

Witnessing Virtual Realities:  
Mediating Perspectives Through  
Novel Technology.

ERIC YU HAO JONG

ORCID ID 0000-0002-9066-5713

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## Abstract

*The historical techniques of journalism were orientated around an ideology of disinterest where the educated democratic subject would be informed and “hear both sides” – but today with new algorithmic techniques of affect management (virtual reality, VR) and discovery (social media), any such disinterest is clearly not central to how journalistic knowledge is transmitted, if it ever was.*

*Therefore, what are the techniques of visual mediation that are appropriate to these new conditions?*

By locating my research with this question, I aim to use it as a conceptual basis for making artwork that positions the viewer outside the sphere of contemporary journalism looking in. Works that heighten and reveal the fallacy and contradiction of contemporary journalism practices through novel technologies to spark a critical dialogue of it

(75% creative practice and 25% written dissertation)

## Declaration

This is to certify that

- (i) *the thesis comprises only my original work towards the masters except where indicated,*
- (ii) *due acknowledgement has been made in the text to all other material used,*
- (iii) *the thesis is 10, 475 words in length, exclusive of tables, maps, bibliographies and appendices as approved by the RHD Committee.*

ERIC YU HAO JONG

## Acknowledgements

My love to Emile, together we have nourished a life in which this work has been possible.

To my mother Rose-Mei and father Kei-Kiat, I will never forget the sacrifices that you have made to make a life for us in this country. Because of you I am here, and I thank you both for everything that I am able to achieve.

To my brother Ben, I hope that one day you can be as proud of me as I am of you.

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**“Journalism is dead.” – *Every journalist ever***



### *Finding an Australian ...*

Immediately after finishing my studies as a photojournalist, I moved to Nepal to work as a freelancer and began covering the lead up to the first peaceful democratic elections after the violence of the Maoist revolution of 2006.<sup>1</sup> As the tension played out through protests and political action, I believed this was going to become a compelling international story.<sup>2</sup> My only editorial contacts at that time were with Australian-based publications, so I pitched it to them, but nobody back home was interested enough in the story to purchase it. Despondent, I reached out to my mentor who had worked as a conflict photographer in South East Asia for years before settling in Melbourne. He gave me some advice that I thought about for years later, and ultimately guided me as a foundation to both the development of my art practice and on this research project investigating the mediation of viewing the truth.

Over the phone, he told me to “*find the Australian.*” He said, “*If there is a disaster, or conflict, the first thing you do is go to the airport, go to the evacuations.*” After pausing for a moment, he continued, “*You go find the Australian and you ask them*

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<sup>1</sup> (Lawoti 2009) The Maoist revolution was initiated by the Communist Party of Nepal, known as the CPN, and escalated steadily from 1996 to the signing of a peace treaty in 2006. An estimated 17,000 individuals were killed during the conflict, with between 100,000 and 150,000 displaced internally.

<sup>2</sup> Nepal’s natural resources and geographic location place it precariously as an ideological proxy between the superpowers of India and China, who greedily eyed the country’s untapped hydroelectric potential. These two countries influenced much of the democratic and communist popular support respectively as a way of accessing energy resources. (Sharma 2018)

*how they feel about the situation.*” Ultimately, I believe he was telling me to make stories and experiences relevant to a target audience, to build an empathetic bridge by establishing an emotionally recognisable anchor point. It sounded very reasonable and was, after all, akin to why I got into photojournalism in the first place. Even now, it still sounds reasonable in relation to my art practice. At the time I hesitated however, because I intuitively thought there was something deeply wrong about the sentiment.

I never did find anyone to publish my story, and after that experience I searched endlessly for a less callous form of connection through visual media. That moment now serves as a locator for this research, as the catalyst to attempt the formation of a conceptual basis for making artwork that positions the viewer outside the sphere of contemporary journalism, looking in. It is a pursuit in revealing and exploring the structural frameworks of interfaces, contradictions, subjectivities, power relationships, consequences and technologies in contemporary journalism.

Later, I attended a masterclass during the 2017 Melbourne International Film Festival that took the form of a panel discussion of participants in the festival's first ever virtual reality (VR) showcase. The panellists included a number of artists and documentary makers such as Leo Faber<sup>3</sup>, Gideon Obazanek<sup>4</sup>, the

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<sup>3</sup> The director of *Orbital Vanitas*, Faber, formed *Badfaith* with fellow artist Shaun Gladwell and called working with VR in a 2017 interview with *Vouge Australia* “a moment in time that most filmmakers and creatives don’t get to experience, the birth of a new medium.” (Tedmanson 2017)

writer-director of *Inside Manus* Dr Lucas Taylor, and Dr George Gittoes<sup>5</sup>. A definition of virtual reality as a solution to the apathy of audiences emerged from the discussion and it was championed as a panacea for the malaise of visual media. Specifically, the implied embodied agency offered to the viewer through virtual reality was purported as a way to break through the disenfranchisement of compassion fatigue<sup>6</sup> by equalising the emotional and political power exchange between the subject, recorder and audience.<sup>7</sup>

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<sup>4</sup> Obarzanek founded *Chunky Move* in 1995, and *Once Upon a Time in the Western Suburbs* continues his work with contemporary dance and cultural exchange.

<sup>5</sup> Gittoes is perhaps Australia's most accomplished "war artist" and has consistently expressed his social, political and humanitarian concerns about the effects of injustice and conflict through his art practice and documentary making since the 1970s.

<sup>6</sup> As detailed by Susan Sontag in *On Photography*, compassion fatigue is a result of "[t]he vast photographic catalogue of misery and injustice throughout the world [that] has given everyone a certain familiarity with atrocity, making the horrible seem more ordinary—making it appear familiar, remote." (Sontag 1977)

<sup>7</sup> (Melbourne International Film Festival 2017)



Figure i: Images from the protests in the lead up to the first democratic elections in Nepal.



### *... In virtual reality*

The potential to break through compassion fatigue and apathetic reactions to visual mediations is certainly felt in Taylor's aforementioned work *Inside Manus*, which is an example of immersive journalism. It consists of audio interviews conducted with asylum seekers detained on Manus Island, played over digital paintings by the artist Sutu. *Inside Manus* details the harrowing personal stories of three detainees, their journeys to Australia and the brutal conditions in the detention centre.<sup>8</sup> Virtual reality could then be used, as Taylor put it, "*for the creation of the perfect illusion of reality, to progress beyond it.*"<sup>9</sup> The implication here is that the content can transcend the medium through which it is communicated.

However, presenting virtual reality as the reliquary to the holy grail of journalism and documentary, the almighty ideal of objectivity, to facilitate storytelling as an embodied experience through the creation of such an overt visual pretence is dangerous. Virtual reality *had* started to look like the alternative method of journalism, but the manipulation seemed extreme since

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<sup>8</sup> (Taylor 2017) Taylor collaborated with the group *Writing Through Fences* to record the stories of the asylum seekers. Aside from the importance of the stories being told in this project, *Inside Manus* also shows how investigative work can overcome censorship challenges by using an immersive art methodology.

<sup>9</sup> (Melbourne International Film Festival 2017)

the viewer has, as Taylor (2017) might term it, a false volition<sup>10</sup> presented as free agency in a clear cognitive dissonance between action, reality and empathy.

The particular danger in virtual reality is that the viewer is not interpreting the medium: they're in it. As Chris Milk might put it, this means the medium itself disappears, and one's own conscious viewing becomes the medium. Milk, however, is an enthusiastic evangelist of "VR as an Art Form", as seen in his prolific TED talks.<sup>11</sup> This overly optimistic enthusiasm has been expressed in a chastisement of "the audience for still using the codes of film making".<sup>12</sup> That means that the medium itself disappears, and one's conscious viewing *becomes* the medium. This is the confusing and anxious oscillation that informs this project, more than anything else, as an attempt to question a medium of visual technology in furious escalation propositioned as a revolution in freedom but firmly in the hands of technocratic oligarchs. This research project explores the contradiction and fallacy of virtual reality as adopted by journalism as a novel technology. It also explores the subjective and objective actions of the visual mediation by digital media, with the ultimate intention being a provocation of critical enquiry and exploration through art practice.

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<sup>10</sup> Volition here is used to describe the cognitive process by which an individual decides on and commits to a particular course of action.

<sup>11</sup> (Milk 2015) Milk's production company *Within* has worked extensively creating installation and virtual reality content for humanitarian organisations such as the UN, as well as for commercial companies such as Nike.

<sup>12</sup> (Butet-Roch 2017)

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Figure ii: The panel at the 2017 Melbourne International Film Festival virtual reality masterclass. (Stanilad  
2017)





## *Firmament*

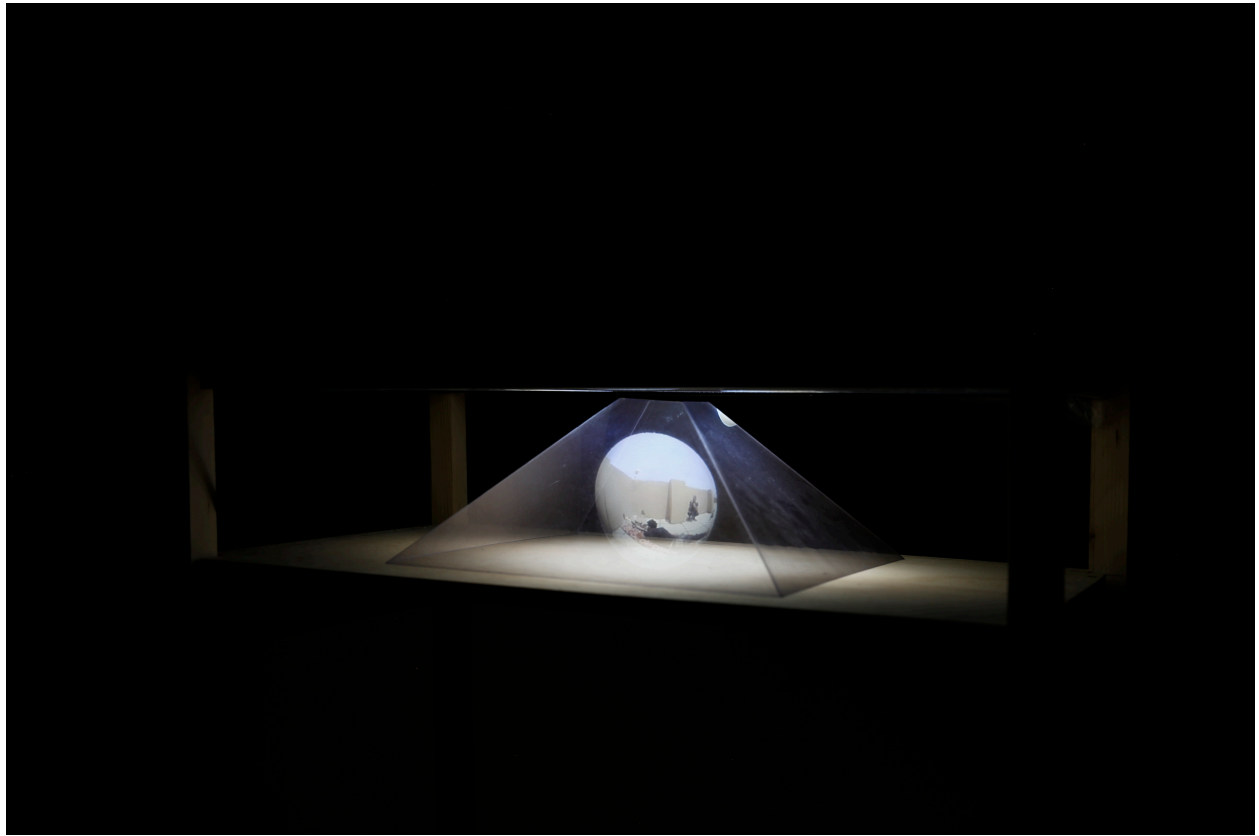


Figure iii: *Firmament*, detail view. (Jong 2018-2019)

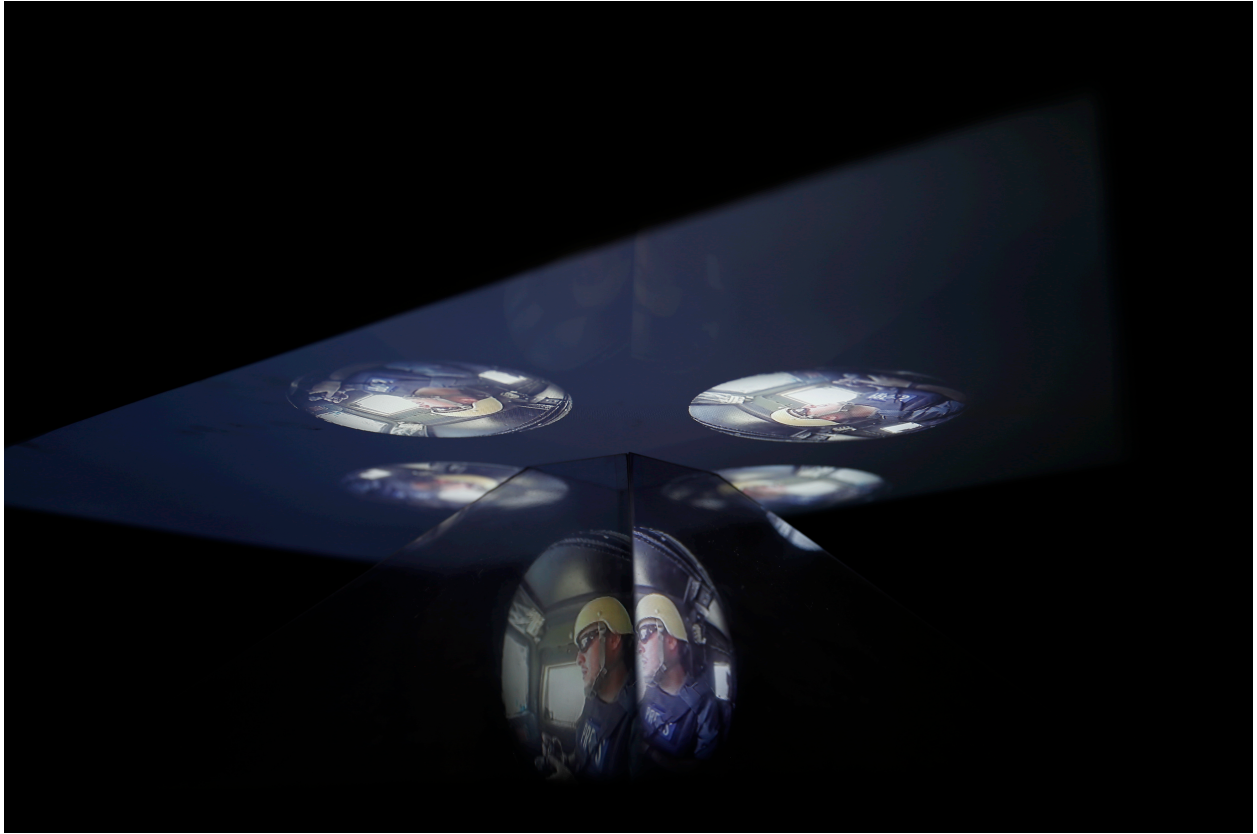


Figure iv: *Firmament*, detail view. (Jong 2018-2019)



Figure v: *Firmament*, install view. (Jong 2018-2019)

## Just another roadside attraction

As a creative output of this research, *Firmament* implicates the research covered in this paper through the use of its formal elements, which are in reference to the touchstones of virtual reality as discussed thus far. The advantage of critiquing a visual medium with a visual medium is in the *infra-performance* of translation, like the space between a caption and photograph where the understanding emerges not from one or the other, but the relationship between them. In *Firmament*, the canon performance is the illusion of the sphere and virtual reality, the translation and shifting of the frame of reference from the *inside* to the *outside*, inverting the experience to speak to the operational contrivance of viewing.

The structure itself takes the form of a vitrine, which it treats as an object of protected knowledge and is representative of the authoritarian gatekeeping to facts or truth. Here, it metaphorically eludes to the role of the professional journalist and the wider institutional complications of visual mediation. The vitrine has found various uses in display and preservation and has its origins in usage by the church where it was utilised for “preserving and venerating”.<sup>13</sup>

The materials that make up the standing structure were sourced second hand from stage production at the Victorian College of Arts workshop. Precarious in nature and still showing the markings of their previous use, the repurposed theatre materials act as a mnemonic device to the contrivance of staging and

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<sup>13</sup> (Putnam 2001)

parlance in virtual reality technology. These objects aren't built to last and are reinduced in the shadow of our techno-mediated experience to be utilized to house a Pepper's Ghost illusion – a trope popularised for its use in séances.<sup>14</sup>

The holographic illusion effect of *Firmament* comes from *Magia Naturalis*, also known as *Natural Magic*, an early work of popular science by Giambattista della Porta<sup>15</sup> first published in Naples in 1558.<sup>16</sup> Della Porta is often credited with inventing the camera obscura, and although this is incorrect.<sup>17</sup> *Natural Magic* does, however, contain the earliest recorded description of an apparatus that was popularised in the mid 18<sup>th</sup> century as Pepper's Ghost.<sup>18</sup> The technology of Pepper's Ghost reflects virtual reality in its development and eventual adoption for sensationalist entertainment and use. Theatre shows advertised as *Phantasmagoria* were performed in France as early as 1792 and were popularised by Étienne-Gaspard Robert, a Belgian physicist and entertainer

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<sup>14</sup> (Heard 2006)

<sup>15</sup> Not to be confused with Dallaporta, the artist discussed later, or with de la Peña, the journalist.

<sup>16</sup> Della Porta uses the word magic to describe the science of investigating natural objects. (Della Porta 1558)

<sup>17</sup> (Joseph Needham 1962) The first written records of the camera obscura appear in the *Mozi* a 5<sup>th</sup> century Chinese philosophy text, wherein the optical specifications and operations are described. There are no known examples that appear in this detail until the 11<sup>th</sup> century.

<sup>18</sup> (Australian Centre for the Moving Image 2004) The modern iteration was actually developed by Henry Dircks for use in purpose-built theatres, but it was popularised by John Pepper, who modified it to be incorporated into existing theatres. It's been known ever since as Pepper's Ghost.

going by the stage name Robertson.<sup>19</sup> At this time of these shows, the Catholic religion had been recently banned in France after the revolution<sup>20</sup> and replaced by state atheism. Thus, Robertson was careful in explaining that his experiments were only tricks. He noted in advertisements that no ghosts would actually be summoned, suggesting a revolutionary purpose to his shows instead. Robertson claimed that priests in past centuries might have used tricks such as those he performed in order to cheat the people, simulating the apparitions of angels, saints, or gods.<sup>21</sup> Despite the pedagogical claims, Robertson was first and foremost a showman and had hired the ruined vaults of a medieval convent to stage his event. Audiences entered the space which was filled with occult symbols, skulls and smoke, and were served a drugged punch before the show. Phantasmagoria shows grew rapidly in popularity as the technology spread.<sup>22</sup>

Pepper's Ghost was often used thereafter for entertainment in parlour séances by charlatans to fool people into believing they could see their deceased loved ones, for the financial gain of the operators of the technology.<sup>23</sup> The parlance of the work *Firmament* lends an atmosphere of charade to speak to the suspension of disbelief inherent in virtual reality with its levels of truth within lies, and

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<sup>19</sup> (Heard 2006)

<sup>20</sup> (Livesey 2001)

<sup>21</sup> (Heard 2006)

<sup>22</sup> (Barber 1989) Barber describes *Phantasmagoria* as a precursor to magic-lamp picture shows and to early cinema.

<sup>23</sup> (Camilletti 2017)

assumptions within experience by proxy. Similar to the Victorian era obsession with the

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**Figure vi: Robertson's *Phantasmagoria*. (Heard 2006)**

séance as a sought-after form of entertainment, virtual reality takes the real and attempts to embody an experience through illusion. It is also judged on veracity through the quality of experience that necessitates faith in the thing itself. Both attempt to break the barrier between viewer and content with the aim of completely capturing the audience's attention, mentality and bodily.

In a link to journalism, another modern implementation of the technology of Pepper's Ghost is the teleprompter, a visual aid tool often used by television newscasters and politicians to reflect a prepared text off camera for the presenter to read. This minimises the appearance of scripting to the viewer, to convey a sense that they have memorized their speeches and are connecting with their audiences.<sup>24</sup> The footage that constitutes the hologram sphere is taken in reference to a similar confluence of journalism and visual technologies. and is sourced from Solomon's virtual reality project published on New York Times Virtual Reality (NYT VR). This was selected for its significance to the development of virtual reality as a mainstream-viewing medium and the complications of viewing and visual mediation.

This footage is flattened out digitally from its original 360-degree frame that positions the viewer in the centre, then wraps around a digital sphere. This creates an inverted virtual object reminiscent of a fortune teller's crystal ball, suggestive of misaligned temporality and spectatorship. As you approach the

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<sup>24</sup> (Stromberg n.d.)

structure of *Firmament*, it appears as though walking in orbit around it will reveal different perspectives of the sphere, but in fact only the same side is

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**Figure vii: Pepper's Ghost employed in a theatre production. (Obscura Journal 2019)**

reflected repetitively. Then it starts to fail as the video continues to play, and the spheres vanish until only one is left before it too ultimately disappears in a digital eclipse. The eclipse here is employed in reference to the history of the camera obscura, where Aristotle was inspired to explore optics after observing a solar eclipse casting crescent shapes through tree leaves.<sup>25</sup> The crescent is one of a number of formal elements that *Firmament* appropriates from the vernacular of the sacred. This, in the association with the history of Pepper's Ghost, introduces magical elements by borrowing from the syntax of mysticism for the explanation of phenomena with visual illusions. Another is the form on which the projection of Pepper's Ghost is manifest in *Firmament* – the shape of a pyramid, a symbol for the tomb of memory and representations that are wrapped intrinsically with power and authority.<sup>26</sup> This is all to entice the viewer to confront an imaginary distortion of truth that is hazardous, uncomfortable and seductive. The implication is that while virtual reality does, in fact, provide a wider scope of view, it is simply an expansion of an existing limitation to the mediation of reality.

In making the work *Firmament* as a response to the questions of objectivity, mediation, illusion and subjectivity, the television that creates the illusion reflected in the pyramid and that also closes in the vitrine structure takes on an

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<sup>25</sup> (Obscura Journal 2019)

<sup>26</sup> Mumford examines the pyramids as an example of a population's obligation to obey a king's authority, thus providing capacity to create a "colossal labour machine". (Mumford 1967)

important role. It represents the impacts on the veracity of visual mediation in a format in which we are familiar critiquing for its role in disseminating relentless amounts of news imagery. As Susan Sontag wrote in *On Photography*, our capacity to respond to experiences with emotional freshness and ethical pertinence is sapped by the relentless diffusion of vulgar and appalling images in what she calls a conservative critique.<sup>27</sup> Conservative because, as she expands in *Regarding the Pain of Others*, it is the feeling of reality that is eroded:

*There is still a reality that exists independent of attempts to weaken its authority ... there is nothing to defend: the vast maw of modernity has chewed up reality and spat the whole mess out as images ... Each situation has to be turned into a spectacle to be real – that is interesting – to us.*

(Sontag, *Regarding the Pain of Others* 2003)

Television and virtual reality as mediums are interesting in this respect, in that they are intrinsically isolating, yet seek to create a reality that is closer to reality than to a viewing experience. In virtual reality, it is the putting on of goggles that closes one's vision to anything else in the real world. In television, one fascinating example comes in the form of the Laff Box. Invented by sound engineer Charley Douglass, the Audience Response Duplicator, or Laff Box, was used to create what is now referred to as a laugh track.<sup>28</sup> Douglass invented the Audience Response Duplicator with the intention of helping the audience watch,

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<sup>27</sup> (Sontag, *On Photography* 1977)

<sup>28</sup> (Mars, Episode 305: The Laff Box 2018)


understand and feel comfortable with the new medium of television. It was created to ease the transition from live entertainment to a remote experience and was used as a prosthetic. Douglass played it like an instrument during the recording of shows, simulating an in-audience experience and prompting laughter at jokes for viewers at home. Then for decades afterwards, in genres like the sitcom, television content was essentially designed around the spaces left for the illusion of laughter created by a Laff Box.<sup>29</sup> Eventually, the laugh track fell out of favour after the pyrrhic victory of normalising a novel visual technology.

An unavoidable feature in *Firmament's* visual translation of reconstituting virtual reality as a cheap metaphorical illusion, is that even though it may diagnose problems with the ocular bias of visual mediation, the artwork itself is still essentially visual or ocular in nature. Sontag is scathing about what she framed as this conservative critique of reality becoming spectacle in *Regarding the Pain of Others*:

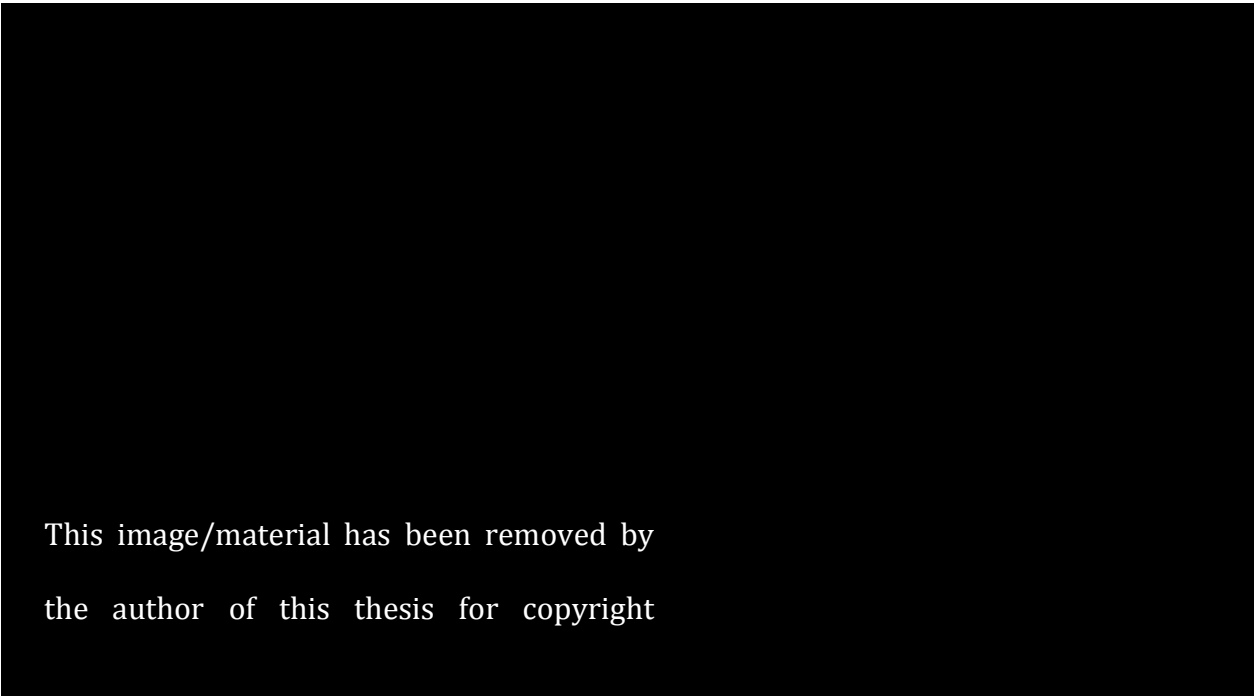
*To speak of reality becoming a spectacle is a breathtaking provincialism. It universalizes the viewing habits of a small, educated population living in the rich part of the world, where news has been converted into entertainment ... It assumes that everyone is a spectator. It suggests, perversely, unseriously, that there is no real suffering in the world. (Sontag, Regarding the Pain of Others 2003)*

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<sup>29</sup> (Palladino 2013)



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## **Mediated Perspectives**



### *The novelty and antagonism of the physical as digital*

Acclaimed documentary film maker Werner Herzog<sup>30</sup> was asked in an interview regarding his film about the Internet *Lo and Behold, Reveries of the Connected World*:<sup>31</sup> “What do you think is going to happen to film making with all this technology that is coming to it? Something like VR. How is that going to change the way that we interact with documentary film?”

While crossing his arms, he answered, “It won’t.” He went on to say,

*VR is not an extension of documentary film making ... it is a tool that is completely new and separate from all the instruments and genres that we have developed. So I do not believe it’s going to change documentary film making.*

Herzog continues, in reference to his film *Cave of Forgotten Dreams*:<sup>32</sup> “[In these] pictorial representation[s], we cannot know what the intention was ... we just know, like in VR for example, of what is deeply embedded in our souls.”<sup>33</sup>

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<sup>30</sup> (Herzog, Herzog on Herzog 2002) In this collections of interviews François Truffaut (considered a founder of French New Wave Cinema) called Herzog “the most important film director alive.”

<sup>31</sup> (Herzog, *Lo and Behold, Reveries of the Connected World* 2016) Herzog primarily tracks the development of the Internet and focuses on its exestential impacts.

<sup>32</sup> (Herzog, *Cave of Forgotten Dreams* 2010) This was filmed in Chauvet Cave in the south of France, which contains the oldest paintings produced by humans. Despite his apparent dislike for novel technologies, this documentry was actually

Here, Herzog address the problematic question of the subjective creation of visual media in a seemingly objective intermediate. Herzog's statement is a strong reminder that authorship and subjectivity can't be separated from one another. In another interview with the New Yorker on virtual reality and cinema, Herzog was asked about his experience viewing a virtual reality documentary on ice flows in Greenland, and if he would call that experience cinema or film. He responds:

*No. I am convinced that this is not going to be an extension of cinema or 3-D cinema or video games. It is something new, different, and not experienced yet. The strange thing here is that normally, in the history of culture, we have new stories and narrations and then we start to develop a tool ... and technology makes it possible to fulfil these dreams. So you have the content first, and then the technology follows suit. In this case, we do have a technology, but we don't have any clear idea how to fill it with content.<sup>34</sup>*

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filmed in 3D. However, Herzog has stated that he has no plans to use the medium again.

<sup>33</sup> (Makuch 2016)

<sup>34</sup> (House 2016)

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**Figure ix: Herzog responds to the idea that AI will replace film directors in the future in the trailer for *Lo and Behold, Reveries of the Connected World*.**

There is much to sympathise with Herzog on. Reflecting on the development of my art practice, I have always found a story to tell and then found the best way to tell it, whatever that medium that may be. This, too, became the challenge of being constrained by the regulating doctrines of journalism that I faced in “finding an Australian”. While operating as a journalist provides a sound ethical framework, it does not allow for expressive empathetic freedoms without bordering dangerously on hypocrisy.

*Firmament* seeks to explore and express a response to the medium of virtual reality through its applications in journalistic, or documentary visual media. Not as advocacy or refuting of some sublime understanding of the act of objectively mediated content creation, be it in art or journalism,<sup>35</sup> or a positioning of the objectivity and subjectivity of such as mutually exclusive, but rather to understand that these exist in superposition. Both are true. Neither is true. The work presents the audience a distance from the scene, and they are witnessing the documenters rather than what they are documenting. This is expounded through the darkness of the installation space, the quiet of the room lit only by the projections emanating from *Firmament*.

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<sup>35</sup> (William Sherman 2018) Engagement by a viewer as informed by the definition that: “Immersion denotes a level of engagement, and engagement is a mark of how successful the communication of a virtual world is. It follows, then that immersion in some form or another is important as an indicator of successful communication.” (p. 383)

Virtual reality journalism an opportunity for art making to traverse and scrutinize this paradox. By using virtual reality journalism as the location that opens a dialogue about technology and strategies to the gaze, my research explores the limits of pictorial representation shown by the cartographic and computational viewing to interrogate the complexities of journalism itself.

The example of artist Raphaël Dallaporta can be used elaborate on this. He, like Herzog, applied the conventional protocols of a documentary approach to a project to the Palaeolithic paintings of the Chauvet cave in what the ADAGP (2019) called “*rigorous neutrality*”.<sup>36</sup> Certainly Dallaporta slips between temporalities in equal measure in the attention given to the glittering calcite stalactites growing drip by drip, the fine pointed marks made by humans 32 thousand years ago, the steel platforms installed by modern researchers and the impossibility of capturing it all at that time, in that place. However, the soundscape, edits, frames and all of the decisions made for the creation of the work and its installation create an intentional “atmosphere” and paint a subjective interpretation of the caves – just one using the tools of neutrality. This results in Dallaporta’s photographic interpretations weaving the cave space into composited panoramas, which are then meticulously drawn over in Dymaxion

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<sup>36</sup> (Adagp 2019) As described by the ADAGP in their award of the Niépce Prize to Dallaporta. This is not reflected in the art works. The soundscape, edits, frames, all of the decisions made for the creation of the work and its installation create an “atmosphere” and paint a subjective interpretation of the caves – just one using the tools of neutrality.

map<sup>37</sup> style chalk markings. Here, Dallaporta speaks to the extraterritoriality of claiming the space through a visual representation of it, of existing in the jurisdiction of interpretation and documentation simultaneously, all the while with a deep sense of time immemorial. The significance in the grounding of both Dallaporta and Herzog's probing for the limitations of visual mediation in the prehistoric pictorial depictions elude to the thickness of the mystery of subjectivity. Perhaps the call for the use of an "immersive medium" here is compensation for a subjectivity that we will never be able to access. It is as Marc Delluc, the discoverer of the neighbouring Cussac Cave, said, "*As we trailed the artists deeper and deeper, noting where they'd broken off stalagmites to mark their path, we found signs that seemed to say, 'We're sanctifying a finite space in an infinite universe.'*"<sup>38</sup>

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<sup>37</sup> The Dymaxion map, created by Buckminster Fuller with fellow cartographer Hoji Sadao, is a world map fitted to the surface of an icosahedron that allows it to be flattened into two dimensions. This representation is only possible if it includes the entire globe, with the advantage of distorting the relative size of landmasses less. (Time LIFE magazine 1943)

<sup>38</sup> (Thurman 2008)

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Figure x: The Dymaxion map doesn't designate a "correct" way up. Fuller argued for a world that had no "up", "down", "north" or "south", which he saw as inferior attributes of cultural biases. Instead, he proposed the gravitational forces of "in" and "out". (Time LIFE magazine 1943) The map itself is not easily navigated with the four cardinal directions, or even easily held to read being of an awkward and counterintuitive shape.

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Figure xii: Dallaporta using the Dymaxion format for *The Elusive Chauvet - Pont-d'Arc Cave*. (Dallaporta  
n.d.)

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### *Allegorical Interfacing, a first-person experience of news*

In an article for *Presence: Teleoperators and Virtual Environments*,<sup>39</sup> Nonny de la Peña called for a new method of visual production through which an audience could gain first-person experiences of the events as described in the news. This was driven by her desire to deinstitutionalise the overwhelming amounts of audio-visual information that had, in her eyes, led to an indifference to human suffering. The role that de la Peña saw immersive journalism taking would be to recapture the public's emotional involvement in current events through "*the transformation of the self, in terms of their body representation into a first-person participant in those events*".<sup>40</sup> At first, de la Peña focused on engaging viewers with avatars of themselves from programs like Second Life<sup>41</sup> and blending virtual experiences with physical stimuli. An example is the process of interrogation in Guantanamo Bay, where the viewer would wear a breathing monitor that

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<sup>39</sup> A peer-reviewed academic journal dedicated to electromechanical and computer systems, and the first journal to be devoted to research into teleoperation and virtual environments (Massachusetts Institute of Technology 2019).

<sup>40</sup> (Nonny de la Peña 2010)

<sup>41</sup> An online virtual world launched in 2003, in which players navigate and interact with each other as avatars. I actually had a job for a government publication as a reporter in Second Life while I was completing my photojournalism undergraduate degree.

synchronised with an avatar to simulate their breath.<sup>42</sup> However, her focus quickly fell to virtual reality headset-based experiences exclusively.

De la Peña is now widely considered the “godmother” of virtual reality.<sup>43</sup> After coining the term “immersive journalism”, which she used to describe “*the use of virtual reality and 3-D environments, built in a gaming platform, to convert the sights, sounds and feelings of news*”,<sup>44</sup> she went on create the world’s first virtual reality non-fiction and journalistic works.

Using video game development techniques to build her first virtual reality immersive experience *Hunger in LA*,<sup>45</sup> de la Peña recreates a factual eyewitness account of a crisis at a food bank at the First Unitarian Church in Los Angeles where a man fell into a diabetic coma while waiting in line. In an interview at the time, de la Peña described the reception of the work:

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<sup>42</sup> In this early exploration of the medium, de la Peña also collaborated with a digital media artist in 2007 to bring a portion of her 2004 documentary *Unconstitutional: The War on Our Civil Liberties* into an immersive environment called *Gone Gitmo*. In collaboration with artist Peggy Weil, de la Peña used Second Life to create a virtual prison where users were invited to be incarcerated and subjected to torture techniques used at the real world location. (Massachusetts Institute of Technology 2007)

<sup>43</sup> (Bradley 2018)

<sup>44</sup> (Multiple Journalism 2012) Interestingly, in this interview from the same year as the release of *Hungry in LA*, the game is described as a “virtual reality news game”. De la Peña later settles on the term “immersive journalism” exclusively to describe her projects.

<sup>45</sup> (de la Peña, *Hunger in Los Angeles* 2012)

*It has been astonishing, people are coming out crying, freaked out and upset, asking, 'What do I do? How to I help? Why didn't anybody help the guy when he had the seizure?' You can trick your mind into really thinking you're there. That's the thing with these head-mounted displays. (Kavner 2012)*

In 2012, de la Peña took *Hunger in LA* to Sundance Film Festival with a prototype virtual reality headset, still held together with duct tape. It had been created by her intern, a student at UC Berkley, who had been developing virtual reality goggles in

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**Figure xiii: De la Peña's first project using virtual reality, the precursor to immersive**

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**journalism. (Peña, Hunger in Los Angeles 2012)**

in his garage. His name was Palmer Luckey, and very soon after he would use this prototype to found Oculus Rift,<sup>46</sup> setting in motion a new virtual reality revolution. Nine months after the premier of *Hunger in LA*, the Oculus Rift Kickstarter launched, eventually raising over 2.4 million dollars<sup>47</sup>. Two years later, Facebook purchased the company for 2 billion dollars, and in 2017 the company made moves to make virtual reality mainstream by releasing their own cheap virtual reality headset.<sup>48</sup> Facebook went on to invest 3 billion dollars in the development of the Oculus Rift and virtual reality, with a further 3 billion expected to be invested in the next 10 years.<sup>49</sup> In both the historical foundation and mainstream adoption, it is evident then that the rapid growth of virtual reality has been intrinsically linked to journalism, and that the platforms that have invested heavily in them are powerful gatekeepers of information and merchants of attention. The dubious claims of virtual reality as an empathy machine in this environment are complicated by these facts.

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<sup>46</sup> (Multiple Journalism 2012)

<sup>47</sup> (Oculus Rift 2012) The closing amount of the Kickstarter campaign was US\$2,437,429 of the US\$250,000 goal.

<sup>48</sup> (Joseph Feller 2016) Feller writes about the controversy surrounding the company following its purchase by Facebook as a move that some argued contradicted the principles of crowdfunding.

<sup>49</sup> (Nick Wingfield 2017) This figure comes from a courtroom statement by Facebook CEO Mark Zuckerberg relating to the lawsuit faced by company ZeniMax, who accused Oculus Rift of stealing intellectual property. A jury awarded ZeniMax \$500 million in damages. After appealing, Facebook settled for an undisclosed amount in December 2018.

The same year that Luckey appeared on the cover of TIME magazine, Google launched the NYT VR website portal and app, sending out 1 million Google Cardboard viewers to paper subscribers and a further 300,000 to digital subscribers. The first project released by the *New York Times* on it was *The Fight for Fallujah*, a virtual reality work by Pulitzer Prize-winning videographer Ben C. Solomon,<sup>50</sup> who was embedded with Iraqi security forces and chronicled the fighting in the Iraqi city during the campaign against ISIS.<sup>51</sup> Most of these scenes show Solomon traveling, assessing his environment, taking notes and interviewing subjects in an active conflict zone. In an interview with the Pulitzer Centre, Solomon articulated his decision for using virtual reality on this project,

*The reason why we did it in virtual reality was so that we could get a newer and fuller understanding of how this fighting works, and the aftermath that it leaves behind. We wanted to get a full ... full dimensional understanding of how fighting in this territory it works ... just the feels and the looks of war and what goes along with it. (Pulitzer Center 2016)*

Combined with first person narration, Solomon's presence in the virtual reality film, where he is shown setting up the 360 camera rig and then focusing on other tasks, is a scene that serves to give the impression of a peek "backstage" into a journalists time working in a conflict environment.

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<sup>50</sup> (The New York Times Magazine 2016)

<sup>51</sup> *The Fight for Fallujah* was also one of the first virtual reality experiences filmed in an active conflict zone. (Pulitzer Centre 2016)

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**Figure xiv: Palmer Luckey on the cover of Time magazine. (Time Magazine 2015)**



Figure xv: Audience members at the launch of NYT VR. (Barnard 2015)

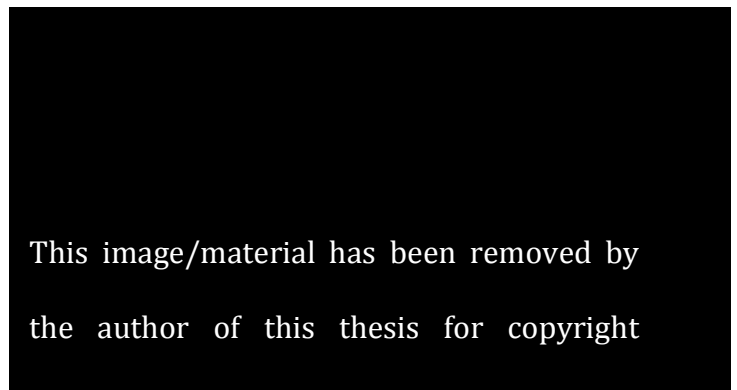
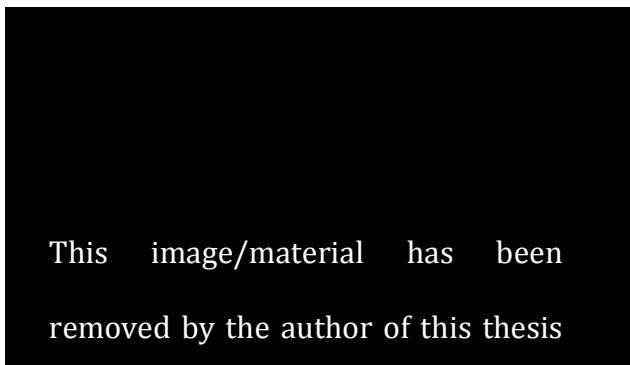
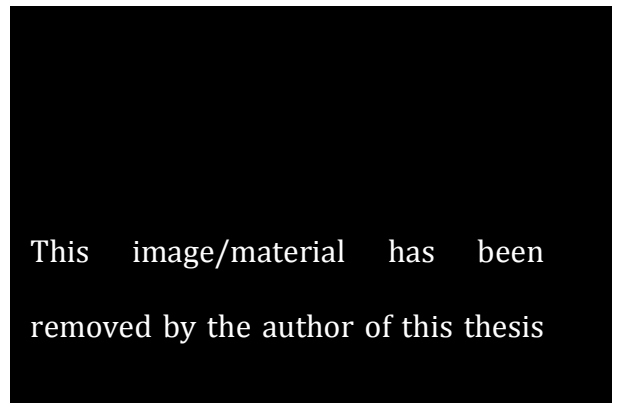
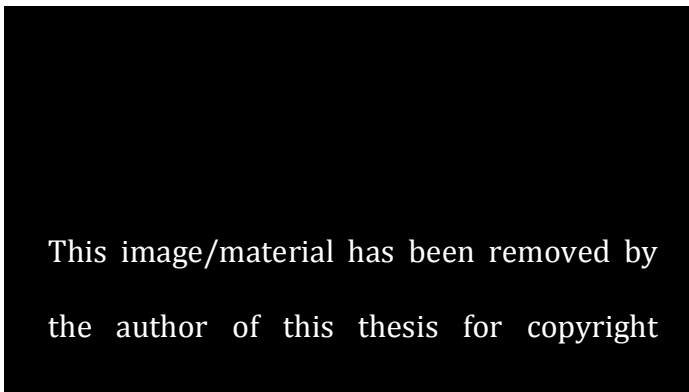


Figure xvi : NYT VR materials.

The meta-narrative that is being played out here is conditional on establishing the objectivity of the 360 degree frame in order to impart a “fly on the wall” sensation of the virtual reality experience so as to display, as Solomon calls it, “the journalist’s notebook”.<sup>52</sup> It is not new for photojournalists to subvert what is seen as the editorial constraints of timelines by using an alternate display method and the rise of the documentary photobook genre is testament to that.<sup>53</sup> What is new is the technology, and virtual reality is being positioned here as the objective frame through which the truth of a visual journalistic process is made *even more truthful* in a kind of “super-vision”<sup>54</sup>. There is a salient problem here though, and one that is emblematic of journalism and the larger problem of mediated viewing – the infrastructure on which virtual reality journalism is built and displayed is not objective. Rather it has a clear subjective commercial intent that exists outside of representation itself.

In an interview with Jessica Northrop, the project manager for NYT VR, when she talks about virtual reality itself as a product for advertisers it is telling of the news outlets’ relationship with advertisers. As she says in an interview on why the New York Times decided to start producing virtual reality content:

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<sup>52</sup> (Pulitzer Center 2016)

<sup>53</sup> Which itself has been facilitated by modern advancements in print-on-demand, easy purchasing and viewing technologies like the Internet, and the just-in-time supply chain that support them. (Steptoe 2013)

<sup>54</sup> Perhaps more accurately a “supra-vision”, where more than one viewpoint is required (though not necessarily simultaneously) for a full contextual understanding, or the collective gaze of a supra-individual mind requiring multiple individuals’ participation to agree on a truth.

*It was actually Sam Dolnick, associate editor of the Times, who happened to see a VR piece that really spoke to him. He connected us with Jake Silverstein, editor of the NYT magazine, and that's sort of how the idea was born. Of course, then advertising went and sold it ... So within three months we had to create content, we created an app but on the whole, the Times really got behind it because we are really in a movement right now of exploring new ways of journalism, and really want to take readers to places that they can never go. (Pinson 2016)*

The commodification of news content and news consumers is not a phenomenon new to journalism.<sup>55</sup> However, the shift to online platforms has increasingly demanded the implementation of computational assessments of relevance to the reader, exacerbating the motivation to “find an Australian”, as described earlier. The economic pressures on news outlets are geared towards targeted advertising, where “shareable content” is financially incentivised,<sup>56</sup> hence Northrop’s shoulder shrugging statement that “*of course then advertising went and sold it*”.<sup>57</sup> The surprise here is in her attitude in relation to the adoption of virtual reality as a commercial tool for the magazine, adding it casually to the process through which a false economy of clicks is created. An economy where,

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<sup>55</sup> Realizing that they could expand their audience and make more money off advertising, American newspapers began to abandon their partisan politics in favour of less political reporting starting around 1900. (Kaplan 2002)

<sup>56</sup> See *Figure xi*. (Tambini 2017)

<sup>57</sup> (Pinson 2016)

regardless of the content or how it was generated, the more clicks that a news article achieves, the more value it has to generate revenue. Revenue which is then decided by the advertiser's own analytics.<sup>58</sup>

Businesses are increasingly outsourcing their purchases of advertising to third parties like Google AdWords and Facebook who they pay according to clicks, shares and views.<sup>59</sup> All of which are specifically tracked and used for automated programmatic advertising favouring "sharable content", thus contributing heavily to biased content. Much like the glossy magazines that shout for attention at a supermarket checkout that contain content only to sell advertising, there has been a digital proliferation of fake news sites purely for financial benefit through programmatic advertising technology.<sup>60</sup> In 2017, there was a 22% or \$12.9 billion year-over-year increase in total Internet advertising revenue, and Facebook and Google together accounted for 99% of that growth.<sup>61</sup> This is concerning given that Facebook and Google have also been the largest investors in mainstreaming virtual reality,<sup>62</sup> and by applying the aforementioned

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<sup>58</sup> (Tambini 2017)

<sup>59</sup> (Tambini 2017) Tambini asserts that those who perfect the art of distraction will be the biggest winners in this system, and makes the argument that the computational nature of this system is what allows it to bypass traditional journalistic ideologies.

<sup>60</sup> (Joshua A. Braun 2019) Braun and Eklund focused their study on fake news sites profiting from fake news during the 2016 US presidential election.

<sup>61</sup> (Tambini 2017)

<sup>62</sup> (Molla 2017) Molla places the worldwide revenue for augmented reality and virtual reality to be around \$14 billion and forecasts it to be \$143 billion by 2020.

model have facilitated the growth of fake news.<sup>63</sup> Thus algorithmic intervention, buoyed by corporate interest has become an important foundation to the state of contemporary journalism and the speed of its movement towards novel technologies. De la Peña, at the inception of immersive journalism, had speculated that it would be “*not unlikely that the near future will allow for larger portions of the public to experience highly-immersive experiences at home or in their work environment*”.<sup>64</sup> She was prescient in outlining the objection to immersive journalism being a concern as to what extent reporting complies with reality, and to what extent this would strain the integrity of the representation in virtual reality. Interestingly though, de la Peña quickly claims this as convenience,

*Immersive journalism does not aim solely to present the facts, but rather the opportunity to experience the facts. We stress that the distinction between conventional documentary content, such as video and audio recordings, and synthetic content, such as 3D models and animation, is blurring. While we are accustomed to viewing video, images, and audio recordings as faithful duplicates of reality, we know that in many instances they are not.* (Nonny de la Peña 2010)

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<sup>63</sup> (Vian Bakir 2017) Bakir and McStay examine the 2016 US presidential campaign as a method of identifying the causes, problems and possible solutions to the problem of contemporary fake news.

<sup>64</sup> (Nonny de la Peña 2010)

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**Figure xvii: Diagramming the financial incentives for creating “sharable content” in contrast to advertising supporting content that has been subjected to established best practice journalistic standards, thus leading to biased news creation. (Tambini 2017)**

If then, the operational contrivance of virtual reality is of allegorical and not realistic viewing, at best this compounds the cynicism that is required by the viewer of virtual reality, stopping it as an empathetic experience just short of plunging into the uncanny valley.<sup>65</sup> David Drag, co-founder of RYOT, the largest virtual reality documentary production company that specializes in “hopeful video content” from developing and disaster affected nations, called VR “*a transportation device*” where you “*register VR as an experience you had, rather than something you see*”.<sup>66</sup> Proposing the VR headset as an empathy machine for positive change, Drag bases this claim on the content his company has been producing for two and a half years. However, Stanford University’s Human Interaction Lab has been producing and testing the results of virtual reality experiences for over 10 years and has consistently shown that while VR does show a moderate increase in empathy, the outcomes are much more socially complicated than those implied by RYOT.

Notably in their most recent project, *1000 Cut Journey*, a simulation of racial aggressions over the lifetime of a African-American male condensed into 12 minutes, some viewers who had an embodied experience of being another race actually showed increased negative stereotyping attitudes after.<sup>67</sup> Their conclusion being that they now had a better insight into being racially targeted

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<sup>65</sup> The uncanny valley is the relationship between the degree of an object’s resemblance to a human being and the emotional response to such an object. (Karl F. MacDorman 2006)

<sup>66</sup> (Streep 2016)

<sup>67</sup> (Courtney D. Cogburn 2018)

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**Figure xviii: *1000 Cut Journey*, an immersive virtual reality experience allows you to walk in the shoes of Michael Sterling, an African-American male, and encounter racism first-hand as a young child, an adolescent and a young adult. (Stanford 2018)**

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**Figure xix: Mark Zuckerberg touring a disaster zone in virtual reality. (Facebook 2017)**

though their virtual reality experience, leaving them with the impression that it wasn't as bad as they had thought or been told.<sup>68</sup> As the technology makes the claim of being real without actually being a real experience, having a tepid experience of racism through it increases or reinforces existing racist attitudes. This is a clear example of the inherent bias of the technology being dangerous when it hides behind claims of embodied experience through objectivism.

Perhaps what de la Peña could not have known was just how pervasive an influence the investors in virtual reality would have on the technology and on the dislocation that comes from the collision of the virtual and the real. On 9 October 2017, Facebook's "Social Virtual Reality chief" Rachel Franklin and CEO Mark Zuckerberg each put on an Oculus Rift and broadcast live on Facebook its new virtual reality platform "Facebook Spaces", in what would become a spectacular display of spectatorship and exploitation. In an effort to show off Facebook's investment in virtual reality, Zuckerberg and Franklin were virtually transported to the moon to experience the wonder of space, to Zuckerberg's house to see his dog and then to Puerto Rico to tour the aftermath of Hurricane Maria. Appearing in 360 degree footage shot by NPR journalists, the pair were superimposed onto the scene to discuss what Facebook was doing to aid relief, including donating 1.5 million dollars.<sup>69</sup> The problem here is that they appeared as cartoon floating

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<sup>68</sup> (Courtney D. Cogburn *et. Al* 2018)

<sup>69</sup> (Solon 2017) Facebook also contributed "population maps" to the Red Cross, which the organisation used to prioritize aid distribution. Users are required to surrender their privacy through location tagging on the Facebook app on their mobile devices to be counted in population zones on these maps, meaning that

characters, taking selfies, laughing, high fiving and saying things like: “It feels like we’re really here in Puerto Rico!”<sup>70</sup> This in a hacking together of crude salesmanship and technological novelty in a portmanteau of cartoon sympathy is profoundly disturbing. This is a prime example of the punitive use journalism in virtual reality as a technology of mediated visualisation in a technocratic oligarchy, a terrifying reflection of its future landscape in a black mirror. It is following on from this understanding of virtual reality that this paper will discuss the creative output situated within the research resulting from my artistic practice, as well as other examples of related artists and novel technologies.

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Facebook users were counted as people in these maps and non-Facebook users were not.

<sup>70</sup> (Kastrenakes 2017) Zuckerberg also said, “one of the things that’s really magical about VR is you can get the feeling that you’re really in a place”, while his cartoon avatar floated over scenes of destruction caused by Hurricane Maria.





## **The Unbearable Credulity of Seeing**



## *Spectre and power*

Comprised of six “deep fake”<sup>71</sup> video works created as part of the *Spectre* installation, the Big Dada series was posted to Instagram as a digital intervention in June 2019. It quickly went viral,<sup>72</sup> leading to strange, contradictory official responses from Facebook and Instagram concerning their policies regarding computational propaganda on their platforms.<sup>73</sup> Artists Bill Poster and Daniel Howe said of the motivation for their work:

*Since 2010, political parties and governments have spent nearly a billion dollars on the research, development and implementation of psychological operations and opinion manipulation techniques that involve social media. In many countries divisive social media campaigns have heightened ethnic tensions, revived nationalistic movements, intensified political conflict, and even resulted in political crises, while simultaneously weakening public*

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<sup>71</sup> A portmanteau of the “deep learning” algorithms that drive artificial intelligence (AI) systems and “fake”, a deepfake is a synthetic human image made with an AI system that superimposes images from a source material (like photographs from a Facebook profile) over a target image (like a clip from a movie). Created by Reddit user “deepfake”, the opensource technology was quickly adopted to make porn, hoaxes and political propaganda. (Banks 2018)

<sup>72</sup> The exhibition was covered widely by outlets such as the BBC, the New York Times, the Guardian, Spiegel, Le Monde, CNN and La Republica among many others.

<sup>73</sup> Facebook’s response was widely discussed in relation to their refusal to remove a doctored video of American anti-Trump senator Nancy Pelosi. The company ultimately also refused to take down the *Spectre* deepfake of Facebook CEO Mark Zuckerberg.

*trust in journalism, democratic institutions, and electoral outcomes.*

(Posters 2019)

Revived as “deep fake” avatars, celebrities including Marcel Duchamp, Mark Zuckerberg, Kim Kardashian, Freddy Mercury and more, engage audiences in the affective power of visual computational propaganda. *Spectre* leverages the visual technologies and techniques of tech giants, advertising firms and political campaign groups to show how our behaviours are being predicted and influenced. In the all-pervasive eye of novel technologies such as social media, *Spectre* engages audiences with the inner workings of this secret digital influence industry in unexpected and dangerous ways through the responsive artworks created with its tools. It is an experience where visions of truth and free will are not to be relied upon and furthermore, it creates an imperative for self-reflection on the theories of the epistemology of vision<sup>74</sup> that have remained dominant to the authenticity and integrity of images. One that is so often lacking from our political and visual fields. These dominant theories of the epistemology of vision are given historical and contemporary context eloquently by Teresa Brennan and Martin Jay in their collection of essays.<sup>75</sup>

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<sup>74</sup> This “spectatorial” nature of modern epistemology is also evident when we consider that the word “theory” shares its etymology with “theatre” in Latin. This comes from the Greek *theōria*, meaning “contemplation and/or speculation”, which is from *theōros*, meaning “spectator”. (The Oxford Dictionary 2019)

<sup>75</sup> (Teresa Brennan, *Vision in Context: Historical and Contemporary Perspectives on Sight* 1996) Brennan also wrote extensively on the “transmission of affect”,

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whereby emotions or energies can be transferred between people in the creation  
**Figure xx: Deepfakes from artist Bill Posters' Instagram profile. Well known public figures appeared  
to make statements such as: "One man in total control of people's stolen data, all their secrets, their  
lives, their futures. I owe it all to *Spectre*. *Spectre* showed me that whoever controls the data, controls  
the future. (Bill Posters, Instagram 2019)**

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Figure xxii: *Spectre* installed for the Sheffield Doc Fest. (Bill Posters, V21Artspace 2019)

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Figure xxi: *Spectre* installed for the Sheffield Doc Fest, dollhouse view from 3D walkthrough. (Bill Posters,  
V21Artspace 2019)

For them, critiques of vision and the gaze are guides to exploring issues in the analysis of racism, sexism and ethnocentrism. Their categorization of the various definitions and alternatives to rationalism that are based on the traditions of Western optic-centric philosophy provides a useful way of mapping and disentangling critiques. Metaphorics of vision provide the potential for reflecting on the bias of the mediation of virtual reality journalism, wherein the eye can be considered as the hinge point between the objective the subjective. In this spectatorial epistemology, vision has become a source of truth with the world being seen and objectified, informing an absolute subjective self<sup>76</sup> and the power to see, to make visible becomes the power to control.

This is particularly scrutinized in Michel Foucault's aversion to the spectator theory of knowledge,<sup>77</sup> where he instead constituted the individual as an autonomous, detached and disinterested entity incarcerated by various technologies of visualization. As he writes in *The Birth of the Clinic*,<sup>78</sup> "the gaze

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<sup>76</sup> (Kavanagh 2004) Though Kavanagh's description of contemporary scepticism towards vision-based metaphors particularly as a critique of ocularcentrism and the subjective.

<sup>77</sup> (Dicker 1973) Here referring to Dewey's critical stance that passive vision has functioned as the primary model in the characterization of knowing.

<sup>78</sup> (Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* 1963) Foucault argued that the medical gaze took hold through pathological anatomy and the autopsy, which was essentially a practice of visually specializing previously invisible disease. This came to be accorded central status in medical practice "based on the rediscovery of the absolute values of the visible".

*that sees is the gaze that dominates*".<sup>79</sup> Foucault sees knowledge and power as fundamentally indwelling and internalised, detailing in *Discipline and Punish* the shift from sovereign to disciplinary power in the 19th century, where: "governmentality [became] organized around the gaze of the sovereign to governmentality organized by surveillance, panopticism, the normalising gaze dispersed throughout the social system, maintaining civil order".<sup>80</sup>

To Foucault, "power is exercised by virtue of things being known and people being seen ... by surveillance rather than ceremonies" in a disciplinary regime.<sup>81</sup> In this regime, individuals are no longer autonomous entities, but are better understood as being constituted by technologies of visualisation, such as the examination or audit, which include self-observation, self-examination and self-monitoring. Among these technologies of visualisation, we should add the visual mediation of journalism as it enables the selection and manipulation of information for a targeted audience in the creation of the economy of clicks. It is a technology of self-monitoring that is taken to a new intensity in the modern era by the ceremonies and tools utilized by Poster and Howles in the production of *Spectre*; one that drives the self-observation of Australians to find an Australian in the news.

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<sup>79</sup> (Foucault 1963, pg 39)

<sup>80</sup> (Foucault, *Discipline and Punish: The Birth of the Prison* 1997)

<sup>81</sup> (Foucault, *Power/Knowledge: Selected Interviews and Other Writings* 1980)

*“Abstract liberty, like other mere abstractions, is not to be found.”*

In *Ocularcentrism and its Others*, Donncha Kavanagh expands upon categories of seeing<sup>82</sup> and their connection with the circulation of print media that are useful in unpacking the medium of virtual reality as a technologically deterministic medium. In it, Kavanagh sketches out an attempt by the Romantics of the 19<sup>th</sup> century to move away from Enlightenment rationality by championing the imaginative, irrational and fantastic aspects of the creative mind,<sup>83</sup> presenting mental pictures of what the world “might be like” in contrast to the Rationalist picture of what the world was “actually like”. To emphasise the difference, Irwin Abrams<sup>84</sup> used the metaphors of the mirror and lamp to distinguish between the two movements, which, for our purposes, we can consider objective and subjective content creation respectively. As Abrams describes,

*“... (the mirror is) a radiant projector which makes a contribution to the objects it perceives. The [mirror metaphor] was characteristic of much of the thinking from Plato to the eighteenth century; the [lamp metaphor] typifies the prevailing romantic conception of the poetic mind.”* (Abrams

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<sup>82</sup> (Kavanagh 2004) Kavanagh writes primarily in relation to how this is exploited for commercial purposes in modern marketing in this essay.

<sup>83</sup> (Abrams 1953) Though the Romantics retain what they call the “primordial position of the human mind”, it is perhaps best seen as an extension of the ideals of the Enlightenment rather than an alternative philosophy.

<sup>84</sup> (Abrams 1953) Abrams was regarded as the foremost authority on the Nobel Peace Prize, on which he wrote extensively. Here he proposes ocularcentrism as a boundary to empathy and understanding from which nationalism and violence emerge.

1953)

While being cautious of reductionism, Kavanagh makes it clear that the Romantic movement of the early 19<sup>th</sup> century utilized the quickly expanding print technology for visual mediation and the public consumption of it to provide an important philosophical basis for socialism and nationalism – the two primary movements of radical political change in the late 19<sup>th</sup> century. Both Kavanagh and Abrams locate nationalism and socialism’s foundations as predicated on a “fixed point of view”,<sup>85</sup> which can serve allegorically to describe the dangerous false objectivity purported in journalistic virtual reality content. The visual experience of virtual reality is derived from and depends on this same fixed point of view for visual quantification in a literal sense. However, this relationship is especially clear in the way that virtual reality is handled as a news product by algorithmic emotional targeting and systems. Abrams refers to this as “*the Platonic pursuit of abstract perfection*”, a phrase he borrowed David Trimble’s speech upon receiving the Nobel Peace Prize.<sup>86</sup>

*The Platonic pursuit of abstract perfection, the passion to change other people’s personal, political, religious or economic views by political violence ... I say Platonic because that savage pursuit of abstract perfection starts in the Western world with Plato’s Republic. It rises to a plateau with the*

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<sup>85</sup> (Kavanagh 2004)

<sup>86</sup> (Trimble 1998) Trimble was jointly awarded the Nobel Peace Prize with John Hume for their efforts in finding a peaceful solution to the conflict in Northern Ireland that eventually led to the Good Friday peace agreement.

*French and Russian revolutions. It descended to new depths with the Nazis and is present in all the national, ethnic and religious conflicts current after the collapse of communism, [itself the most determined and ruthless Platonic experiment in perfecting the economic system whatever the cost in human life. (Trimble 1998)*

This an extensive and meaningful act of visual mediation in news media, which Marshal McLuhan<sup>87</sup> further identified as the sinister connection between ocularcentrism and nationalism. He noted that print technology during the 19<sup>th</sup> century was a tool by which *"a people sees itself for the first time. The vernacular in appearing in high visual definition afford[ing] a glimpse of social unity co-extensive with vernacular boundaries".*<sup>88</sup>

In opposition to this, Nietzsche advocated in *On the Genealogy of Morality* (1989) for the use of an intentionally disembodied gaze to attack and define ocularcentrism. As it is applied to objectivity, he used this to argue against the philosopher's presupposition of an eye outside time and history as

*"an eye that no living being can imagine, an eye required to have no*

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<sup>87</sup> (McLuhan, *Understanding Media: The Extensions of Man* 1964)McLuhan proposed the medium itself, not the content within it, as the focus of study and famously coined the phrase *"the content of a medium is always another medium."*

<sup>88</sup> (McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* 1962) In this writing McLuhan popularised the term 'global village' to frame mass-communication allowing a village-like mindset to apply to the entire world, moving from individualism to a collective identity with a tribal bases.

*direction, to abrogate its active and interpretative powers ... the more different eyes we can put on in order to view a given spectacle, the more complete will be our conception of it, the greater our 'objectivity'”<sup>89</sup>*

His assertion was that every discourse could only be understood as a perspective. Stating that *“all seeing is essentially perspective and so is all knowing”*,<sup>90</sup> Nietzsche developed this insight to present a radical critique of both philosophy and science that can also be applied to visual media created as news content. Nietzsche subverts the visual by turning it in on itself by extending and multiplying its logic. The ensuing effect was, as Martin Jay puts it, *“Plato’s singular sun of truth illuminating a reality of forms was replaced by a thousand and one suns shining on a multitude of different realities.”*<sup>91</sup>

Now exist in a visually mediated environment of a multitude of realities, where all claim objectivity while providing subjective points of view. In response, cynicism has become the blunt object with which we now beat the truth into shape, and novelty has emerged as the structure on which one can stand and be seen above all others. Virtual reality is the format most recently championed as such. It is clear that there are inherent problems in the creation of “objective”

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<sup>89</sup> (Nietzsche, 1989) Here taken to refer both to affectation or objective voice adopted by journalists in the creation of objective content, and to the 360 frame of virtual reality.

<sup>90</sup> (Nietzsche, 1989) The self importance that the 360 frame imbues the viewer with in virtual reality by positioning them as the centre of the experience fuels this conceit.

<sup>91</sup> (Jay 1994)

visual content when vision itself is fraught with such difficulties and complex interactions. Modes of news consumption in the current climate of news media parallel this difficulty, as audiences struggle to easily demarcate factual journalism from subjective, fictional fake news, all the while being codified by it. To use an example given in Trimble's speech:

*Burke believed man was flawed and that society was redemptive ... In 1781 he said, "Abstract liberty, like other mere abstractions, is not to be found." Seven years later he opposed the revolution correctly predicting that the mob would be replaced by a cabal, and the cabal by a dictator. (Trimble 1998)*

## *Algorithmic intervention and computational viewing, this is what you wanted right?*

On 9 April 2017, airport security boarded an overbooked flight that required a passenger to be removed. After unsuccessfully asking for volunteers, security forcefully removed Dr David Dao, dragging him down the aisle, bleeding.<sup>92</sup> This is an example Cathy O’Neil discusses in her book *Weapons of Math Destruction* as a moment when the computational abstract of algorithms collide violently with reality.<sup>93</sup> Dao had refused to leave the plane, stating that he had patients relying on him to make the flight. Speculations of racial discrimination immediately followed the incident,<sup>94</sup> and while there may have been a element of that, the actual reason he was selected for removal was an algorithm. It processed how often all the passengers flew United Airlines, what time they checked in and whether they were on a rewards program. It then determined that Dao was the least valuable customer on that flight.<sup>95</sup> To the algorithm and the employees that subsequently followed its instructions, it did not matter that Dao had patients that were relying on him, or how much he refused. He had been chosen to be removed. Dao’s story is not really about air travel, policy or consumer rights, but rather about the dehumanising power of algorithms.

Here is a personal formative example to this research of virtual assesments colliding violently with reality, in this case my face and livelihood with biased

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<sup>92</sup> (Daniel Victor 2017)

<sup>93</sup> (O’Neil 2016)

<sup>94</sup> (Mooney 2017)

<sup>95</sup> (O’Neil 2016)

computational abstract of algorithms. Upon learning of this event during the development of this research project, I considered the systems that I myself was interacting with and quickly identified one such collision in my own life.

I have a job at a bar where I am required to use facial recognition software to sign in as a time stamp. The software does not recognize my face. I often ended up clocking in late to work, repeatedly trying to have my face recognized as human. Then I realized that I could just ask my Caucasian colleagues stand next to me and the camera would instantly recognize them. This is likely because the dataset that is used by the facial recognition software is limited, and like most facial recognition software, is predominately trained on white faces.<sup>96</sup> In fact, the software will not recognize my face if I stand before the camera on my own, but if I draw a smiley face on a white piece of paper then it immediately recognizes it.

In his book *Radical Technologies*, Adam Greenfield defines this phenomenon as “*the colonization of everyday life by information processing*”.<sup>97</sup> To Greenfield, potentially liberating technologies are highly vulnerable to occupation and exploitation by existing power structures. Small experiences like this of daily life

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<sup>96</sup> (Joy Buolamwin 2018) In their paper, Buolamwin and Gebru demonstrate the discrimination that exists in machine learning with facial recognition software. They find the two benchmark systems, LJB-A and Adience, to be overwhelmingly composed of lighter-skinned subjects, with 79.6% and 86.2% respectively.

<sup>97</sup> (Greenfield 2017)

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**Figure xxiii: Mobile phone footage of Dr David Dao being forcibly removed from United Express flight 3411.**

**(Business Insider 2017)**



Figure xxiv: The log in timestamps from the facial recognition app that I would sign into work with. These images show my Caucasian workmates helping me register as a human.

(Jong, Trying to log into work. 2017-2019)

mediated by novel technologies and expressed through a computational viewpoint offer an example of the techno-political-economical cultural misregistration between Silicon Valley culture and reality. Early on in this research project, I was coincidentally interviewed while interacting with a video install on the University of Melbourne campus. I was approached by Dr Niels Wouters, a computer sciences lecturer from the Microsoft Centre for Social Natural User Interfaces at the University of Melbourne. During the short interview, we discussed his work that I had been interacting with, *Biometric Mirror*. To me, it was a work that provoked questions about the boundaries of AI, showing how easy it is to implement algorithmic biases that discriminate in unethical ways, with real societal consequences. This meeting influenced the development of the *COLMAP\_PROJECTION* work that is discussed later. This was developed as part of this research project, and its exploration of algorithmic action and intervention.

In the first iteration of *Biometric Mirror*, a wall of text next to a camera mounted on television instructs you to raise your hand to agree to a scan. Upon sensing this, the camera performativity “scans” you while continually tracking your face to impart a sense of internal appraisal, in a what Wouters describes as a “blackbox system”.<sup>98</sup> While *Biometric Mirror* is unambiguous in illustrating its core functionality of analysing faces, it remains silent on explaining its internal logic, much like the impenetrable computational view that *COLMAP\_PROJECTION* takes. Both provide few clues about their intention or internal operations and

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<sup>98</sup> (Niels Wouters 2019)

thus they encourage participants to speculate about their inner workings. During the exhibition period of *Biometric Mirror*, Wouters interviewed several participants who expressed their belief in the validity of the assumptions made by the system. One participant said, “[*The readout*] must be right because the assessment is made by a computer, and computers are better than people at drawing such conclusions.” (Niels Wouters 2019)

After the initial scanning, *Biometric Mirror* slowly displays 14 personal characteristic percentages. The longer the viewer stands before the screen, the more personal they become. The analyses of individual character traits are based solely on their face, comparing the participant to a purposely limited database of faces that have been assessed on 14 characteristics. It then issues them with a statement that summarises their attractiveness, emotional state etc.

Most participants did not to put faith in the psychoanalysis provided by *Biometric Mirror*, often due to a perceived mismatch between the results and their self-perception,<sup>99</sup> and argued that “*it’s cool to see how it interprets us, but then it’s also interesting to see [that] it doesn’t reflect the way we see ourselves.*” (Niels Wouters 2019)

Artist Lucy McRae’s collaboration with Wouters for the Science Gallery Melbourne’s PERFECTION exhibition program pushes this project into a visceral

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<sup>99</sup> (Niels Wouters 2019) Wouters suggests that the direct interaction with *Biometric Mirror* enabled participants to recognise the limitations of facial analysis for psychometric profiling.

exploration of the subjective and objective computational gaze. In McRae's immersive installation, the *Biometric Mirror* blends the act of casually glancing at one's reflection with technophilic algorithmic perspectives on facial perfection. In McRae and Wouters new version the *Biometric Mirror* now reflects back a real time sculpting of a picture of the participant to the specifications of the Marquardt Mask, which McRae describes as "*a mathematical grid of facial symmetry [that] is still used today by plastic surgeons throughout the world. The mask is based on a white male, but is used across every culture and ethnicity, which is terrifying*".

The mask itself was invented by a Hollywood plastic surgeon and based on an interpretation of sacred geometry.<sup>100</sup> This action of the artwork is itself a mirroring of the problematic training of facial recognition software on exclusively white faces. In the end, you are shown your face morphing into an uncanny, alien-like creature. Finally, your newly formed image joins a slideshow of everyone's results where there is no uniqueness or beauty. In an interview, McRae said of her research led art practice:

*What I'm doing, I think, is using art as an opportunity to bring physical form to complex science. ... I think it's important to build fictions around how science and technology are slowly reconfiguring the body, and for the mainstream audience to be able to fathom these concepts. (Hawkins 2018)*

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<sup>100</sup> (Hawkins 2018)





Figure xxv: Using the first install iteration of *Biometric Mirror*.

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**Figure xxvi: *Biometric Mirror Salon* by Lucy McRae, commissioned by the Science Gallery  
Melbourne. (Marlow 2018)**



## **Citizen Journalism**



### *Everything is a lie (probably)*

As newspapers dropped their blatant partisanship in search of new subscribers,<sup>101</sup> political analyst Walter Lippmann and philosopher John Dewey debated the role of journalism in a democracy.<sup>102</sup> Their differing philosophies still characterize an ongoing debate about the role of journalism in society today. Lippmann's views prevailed for decades, helping to bolster confidence in decision-making by experts with the general public standing by in support. He argued that journalism was wasted on ordinary citizens, but was of genuine value to an elite class of administrators and experts.<sup>103</sup> On the other hand, Dewey believed not only that the public was capable of understanding the issues created or responded to by the elite, but also that decisions should be made in the public forum after discussion and debate. The best ideas would bubble to the surface when issues were thoroughly vetted. The danger of demagoguery and false news did not trouble Dewey. His faith in popular democracy has been implemented in various degrees and is now known as “community journalism” or “citizen journalism”.<sup>104</sup>

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<sup>101</sup> The shift away from the partisanship of 19<sup>th</sup> century came in the early 20<sup>th</sup> century, with the advent of media empires controlled by the likes of William Randolph Hearst and Joseph Pulitzer. (Columbia University 2019)

<sup>102</sup> (Noortje 2007)

<sup>103</sup> (Davis "Buzz" Merritt 2003)

<sup>104</sup> (Lawrence F. Keller 2014)

In a time where almost half of all news consumers receive and share their news from online sources,<sup>105</sup> false information can reach large audiences by spreading rapidly from one individual to another. Following the “post-trust” age, some observers claim that we have entered an era of “post-truth”.<sup>106</sup> In fact, the Oxford English Dictionary declared “post-truth” the word of the year in 2016, stating that it reflected the *“circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal beliefs”*. (Oxford Dictionaries 2016)

Although it is not new, the spread of false information has become synonymous with the term “fake news”.<sup>107</sup> Democracy has been repeatedly buffeted by changes in media technology and many have argued that the effectiveness of the press as a check on power has been significantly compromised as a result. As radio and television became dominant in the 20<sup>th</sup> century, observers worried that these new platforms would reduce substantive policy debates to sound bites,<sup>108</sup> privilege charismatic or “*telegenic*” candidates over those who might have more ability to lead but are less polished, and concentrate power in the hands of a few large corporations.<sup>109</sup> In April 2018, dozens of newscasters across the country parroted Donald Trump’s invectives about fake news, saying, “*Some*

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<sup>105</sup> (Mitchell 2016)

<sup>106</sup> (Stephan Lewandowsky 2017)

<sup>107</sup> A Google Trends analysis reveals that this term began to gain relevance in US Google searches around the time of the US presidential election in 2016, and that it has remained popular ever since. (Google 2018)

<sup>108</sup> (Kurt Lang 2002)

<sup>109</sup> (Kurt Lang 2002)

*members of the media use their platforms to push their own personal bias and agenda to control exactly what people think. This is extremely dangerous to our democracy.” (Deadspin 2018)*

In response, Dan Rather, the former anchor of CBS Evening News, wrote on Twitter,

*“News anchors looking into camera and reading a script handed down by a corporate overlord, words meant to obscure the truth not elucidate it, isn’t journalism. It’s propaganda. It’s Orwellian. A slippery slope to how despots wrest power, silence dissent, and oppress the masses.” (Rather 2018)*

Artists Julian Oliver and Danja Vasilev expand on this cynicism and direct it at the hardware along which the lines of digital communication run. In making the work *Newstweek*<sup>110</sup> the pair created a device that manipulates the news read by other people on wireless hotspots. Built into a small and innocuous wall plug, the device appears to be a part of the local infrastructure while allowing writers to remotely edit news read on wireless devices without the awareness of their

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<sup>110</sup> (Julian Oliver 2011)

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**Figure xxvii: Example of a *Newstweek* website. (Julian Oliver 2011)**

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**Figure xxviii: *Newstweek* operational diagram. (Julian Oliver 2011)**

viewers. As an intervention upon the distribution model of viewing news, *Newstweek* provides an opportunity for citizens to have their turn at manipulating the press, by generating propaganda or simply “fixing facts” as they pass through a wireless network. As such, *Newstweek* can be seen as a tactical device for altering reality on a per network basis. In this action, Oliver and Vasilev also caution that a strictly visual media-defined reality is a fragmented and vulnerable, one that involves many hands at work in the course of news distribution. Not only the content and visual technology creators as we have discussed previously, but also Internet service provider workers, numerous server administrators and wireless access point owners. This is significant to the awareness of the construction of complex multi-subjective realities through the consumption of mediated visual media. Moreover with the emphasis on the increasing ubiquity of networks and their devices, such as free Wi-Fi in a café for example, the reliance upon novel technology increasingly becomes of greater ignorance to their function. This in turn offers a growing opportunity for the manipulation of opinion from source to destination through network permeability.

Most recently, the focus of concern has been social media, where platforms such as Facebook have a dramatically different structure than previous media technologies. Content can be relayed between users with no significant third-party filtering, fact-checking or editorial judgment. An individual user with no track record or reputation can, in some cases reach, as many readers as Fox

News, CNN or the New York Times.<sup>111</sup> Advocates of citizen journalism see this as an opportunity to hold our own communities and systems to account through shifting the onus of critical analysis to the reader and non-professional journalist for a more democratic mediation.<sup>112</sup> Social media platforms like Twitter and Facebook have certainly been presented as such. Michael Power coined the terms “audit explosion” and “audit society”<sup>113</sup> to probe this, in what he describes as a pervasive audit regime. In *The Audit Society: Rituals of Verification* (1999), Power presented the audit as intrinsic to modern society as both “*a constitutive principle of social organizations*” and an “*institutional norm*”.<sup>114</sup> Power describes the audit as deriving from the fundamental importance of agency relationships, based on the absence of trust. Within the public as well as the private sector, this relationship requires workers to become auditees and make auditability the most important component of work. This is much like the relationship between journalists and readers, whose interaction is founded on a mutual cynicism due to its existence in an environment permeated by fake news. However, by imposing their own values, audits often have unintended and dysfunctional consequences. The audit as a challenge to authority inevitably manifests as a ritual reinforcement of it. Power concludes it is a process “*in which newly*

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<sup>111</sup> (Jeffery Gottifried 2016)

<sup>112</sup> (Mary Grae Antony 2010) Here, Thomas and Antony argue for the necessity of a reconceptualisation of the traditionalist notion of the media as “public guard-dog” in light of new visual media technologies and their distribution platforms.

<sup>113</sup> (Power 1999) Power locates his theory in the UK public sector during the Thatcher era.

<sup>114</sup> (Power 1999)

*perceived difficulties and dangers can be ritually purified and reconciled to existing managerial and economic practice.” (Power 1999)*

This is the last and most impressive trick that the audit performs. Thanks to its aura of authority, versatility and effortless surmounting of failure, the audit has been able to capture hearts and minds. We have been conquered: in the audit society, a reduction in audit intensity and the possibility of leaving groups and individuals is to themselves is unthinkable. We are all auditees now. The journalist, citizen and citizen journalist are all one in ritual act of revealing and obscuring “truth” – the tools of novel visual technologies, such as virtual reality, and their modes of dissemination are our vestments and altars.

The title *Firmament* borrows from this notion, evocative in its faded aura of biblical authority. The imagery of *Firmament* appears within sacred geometries made for screens and the work develops as an abstract, codified series of moments. Seeing a crescent on a tank and the tanks roll past. Seeing a person walk past with a flag. Seeing the soldiers trick the journalists into ducking down. Seeing the theatre of the mortar fire. Looking side on at journalists in their helmets shooting at something, something that we can't see. Seeing them enter a house. Watching them inside a video.



## COLMAP\_PROJECTION



## *A vaporisation of perception*

*COLMAP\_PROJECTION* is a creative output of this research. It was driven by a desire to explore and visualise the algorithmic processes that drive targeted news and control our spheres of viewing the artwork. *Bundler Structure From Motion*, a system for photogrammetry from unordered image collections,<sup>115</sup> is used to explore algorithm-driven structure technology mediating perception and the limitations of access and format. *Bundler* takes a set of images, image features and image matches as input, and produces a 3D reconstruction of camera and sparse scene geometry as output. The system reconstructs the scene incrementally, a few images at a time, using a feature-based multiple view reconstruction vision algorithm. Through the use of *Bundler*, the algorithm takes on the role of the auditor and presents a computational viewing of a complex human event, though the end result is impenetrable.

The namesake of the artwork, a graphical interface for algorithm called *COLMAP*<sup>116</sup> is also used. *COLMAP\_PROJECTION, auto reconstruction* is the filename that resulted from the use of *COLMAP* and *Bundler* to reconstruct a news scene from mixed professional and non-professional media content pulled from Google image search (itself a complex algorithm system) on the 2014 Euromaidan protests in Ukraine. “Maidan Square” was typed into Google as a search term, and the top 500 results were compiled for use in

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<sup>115</sup> (Noah Snavely 2006)

<sup>116</sup> (Schoenberger 2018) Schoenberger developed this open source end-to-end image-based 3D reconstruction software as part of his PhD.

*COLMAP\_PROJECTION, auto reconstruction.* The Ukrainian revolution was chosen because of its interwoven complexity with social media systems. A Washington Post investigation in Ukraine at the time of the protests found that 49% of protesters learned about it from Facebook and 35% from VKontakte, a Facebook-like social media site that is popular amongst Russian speakers.<sup>117</sup> When interviewed, protesters explained that they found Facebook and Internet news sites to be more reliable sources of information than television.<sup>118</sup> Thus, Maidan Square can be seen as a mobilization through social media platforms in the spirit of the Arab Spring,<sup>119</sup> as people take control of their own technological democratic mediation of information within new conditions set by authoritarian algorithmic processes. Interestingly, while scraping the Google search of “Maidan Square” for images to use with COLMAP, I noticed that many of them had no relation to the Euromaidan protests. Some of them came from Sputnik and RT News, news organisations that have been accused of being Russian government-backed propaganda machines that actively spread misinformation and disinformation during the protests, incurring a rare high-profile ban from Twitter.<sup>120</sup>

The result is dislocated images that have been overlaid with *Bundler’s* processing lines, drawing associations between images to recreate the physical space of

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<sup>117</sup> (Onuch 2014)

<sup>118</sup> (Onuch 2014)

<sup>119</sup> (Gumenyuk 2016)

<sup>120</sup> (Bidder 2015)

Maidan Square in a digital format. *COLMAP\_PROJECTION, image connections* shows the compiled image network, focusing on the connections between the viewpoint positions of the taking of each photograph from the Google search. *COLMAP\_PROJECTION, auto reconstruction* shows the overlaid connections between the images compiled from the Google search.

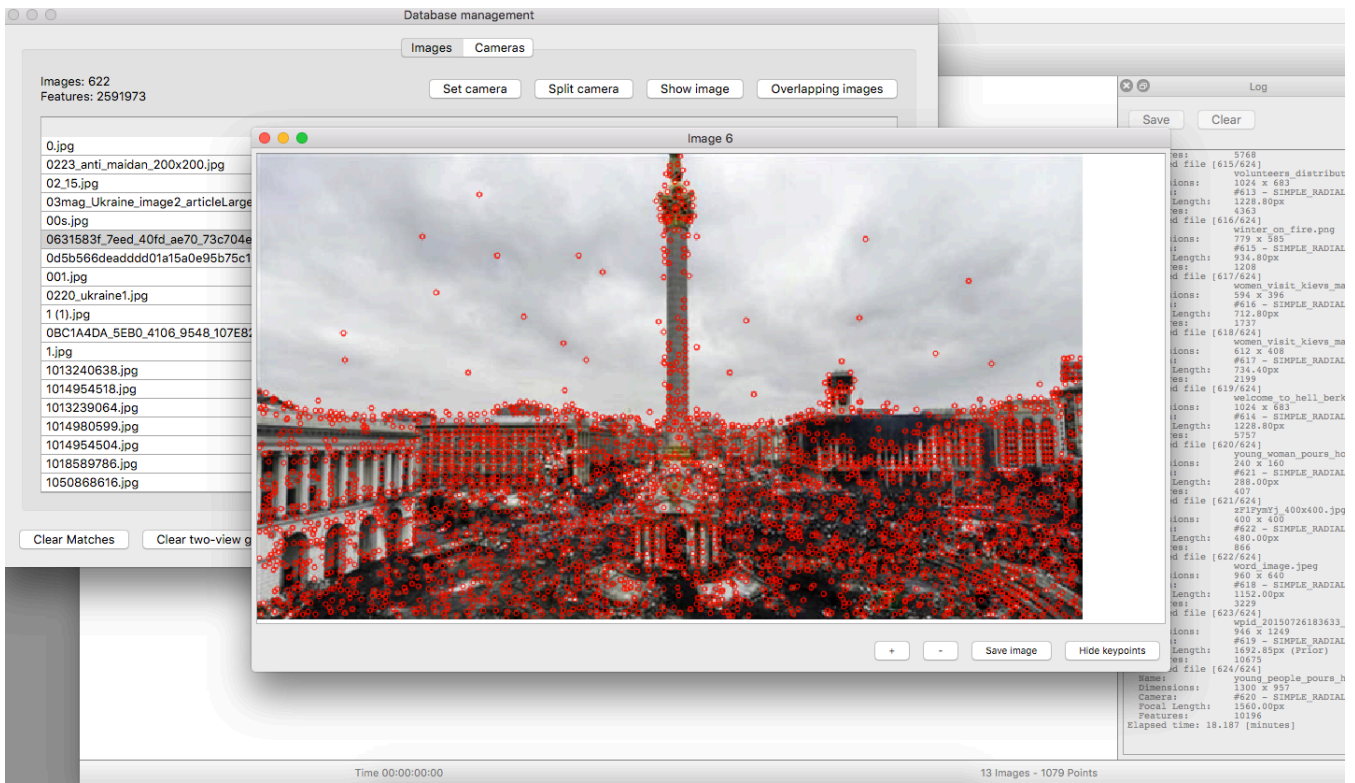


Figure xxix: Using COLMAP to process images from a Google search.

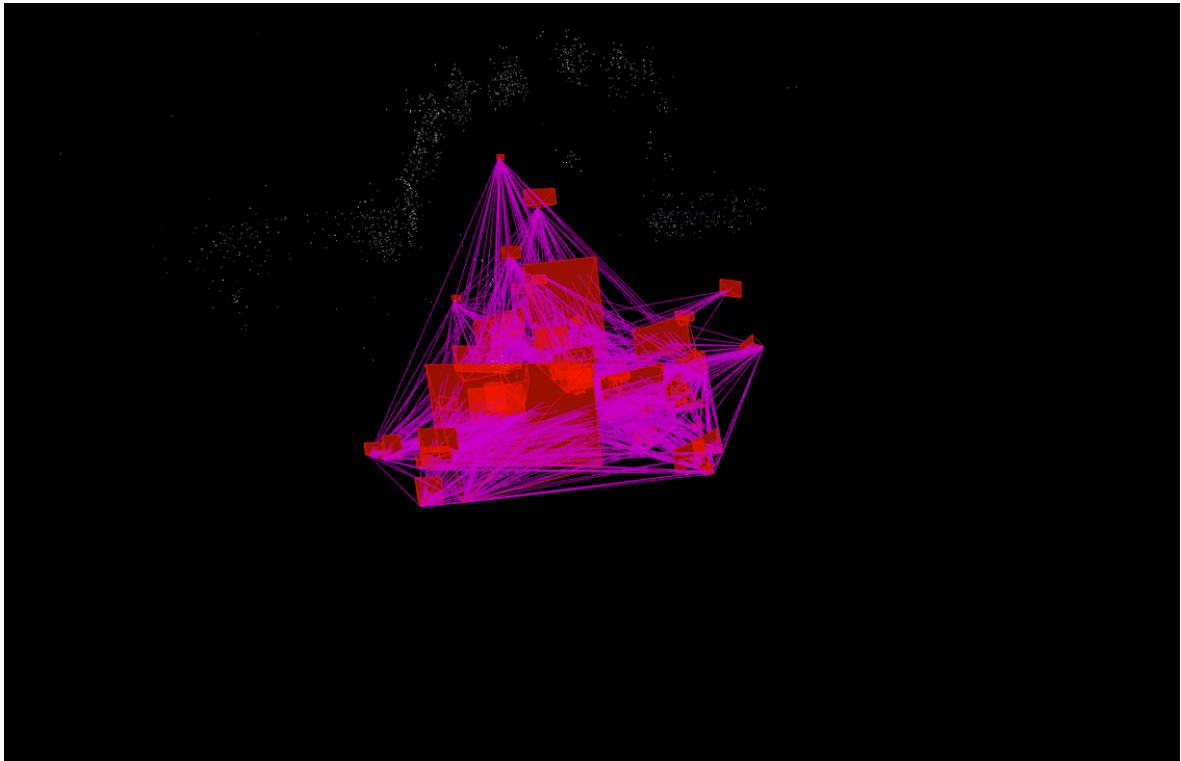
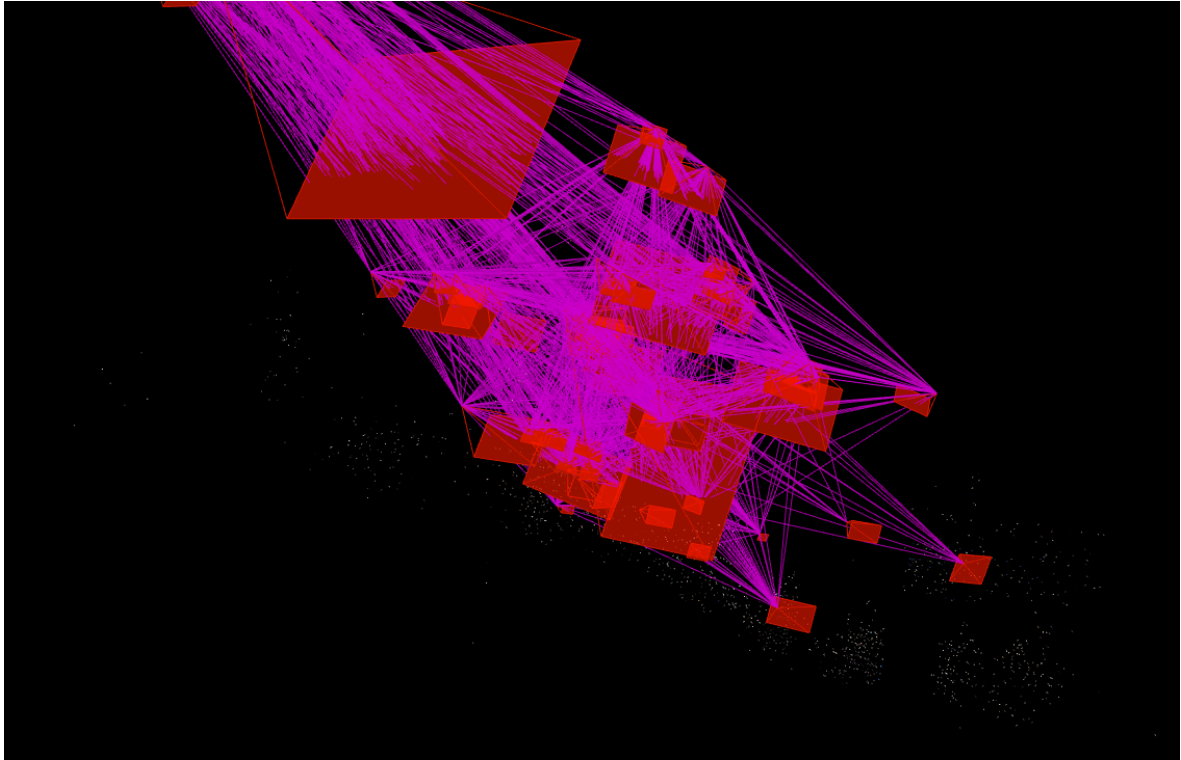


Figure xxx: Stills from *COLMAP\_PROJECTION*, *image connections*. The final work was displayed as a large-scale video projection. (Jong 2018 – 2019)



Figure xxxi: Stills from *COLMAP\_PROJECTION*, *image connections*. The final work was displayed as a large-scale projection slide show. (Jong 2018 – 2019)



## **Relational Brinkmanship**



### *As above, so below*

The growing influence and facilitation of virtual reality as a novel technology of the mediation of truth by journalism and by the institutions that are directly responsible for its subversion is alarming. Ivan Sutherland developed the very first virtual reality headset in pursuit of what he called “the ultimate display”.<sup>121</sup> With accidental foresight he named his prototype “The Sword of Damocles”, because of the dangerously heavy equipment that hung over the heads of users of his prototype.<sup>122</sup> The development of virtual reality has been intrinsically and intimately linked with journalism in its growth, and it has been a relationship that has continued to spawn uncomfortable mutations.

Virtual reality journalism has become more about binding and containing the understanding of reality through a limited structure, and the creation of that structure – a firmament. Coupled with intensive surveillance and supervisory technologies, it constitutes a form of electronic panoptica, where the privileging of vision takes over when diversity of perspective is limited. The prevalence of fervent nationalism, indicating that teleological metanarratives based on a “fixed point of view” still provide a pervasive and potent organising logic across the world. The colonisation of new locales and discourses by thought and vision with its attendant practices of objectification and subjectification create what Power has referred to as an audit society. One that seeks to make everything visible, where we are at risk of using virtual reality as a tool in the fulfilment of that

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<sup>121</sup> (Sutherland 1965)

<sup>122</sup> (Peddie 2017)

ultimate desire. This is the virtual firmament, the vast dome of thin truth spreading out, following its own internal logic that is gimmicky and brutal. With this, the question becomes "*how did you do this?*" and not "*why?*"

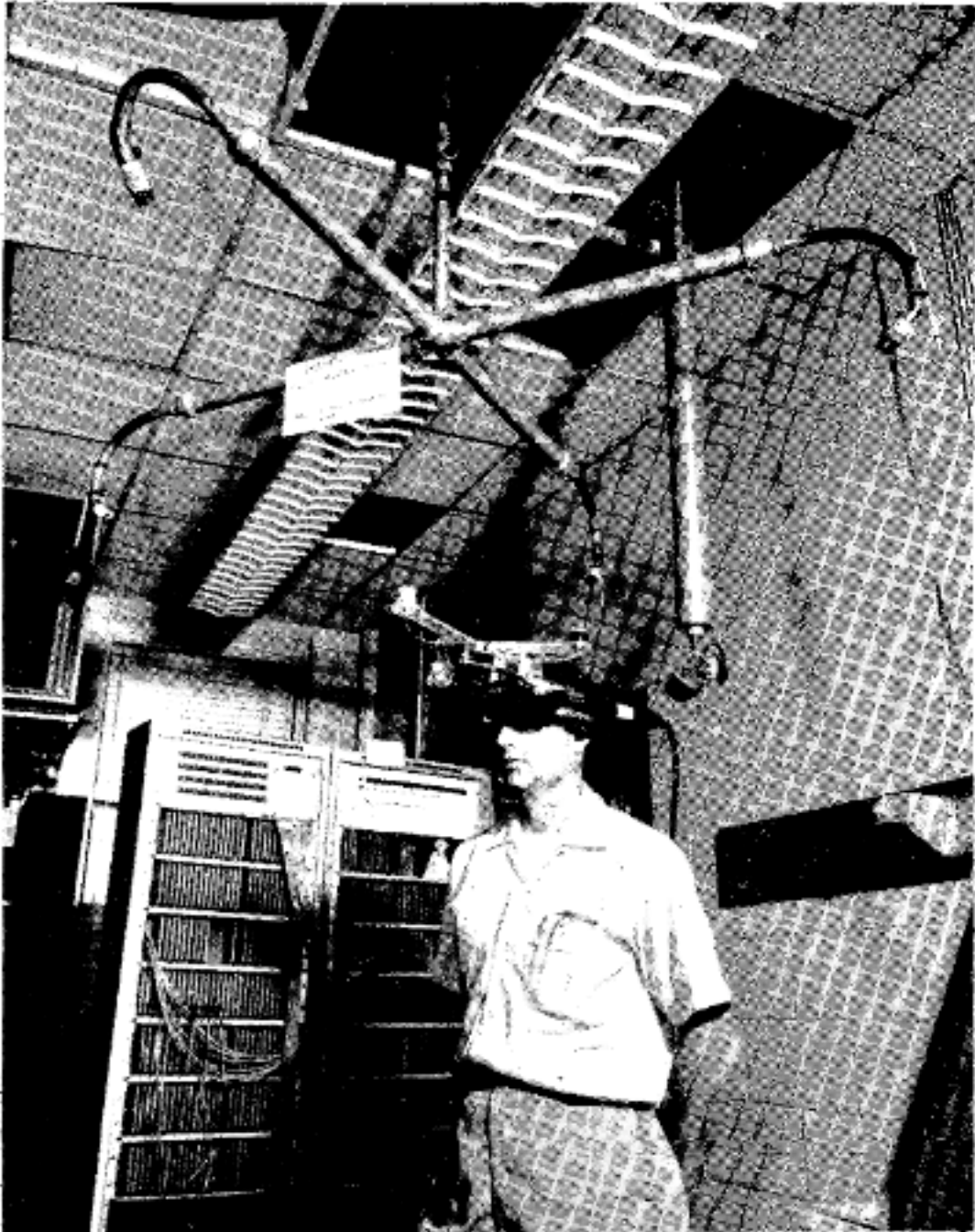


Figure xxxii: The Sword of Damocles, the world's first virtual reality headset.



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