five-act structure and the technical approach.

Act 1 The set up: Character backstories

In this sequence, the backstories of the characters featured in the CVR docudrama are introduced to the spectator in the form of AR experiences. They are produced as traditional four-minute documentary vignettes, compiled from historical images, voice-over and sound design. The spectator uses their mobile device to find the stories hidden on the bluestone wall.

Act 2 Rising movement: Ryan's cell

This sequence deals with Ryan's imprisonment just after he was sentenced to eight years for criminal activities. The experience also uses AR and has the spectator interact with Ryan in his cell, asking him questions: *Why are you here? How long is your sentence? What are you going to do?* The plot raises the question, will the protagonist escape? The spectator can interact with Ryan in real-time, walk around him and view him from all angles, in the dimension and shape of a life-size person. This experience was designed using volumetric video, which captures an object in 3D.

Act 3 Climax: Ryan's escape

This sequence of the plot deals with Ryan's escape. As per Act 2 Sequence 2, it uses AR and volumetric video technology. This experience comes to life at the exact location where Ronald Ryan escaped when he climbed over the prison's bluestone wall. When the spectator finds this location, they are greeted by Ryan, who asks them if they will help him escape. If the spectator answers "yes", Ryan asks them to keep a lookout on the guard tower, which he points towards. If the spectator chooses to say "no", he argues with them, trying to convince them to help him, though he continues his escape regardless.

Act 4 Falling action: The protestors

This sequence moves the timeline to the morning of 3 February 1967, Ryan's execution, where many protestors were present. This experience uses AR and is triggered when the spectator stands outside the prison entrance. They become immersed in the spectacle, moving among the protestors. The experience encompasses 3D images of protestors and a sound design that includes a journalist relaying the events that took place that morning, accompanied by protestors cheering and chanting "Free Ronald Ryan".

Act 5 The catastrophe: The execution

The concluding sequence of the story leads the spectator through Ryan's final moments leading up to his execution. The spectator plays the role of two protagonists, interchanging at a crucial moment in the film when they are placed in the shoes of the accused just before he is hanged. The narrative ends in tragedy. This experience uses a 360/3D camera to produce a CVR experience.

Act 5 Explore B-division

This sequence offers the spectator an opportunity to take a self-guided tour of B-Division by teleporting them to the location featured in the CVR documentary. The technology captures a series of scanned 3D images formed into a 360-degree frame, which can be viewed via a web browser, either in a VR headset or on a computer screen. It gives the spectator time to virtually wonder around at their own pace.

Setting the seen in VR

In the opening scene of *A Miscarriage of Justice VR*, featuring Jean Lee's character, spectators are given time to enter the story and settle into the experience. Their arrival in solitary confinement signals Jean Lee's return to the prison, where she was condemned to death by hanging. Diegetic sounds are used in this scene, coupled with Jean Lee's voice-over, creating a sense of co-presence for the spectator. Once the spectator enters the experience, the first thing they do is look around in all directions. This is a natural occurrence when entering a CVR experience, and as a result, the spectator needs time to adjust to the world they have just arrived in. CVR requires the writer to allow time for the spectator to "arrive" in each scene in order to avoid confusion, nausea or missing essential story elements. The writer must anticipate the spectator's engagement by paying attention to the timing and pacing of an action and then transferring those directions to the script. Mike Jones, screenwriter and co-writer of the fiction film *VR Noir: A Day Before the Night* (Klenner, 2016), states in an interview with Kath Dooley (2018, p. 181) that issues around pacing were not considered during the scriptwriting of *VR Noir* because 360/CVR is a new form of narrative and the pacing aspects are still being resolved. It seems 360/CVR writers are challenged further than writers of other interactive or traditional forms (Dooley, 2018, p. 181) because finding the right pacing, without losing the story structure, needs to be resolved differently in CVR.

Point of interest

In CVR, the writer needs to consider that no two people will view the experience in the same order, in the same way. The director loses control as the spectator directs their own gaze. The spectator may choose to look in any direction, a look the writer cannot predict, and the director cannot direct. However, the writer can design the user experience by taking into account the unpredictability of the spectator's gaze. Taking risks in writing a scene requires speculating on all scenarios and, at times, creates opportunities to rethink the CVR form. The way I wrote the script was to construct the spectator's point of interest (POI) by drawing their gaze to the character portraying Ronald Ryan by having Ryan break the fourth wall, making direct eye contact with the spectator. It is similar to having a conversation with someone, feeling obliged to look at them. Jessica Brillhart, director of the Mixed Reality (MxR) Lab at the USC Institute for Creative Technologies, former Principal Filmmaker for Virtual Reality at Google (USC 2021), introduced the concept of "probabilistic experiential editing" (PEE). PEE is an editing concept in VR which uses the POI as a technical tool that pre-empts where the spectator is likely to look after each cut or scene, and it also involves placing the next scene's focal point in the spectator's direct viewpoint (Brillhart, 2016). POIs are essentially events, objects, locations, or characters that attract the spectator's attention and keep them focused on a particular area.

Presence at a site-specific location

The spectator's experience in the opening scene determines their perspective throughout the film, whether they are a passive observer or an active participant. The challenge posed by writing for CVR is how to tell a story for the spectator when the spectator is present within it. From what perspective do you write? Where do you place the spectator when the "film" envelopes them the moment they enter the experience? Presence in VR is used to describe the spectator's experiences of being "inside" a given area, feeling as if they are physically present within the virtual environment (Kiltner et al., 2012). Presence in AR, on the other hand is experiencing the virtual objects blending with real objects in the physical environment (Papagiannis, 2017, p. 70). Corresponding the user's real world to the mobile device enhances the overall involvement of the spectator with the story. The aim is for the medium to fade into the background and disappear. This creates a sense of *immediacy*, as proposed by media theorists Jay David Bolter and Richard Grusin who suggest that:

The desire for immediacy is the desire for an experience without mediation. A demand for immediacy then demands transparency – an interface that erases itself so that the user can stand "in an immediate relationship to the contents of the medium". (Bolter & Grusin, 1999, p.23)

The logic, therefore, of *immediacy* is the sense that technology should aim to imitate the real world by being transparent as stated by Bolter & Grusin (1999) and as a result creates a richer experience. One way to achieve *immediacy* is to write with the technology in mind, as stated earlier, by utilising the innovative properties that XR technologies adapt to, such as spatial sound and volumetric video, and integrating them into the user interface. *A Miscarriage of Justice XR* aims to do that as it investigates presence through a sense of embodiment. The CVR experience uses the placement of spatial audio to seed the character into the spectator's mind. By using the voice-over of Jean Lee, it creates the illusion that the spectator *is* Jean Lee. The other approach that was utilised was the spectator's embodiment of Ronald Ryan's virtual body standing over the gallows, moments before he is executed. And the AR experience demonstrates this by presenting conversations in real-time between the protagonist and the spectator, for example in one scenario, the spectator assists Ryan to escape, making them a significant part of the story. Placing the spectator at the exact location in which this event actually took place, supports Bolter & Grusin's (1999, p. 21) *transparency of immediacy* theory: the spectator's experience starts to blend with the content, completely discounting the medium. Experiences created for site specific locations may have an advantage because the location partakes in the experience, as one of the characters, and it creates an immediate sense of presence for the spectator.

Jaron Lanier, a computer scientist and author who popularised the term virtual reality, states that VR is not cinema:

The spectator does not become invisible when watching a film as with traditional media, if they are not central to the story, then the writer has not designed a VR experience. (Lanier, 2017, p. 236)

I concur with Lanier in that writers of CVR and AR should aim to include the spectator into the story, as this is the point of difference that CVR offers the spectator, an autonomy of movement that traditional cinema does not. A greater sense of presence, immersion and empathy is achieved when the spectator becomes a character, placed in the story-world at the actual location where the story is happening to them, around them, no longer as a passive observer but as a protagonist. This is not to state the spectator does not perceive presence, empathy and embodiment when viewing a traditional film. Rather, the combination of CVR and AR at a site-specific location perhaps brings a heightened sense of compassion to the experience.

Scripting the form

One of the challenges of writing a script for CVR and AR content is considering how to demonstrate and represent every angle when the *mise-en-scène* is the foreground, middle ground, background, above and below the 360-degree frame. There are currently no industry standard CVR/AR script writing templates, and this provides an opportunity for content creators to create their own. Storytellers working in the immersive space are structuring their own layout, borrowing from traditional screenplay and playwriting manuals and adapting them to suit. Grant Scicluna, writer/director of *30 Minutes of Danger VR* (2018), a fiction film, claims that it made sense to give his actors a traditional script as he did not want to confuse them with the nuance of a new script format (Scicluna, 2018, p. 6). As he was also the director, he was able to present clearer instructions on set, rather than place them in the script. Lester Francois, writer/director of *Rone VR* (2017), wrote a treatment for his observational documentary in the traditional format, then filmed a vast amount of footage of his subject with a 360 camera. He then used the audio of his subject's interviews to narrate the film (Francois, 2018, p. 4). Francois's technique relied on constructing the film in the edit, which is synonymous with most traditional observational documentaries. The approach I took for my project, a docudrama, was to manipulate the traditional script template by including detailed parentheticals, in particular for the protagonist, as he was performing directly to camera. I included particulars of camera positions and height, as the camera also represented a character. Diegetic and non-diegetic sounds were scripted as the character was required to respond to them during certain scenes. I conducted test shoots during pre-production which attuned the script, observing pacing, timing and dialogue. I similarly storyboarded each scene, from an elevated view as if seen from a high angle looking down. This allowed for a well-defined view of the 360-degree circumference that we were working in. This approach proposed a method of amalgamating a screenplay, a shooting script and a storyboard into one document, offering the collaborators (cast and crew) an understanding of the script as it goes into production.

Conclusion

The creative project, *A Miscarriage of Justice XR*, modifies how visitors connect to a place and its hidden stories, giving what is now a heritage precinct new meaning. The CVR uses a broad palette of cinematic techniques, combined with innovative screenwriting methods that take

from traditional models based on the types of stories being created. This new palette is growing as more filmmakers create and experiment with XR technology, writing for immersion, interactivity, and presence. This emerging XR era shifts screenwriting into new terrain, with the screenwriter emerging as the principal designer of user experiences, anticipating which part of the frameless screen the spectator will engage. Based on interviews I conducted with writer/directors of XR projects, it may be that splitting these roles no longer makes sense, because this mode requires a spatial thinking approach which is conceived at the writing stage. The writer is essentially required to convey the settings, placement of actors and camera, the pacing of dialogue and technical aspects such as shot length and focal point of the scene. While these are the assumed roles of the director in cinematic or televisual storytelling, in XR storytelling the director's role becomes that of working with the actor(s) to enhance performance.

Immersive scripting raises challenges that need to be embraced by writers and directors. Experimenting with spatial narratives offers both storytellers and spectators benefits that cannot be experienced using traditional 2D storytelling methods. The narrative structure in the CVR and AR space is expanding as technology advances, offering opportunities to writers to develop and create narratives that impact the spectator's perception and enable them to feel real in an unreal setting. The challenge is to write a coherent script when almost everything you know about writing a film scene needs to be rethought. It requires the content creator to reinvent the way their story is written because the experience is assembled within a frameless screen.

It is an inspiring and stimulating time for filmmakers who have chosen to work in XR. Their experiments with immersive storytelling will eventually form new industry standards, create a common language and mitigate the trepidation that 2D filmmakers may have about moving into the 3D/360 space. CVR and AR create a powerful sense of presence and give the spectator agency, creating an opportunity for greater awareness of social issues and historical events. Site-specific CVR and AR offer contemporary ways to engage the spectator, for instance, by placing them in the role of the protagonist at a site-specific location. CVR, AR and XR are progressing the way we tell stories, shifting away from cinematic and televisual modes of screenwriting to modes that require the spectator to move through the narrative in spatialised environments that are like contemporary, virtual museums without walls.

Works cited

Bolter, J.D. & Grusin, R. (1999). *Remediation: Understanding new media*. Cambridge, Mass: MIT Press.

Brillhart, J. (2016, June 4). *In the blink of a mind: Engagement*. Medium.

<https://medium.com/the-language-of-vr/in-the-blink-of-a-mind-engagement-part-1eda16ee3c0d8>

Woman, two men to hang in Victoria (1950, December 12). *Canberra Times* (ACT: 1926 - 1995), <http://nla.gov.au/nla.news-article2812013>

- Dooley, K. (2018). Scripting the virtual: Formats and developments paths for recent Australian narrative 360-degree virtual reality projects. *Journal of Screenwriting*, 9(2), 175-189.
https://doi.org/10.1386/josc.9.2.175_1
- Francois, L. (2018) Interview [Video recording]. Conducted by Atalanti Dionysus.
- Freytag, G. and MacEwan, E. (1894). *Freytag's technique of the drama: An exposition of dramatic composition and art* (3rd ed.). Scott, Foresman.
<https://archive.org/details/freytagstechniqu00freyuoft/page/n9/mode/2up>
- Kiltner, K., Groten, R., & Slater M. (2012). The sense of embodiment in virtual reality. *Presence: Teleoperators and Virtual Environments*, 21(4), 373-387.
https://doi.org/10.1162/PRES_a_00124
- Lanier, J. (2017). *Dawn of the new everything*. Henry Holt and Company.
- Lincoln, R., Wilson, P., & Treble, D. (1997). *Jean Lee: The last woman hanged in Australia*. Random House.
- Lorio, K. (2020, September 10). *Unseen footage of Ronald Ryan, Australia's last man hanged, reveals divided opinions on capital punishment*. ABC News.
<https://www.abc.net.au/news/2020-01-05/ronald-ryan-australias-last-man-hanged-victoria-murder/11751244>
- National Museum Australia. (2020, December). *Defining moments Ronald Ryan*. The National Museum of Australia. <https://www.nma.gov.au/defining-moments/resources/ronald-ryan>
- National Film and Sound Archive of Australia. (2018, November). *The last man hanged*.
<https://www.nfsa.gov.au/collection/curated/ronald-ryan>
- Papagiannis, H. (2017). *Augmented human: How technology is shaping the new reality*. O'Reilly Media, Inc.
- Richards, M. J. (1976). *The Ryan case: an analysis of the decision of the Victorian Cabinet to impose the death sentence on Ronald Joseph Ryan, and of the public and mass media protest campaign*. [Masters Research thesis, The University of Melbourne].
<http://hdl.handle.net/11343/36533>
- Scicluna, G. (2018). Interview [Video recording]. Conducted by Atalanti Dionysus.
- Schwartz, V. (1995). Cinematic spectatorship before the apparatus: The public taste for reality in fin-de-siècle Paris. In L. Williams (Ed.), *Viewing positions: Ways of seeing film* (pp. 87-113). Reuters University Press.