Investigating the Ontological in Virtual Reality Performance

Research Question:

How do the theatre makers PIPS: lab and Urland/CREW investigate Stefano Gualeni's concept that virtual reality is an 'ontological tool' that redefines human-technology relationships?

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ABSTRACT

This thesis offers a critical and philosophical reflection on how the theatre makers PIPS:lab, Urland and CREW use virtual reality as an "ontological tool", a term coined by Italian game designer and philosopher Stefano Gualeni in his text *Virtual Worlds as Philosophical Tools: How to Philosophize with a Digital Hammer* (2015). The research decodes the fragments of ontology in relation to Heideggerian philosophy and additional postphenomenological ideas that are divided between two sub-topics: Space and the body. These two thematic guidelines identify how the theatre makers use specific framing techniques to blur or expose how technology frames our own ontological reality, which Gualeni defines as a transition from traditional ontologies to virtual ontologies (Gualeni 2015). The research hypothesises that virtual realities potential as an ontological tool reveals the human necessity to have agency, feel present and understand the mechanics of one's own virtual reality experience; in order to escape any applied definition of existential dread to the contextualisation of human-technology relationships.

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INTRODUCTION

0.1 Research Topic

Within the context of the 21st Century, new forms of media and technology have become the defining mediators of our everyday experience; where one can project, distort and extend the meaning or definitions of traditional notions of existence. In 2017, I had the opportunity to witness how the Performance makers PIPS:lab, Urland and CREW (Urland/CREW), originating from Flanders and The Netherlands, use the phenomenon of Virtual Reality (VR) as a way to philosophically investigate how virtual worlds directly mediate modes of relating to space and one's body in an environment.

In reference to the scientist Steve Aukstakalins, virtual reality originated from military developments in the 1960's, whereas now in the context of 2018, it has become a phenomenon in the video game industry with the commercial success of the Oculus headset released in 2016 (Aukstakalins 2016). In its entirety, virtual reality: "[…] refers to display technologies, both worn and fixed placement, that provide the user a highly compelling visual sensation of presence, or immersion, within a 3D computer model or simulation […]" (Ibid 2016). As the technology developed and became more accessible in the 1980's, Jeffrey Shaw became one of the first artists to explore the immersive potential of virtual reality in a theatrical manner, by creating virtual reality installations: "[…] 3-D landscapes with a theatricality that entices the spectator to actively explore them. His work *The Legible City*, for example, presents an urban environment in which buildings are literally composed from words" (Packer and Jordan 2002). The analysis of virtual reality, philosophy and theatre performance experienced a theoretical peak in the 1990's. Performances such as Daniel Sandin and Thomas DiFanti's *CAVE* (Cave Automatic Virtual Environment), famously created a virtual simulation of Plato's philosophy concerning reality and humanity (Dixon 2007). Moving forward to our present climate, the term 'Virtual Theatre' has ignited a "personal theatre revolution", demanding a new form of spectatorship, where one is promised agency and immersion within an alternative reality (Moneta n.d.). Audience members have now become 'immersants' or 'participants'; our perception of our experience, our relationship to our own reality, is determined by how our bodies and senses are positioned by the virtual reality technology (Vanhoutte and Wynants 2010).

In 2015, the Italian game designer and philosopher Stefano Gualeni wrote a rigorous analysis on virtual reality titled *Virtual Worlds as Philosophical Tools: How to Philosophize with a Digital Hammer.* Gualeni's text become one of the first anthologies that combined multiple levels of traditional and contemporary western philosophical thought and applied this to the construction of virtual worlds:

> "Virtual Worlds as Philosophical Tools articulates an understanding of virtual worlds as capable both of mediating philosophical thought and of experientially fragmenting and augmenting the ways in which people can think, perceive, and operate, expanding

> the boundaries beyond the mere "actual" and extending into what is virtually "possible"" (Gualeni 2015).

A key argument within Gualeni's text explores how virtual reality is an 'Ontological Tool' and explores the question: "How can interactive digital technology assist people in "overcoming" the traditional boundaries of human ontologies?" (Gualeni 2015). Whilst reading this text, I began to realise that this perspective mirrored and contextualised the questions I wanted to answer in regard to my chosen case studies *Anyways* (2017) by PIPS:lab and *EXPLORER/Prometheus Ontketend* (2017) by Urland/CREW. Therefore, Gualeni's ontological argument formulates the basis of my research question:

How do the theatre makers PIPS: lab and Urland/CREW investigate Stefano Gualeni's concept that virtual reality is an 'ontological tool' that redefines human-technology relationships?

This line of inquiry is formulated by the following sub-questions that frame Part One and Part Two of my analysis:

- *How does Gualeni's exploration into the Heideggerian concept of "Enframing" contextualise the way PIPS:lab and Urland/CREW use framing to transition from actual reality to virtual reality, and what does this reveal about the ontological power of virtual reality?*
- *What devices do PIPS:lab and Urland/CREW use to demonstrate the transition from traditional ontologies to virtual ontologies?*
- *In reference to cyborg theoretical discourse, how does the concept of "cyborg ontology" influence our understanding of how the body is redefined in virtual reality?*

Using Gualeni's ideas concerning traditional and virtual ontologies in the presence of virtual reality technology, my thesis will investigate and test Gualeni's framework by applying it to specific techniques the theatre makers use to explore the wider context of human-technology relations. By applying Gualeni's framework, I want to answer my working hypothesis which argues that when we deconstruct how the body and space is perceived or staged in a virtual reality performance, its ontological potential reveals how human-technology relationships are defined by the fear of losing control or our necessity to feel in control of our perception, body and sense of self. This thesis will position itself as an extension of Gualeni's text, proving that the philosophical discourse he applies to the analysis of virtual reality video games, can also be applied to how performance makers use virtual reality as an ontological tool. Filling the gap in what seems to be a lack of texts applying technology philosophy and postphenomenological research to contemporary examples of virtual reality performances.

0.2 Theoretical Framework and Structure

As I have mentioned previously, the theoretical framework applied to the case studies is Gualeni's argument concerning virtual reality as an ontological tool. Gualeni primarily uses the German philosopher Martin Heidegger's ideas to frame his argument, using Heidegger's techno-pessimistic viewpoints as a starting point for the analysis of virtual worlds as ontological tools .Gualeni then applies the perspectives of other famous technology philosophers and postphenomenologists (including Jos De Mul, Michael Heim, Peter-Paul Verbeek etc.) to unpack Heidegger's arguments, revealing that these conflicts and alignments between traditional and contemporary western philosophy reiterate that as a culture we are transitioning from human ontologies to virtual ontologies (Gualeni 2015).

Firstly, in terms of defining the term 'ontological tool', Gualeni uses multiple perspectives to define the nature of ontology. For the purpose of this thesis, I will be referring to Gualeni's reference to cyberspace philosopher Michael Heim's text *The Metaphysics of Virtual Reality* (1994); in which Heim demonstrates how digital realities can affect social change and world views (Ibid. 2015). In regard to a more precise definition, I align my understanding of ontology to the thoughts expressed in the journal article 'Actually, What Does "Ontology" mean?' (2015), where academics from the fields of Psychology, Philosophy and Computer Science discuss the significance of the term in relation to their disciplines. The philosopher (no actual names are given) in the text describes ontology as "the science of being": "The term "ontology" was introduced by Christian Wolf not before the 18th century. But discussing the way how things exist, in a theoretical way – i.e., trying to grasp the world – has been done for at least 2500 years" (Busse et al. 2015). The philosopher explains how the Greek philosopher Aristotle (384 – 322 BC), despite not being the first philosopher to encounter the topic of being, famously defines the structure of the world's objects/relations into categories, therefore, creating a 'categorical ontology'; where being in the world can be defined by substance, quantity, qualities, relation, location, time, position/orientation, having, doing, experience and facts (Ibid. 2015). In relation to virtual reality, the experience and presence of these virtual worlds challenge and re-evaluate the questions belonging to these categories that define our relation to the world. Throughout my analysis, I will be referring to the categories of time (when?), location (where?), position/orientation (how am I positioned?), experience (what is my experience here?) and relation (how do I relate to others?), as a way to indicate to the reader how sections of my analysis directly relate to specific aspects of ontology (Ibid. 2015).

To grasp a clear understanding of my complete theoretical framework, I will provide a brief overview of how I have structured my research. The theory selected from Gualeni's text, has been purposefully divided into two themes: **Space** and **The Body**. In Part One (**Space**), my analysis focuses on the relationship between the virtual space and the actual space, paying particular attention to how the theatre makers use specific framing devices that inevitably affect our ontological positioning. This

argument is outlined by Gualeni's analysis of how the virtual space is defined, where I identify the differences between Telepresence and Simulation to categorise the differences in each performance's spatial structure. This progresses into an analysis that deconstructs Gualeni's understanding of Heidegger's "Enframing" concept, addressing the danger of concealing or directing viewpoints through the act of blurring the boundaries between reality and the virtual. Referencing how the tradition of framing performances has changed since the establishment of Hans-Thies Lehmann's Postdramatic Theatre and reintroducing Jon McKenzie's analysis on virtual reality's continuous digital frame. I also indicate how the theatre makers use similar techniques to guide the audience or participants from one space to another, but also as a device that grounds the audiences ontological understanding, making them aware and comfortable within the virtual illusion.

In Part Two (**The Body**), Gualeni's transition from traditional to virtual ontologies is explored through virtual realities expressive ability to manipulate the perception of the performers or audience's body-schema. The analysis begins with a detailed explanation concerning how this transition takes place in Gualeni's text, mirroring the conflict between virtual and actual bodies occupying the same space. The second half of Part Two, focuses on how Gualeni's reference to Donna Haraway's "Cyborg Ontology" could be extended to examine the postphenomenological concept of "Cyborg Intentionalities" proposed by philosopher Peter-Paul Verbeek (Gualeni 2015). Which specifically contextualises how our ontological nature is becoming increasingly defined by the technological tools that we use, therefore, virtual reality initiates its status as an ontological instrument that encourages us to self-reflect on who controls who within the context of human-technology relationships.

Finally, it is important to identify how the term immersion within the context of virtual reality performances can be misconstrued. Although, it is clearly indicated in each section the form of immersion I am referencing, there is an important overall definition that applies to digital performances as a genre. I align my understanding of immersion with the definition provided by Kurt Vanhoutte and Nele Wynants from the text *Mapping Intermediality in Performance* (2010): "Derived from the Latin *immergere*, meaning to plunge or dip into, immersion in digital culture refers to the sensory experience/perception of being submerged (being present) in an electronically mediated environment" (Vanhoutte and Wynants 2010). A notable difference between being immersed in an electronically mediated environment (e.g. virtual reality) instead of a Punchdrunk style immersive theatre performance which involves the participant being immersed in actual reality, is how the immersants (the performers in *EXPLORER/Prometheus Ontketend)* or participant (Audience in *Anyways*) have to navigate between multiple formations of reality: "[...] embodies the narrative environment by controlling both an individual viewing position in relation to the image and the dimensions of the image itself. For this reason, immersion in digital culture is also inherently interactive and performative" (Ibid. 2010). A large part of my argument will focus on how the theatre makers have deliberately emphasised the balancing, blurring and separation of multiple realities, which in turn challenges our perception of how performances spaces are defined. How do we directly relate to the performance's narrative when we are

placed inside the image/information and how does this differ from observing the same information from a distance (Ibid. 2010).

0.3 Methodology

My two primary methodological aims for this research include: to firstly apply Gualeni's text to specific moments within the case studies to test his theory concerning virtual reality as an ontological tool; then secondly applying literature deriving from postphenomenological, digital performance and posthumanism discourse to identify the transition from traditional ontology to virtual ontologies, supporting my claim that our desire to feel control is a product of the ontological power of virtual reality. My definition of control in regard to space and the body relates to one's awareness of their own agency: the agency the participants have over the actions in relation to the technology and the agency we have over digitally computerised environments. Due to Gualeni's analysis of ontological tools being distributed inconsistently throughout his text, I have selected sections of Gualeni's argument and distributed them into my two core themes of analysis: **Space** and **The Body**. In regard to performance theories, my methodology is also based on the understanding that virtual reality stems from the discipline of 'digital performance' coined by Steve Dixon: "theatre/performance events where computer technologies play a key role in content, techniques, aesthetics or forms of delivery" (Dixon 2013). Therefore, my analysis in its entirety focuses on how the theatre makers use the computer to redefine the performance space and the bodies who interact directly with it.

By following this method, I was able to effectively apply my own experience by dividing my perceptions into two clear ways of perceiving, one via spatial relations and the other via the experience of my own spectatorship in relation to the performances. It was imperative for me to personally participate in *Anyways* by PIPS:lab, as the theoretical analysis is supported by my personal experience within the simulation. In regard to Urland/CREW's *EXPLORER/Prometheus Ontketend,* I experienced this performance electronically via a private video link kindly entrusted to me by Urland; because the performance does not involve the audience to be immersed within the theatre space, it was less imperative that I was physically there. As the reader will notice, the performances use two distinctly different forms of virtual reality technology. This was purposely done in order to indicate the two different types of virtual reality that is currently in distribution amongst contemporary performance artists. PIPS:lab use the commercially successful mobile phone head mounted display, where one can access a pre-recorded omnidirectional video of a real 360 degree environment – similar to being placed at the centre of a film. Urland and CREW construct the virtual environment purely from digital code and is projected into a real physical space; the performers are attached with sensors and in the live moment can interact/manipulate the virtual world. These differences also formulate as part of my methodology and identify how different forms of technological mediation can result in similar effects towards its user, even if we are positioned at the centre of the experience or from afar.

INTRODUCING THE CASE STUDIES

Before I begin my main analysis, I felt it was necessary to provide a clear description of each performance, giving the reader a clear contextualised idea about their differences or similarities in staging and narrative.

0.6 *Anyways* by PIPS:lab (2017)

Figure 1: *This image demonstrates how the participants are positioned during the virtual reality experience. We can also see the conductor in her costume standing in the centre of the frame. (PIPS:lab 2017)*

PIPS:lab are an Amsterdam based performance collective who combine film, computers and theatre to create "absurd media theatre"('PIPS:Lab' n.d.). In their installation *Anyways,* a virtual reality headset enables the participants to access a pre-recorded 360 degree environment that follows the narrative of six eccentric characters experiencing virtual reality for the first time ('PIPS:Lab' n.d.).

I have had the pleasure of viewing the performative installation *Anyways* twice as a participant in two different contexts. The first time was an invitation for a demonstration of the work at Theater Kikker, Utrecht, in Winter 2017 and the second time at Utrecht's Spring Festival 2018. I must note here that content of the virtual experience was the same, however, there were slight changes in the staging. As part of my analysis, I will refer to both of these experiences throughout with clarification to the

particular installations I reference. For the purpose of this description, I will outline the installation presented at Spring Festival. *Anyways* in its entirety (around 15-30 minutes running time) is a pre-recorded 360-degree omnidirectional video virtual reality environment:

> "Anyways is a 360° VR rail-road movie simultaneously experienced by six participants. Six modded VR headsets with surround sound audio setup offer participants a synchronized virtual experience of a single storyline experienced from 6 different point-of-views" ('PIPS:Lab' n.d.).

In this instance, the installation represents a cinematic representation of virtual reality. The space presented to the participant results in a 'cognitive immersion', a term I will explore later on in this chapter, and this is due to the fact that the "participant does not become transported into another world but is continuously panning across the surface of a virtual world from a distance" (Klich and Scheer 2011). We cannot interact or change the narrative, but our sense of space, sight, positioning and hearing are still immersed with the use of head mounted virtual reality displays.

The installation is situated in a small glass container, equivalent to the size of an old-fashioned train carriage, outside Utrecht's Stadsschouwburg Theatre. The five other participants and I are greeted by the train conductor (performed by Zeynep Gunduz) dressed in a vintage style patterned outfit alongside the maker Keez Duyves. They guide us to our seats, a booth that replicates the skeleton of a train carriage where three participants sit on either side, on the seats are three large head mounted displays waiting for us. Once seated, we are instructed by the conductor to place the bone conduction headphone on our temples and place the headset on our face. It is heavy and quite clunky to attach, I was completely aware that the weight of my experience is strapped to my face. After a few moments of calibration, the calibration screen intentionality matching the print on the conductor's dress, the virtual reality film begins (See Figure 1*).*

We are transported to a cosy train carriage, instantly I notice the train conductor is in the exact same position in the virtual space as the actual space, she calmly instructs: "Relax, sit back and enjoy, and remember looking is a form of labour too" (PIPS:lab 2017). The instructor leaves and multiple narratives begin to form between all the characters (consisting of five men and one woman), where each participant experiences the point of view of their character. When I look down, I notice that I have the body of a man in an orange jumpsuit. His arms are moving passionately as he speaks, he begins to undress himself and proclaims it is too hot in the carriage. In that moment, I instinctively place my hands on my clothes, as if this movement will stop my character from undressing. Instantly I question, what does my face look like? What is my relation to the other characters in the scene? I observe the scene and can hear snippets of conversations, I hear someone ask, "does anybody know where this train is going?". After 10 minutes, it becomes too overwhelming to understand everything in the scene. I notice a lady in a silver wig looking uncomfortable as two men talk to her, the man next to me has a virtual reality headset on and there is a large man in the corner grumpily puffing away at his vape. There

is a moment where my character looks at the grumpy man, there is a slight vibration near my ear - I can hear the thoughts of my character - and against my characters wishes, they share a playful joke.

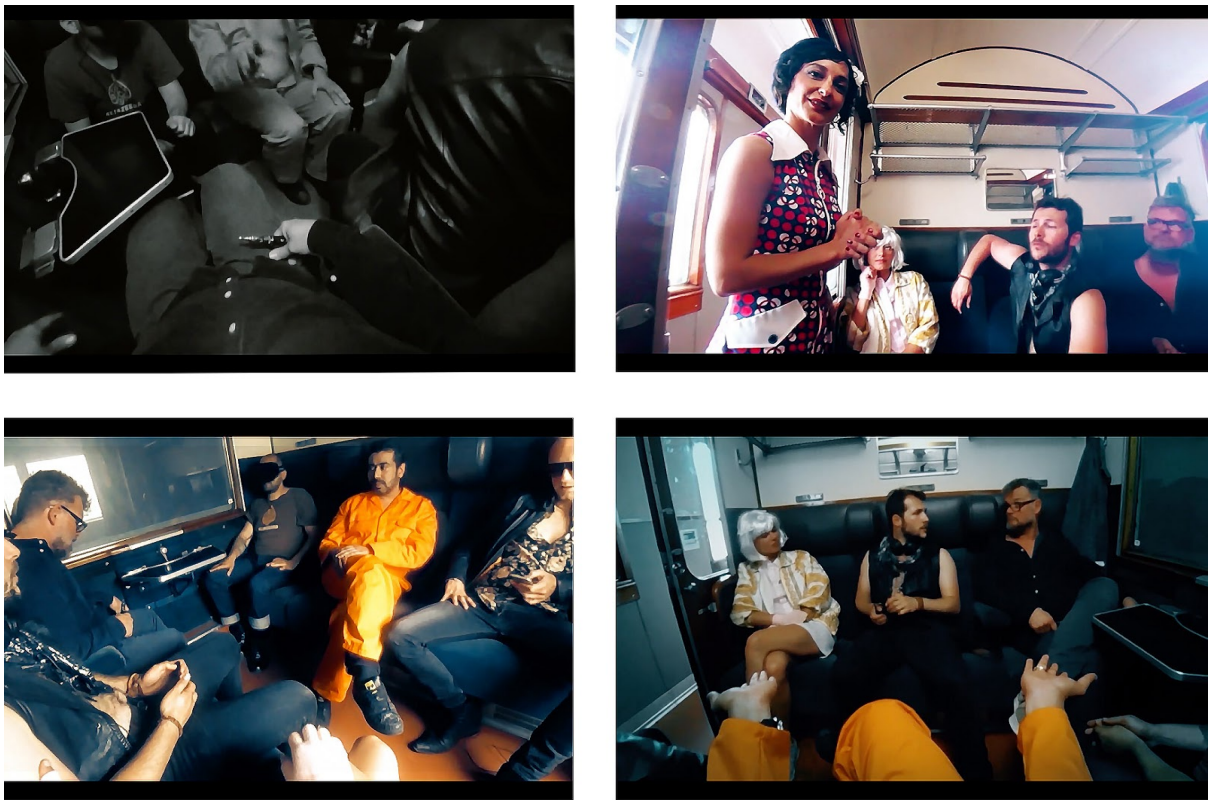

Figure 2: *Here are four different perspectives that the participants can experience within the virtual reality experience. It also shows the presence of the conductor in the virtual world in comparison to her presence in actual reality in figure 1. (PIPS:lab 2017)*

Towards the end of the experience, it becomes evident that the narrative explores these characters philosophising about their own virtual reality experience, therefore, we are in a virtual reality experience of someone else's virtual reality experience. For all we know, this could be a never-ending set of circumstances. The conductor arrives at the carriage door and informs us that we can take our headsets off, the experience is over, and we are invited to talk about the experience with one another. The blurring of disjointed conversations is a technique employed by PIPS:lab, aiming "[...] to start a conversation amongst the participants to collectively figure out the story after the film" ('PIPS:Lab' n.d.). In this particular event, one audience member stated she felt dizzy; another apologised for doing the experience 'wrong' because this was her first time interacting with virtual reality; a lady said her character was flying above the train, oblivious to anyone else in the carriage; and one man felt like a 'fly on the wall' to human existence. I would like to add that PIPS:lab promote their performance as having tactile elements, but based on my experience of the installation, I saw or heard no evidence of this particular element.

0.7 *EXPLORER/Prometheus Ontketend* by Urland and CREW (2017)

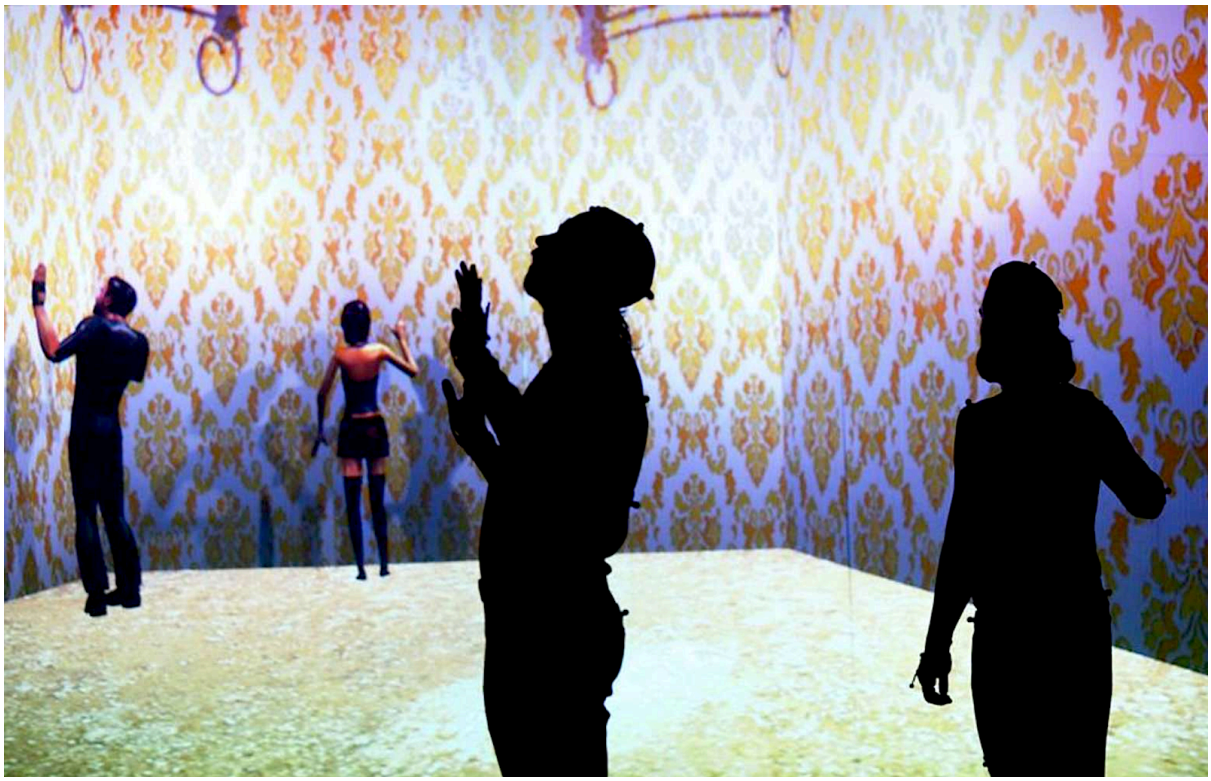

Figure 3: *This demonstrates the relationship/positioning between the performers (the black shadows) and the virtual characters Bridget and Deacon, who are projected at this moment on the screen behind them. (Urland 2017)*

EXPLORER/Prometheus Ontketend is a performance formed by the collaboration between performance makers Urland and CREW. Rotterdam based performance collective Urland are known for using digital technology to explore existential questions about our digital times (URLAND n.d.). CREW are a theatre company that are known for their highly technical experiments with live forms of virtual reality technology, where the majority of their work aims to analyse how technology is directly affecting the human condition (CREW n.d.). *EXPLORER/Prometheus Ontketend* by Urland and CREW is significantly different in its staging in comparison to *Anyways.* In this section I will briefly outline the overall plot of the performance, therefore, leaving detailed moments within the performance described in the main body of analysis. It is important to address the contextual references of the performance.

This performance is the second within a trilogy of performances called 'The Internet Trilogy', exploring the birth, past and future of the internet (Ibid. n.d.). The narrative of the trilogy is also loosely based on the *Promethea* trilogy of classical Greek plays by Aeschylus (523 BC-456 BC); *EXPLORER/Prometheus Ontketend* is based on the second play *Prometheus Bound* (415 BC), where the mythic Titan Prometheus is tortured by Zeus for creating humans, fire and teaching mankind to learn and progress through arts, literature, mathematics, agriculture and so on ('Prometheus Bound -

Aeschylus - Ancient Greece - Classical Literature' n.d.). They also state at the beginning of this performance that they were also inspired by the work of Dr Timothy Leary and the text *Chaos and Cyber Culture* (1994), where Leary comically overviews theories of chaos and outstandingly predicts technologies purpose in the future: "In the future the wearing of cyberclothing will be as conventional as the wearing of body-covering clothing. To appear without your platonic gear would be like showing up in public stark naked" (Leary et al. 1994). Urland also use a quote from Leary within their promotional material for the performance: "The classical old westworld model for the cyberpunk is Prometheus, a technological genius who "stole" fire from the Gods and gave it to humanity" (PC URLAND 2015). Which echoes the consensus that the internet has enormously impacted human progress and the circulation of knowledge, however, there are consequences of this expansive technological advancement, especially towards human relationships and traditional human ontologies.

In terms of staging: "[...]the performers are drivers of an interactive system. We see the control room (the generator) and the universe of the 2.0 reality in which the internauts can travel through time, space and the different realities" (URLAND n.d.). In this case study, there are no virtual reality headsets involved and the virtual reality is projected into a black box theatre space, where the audience spectate from a distance. The performers (Marijn Alexander de Jong and Ludwig Bindervoet) have sensors attached to their body, connecting them to the virtual reality world. Throughout the performance CREW's Eric Joris (sometimes dressed in a fluffy bear costume) uses sensors attached to objects and calibrating poles to warp, change and stage the virtual projected space. The stage is bare with the additional white cube for the performers to interact with; beside the stage is a long table with computers and cables, this is where the narrator and the operators sit (Thomas Dudkiewicz, Jimi Sweet and Eric Joris).

The essence of the performance, according to Urland and CREW, is a conceptual exploration of 'utopian values' that came with the emergence of exciting technologies (such as virtual reality), the promise of freedom through technology, and finally the internet:

> "Generation Before the Computer (CREW) meets generation After the Computer (Urland) and share the stage together. They wonder what became of the utopian ideas of the early 90s - the time when the world wide web exploded. The dream has become a reality. A new (parallel) world is not only possible, it is there. CREW and Urland want to re-enact this promise." (URLAND n.d.)

The narrative of the performance focuses on a soap opera style love story (loosely based on the soap opera *The Bold and The Beautiful* according to Urland) between Deacon and Bridget, their auto tuned voices and narration performed by the narrator Thomas Dudkiewicz. As the virtual world, based on the aesthetics of 1990's video games, begins to distort and change, their relationship, identity and opinions are challenged by the possibilities of this new reality. Bridget embraces this change and is entertained by her endless digital metamorphosis; however, her partner Deacon is wary and reluctant to give in to the power of the machine. In essence, the theatre makers and the characters, are testing and exploring

the promise of freedom that came with the creation of the internet: the fluidity of communication, identity and knowledge possibility. This virtual narrative takes up the majority of the performance. The performance ends with the performers and operators gathering on stage to watch a pixelated montage of internet images, dancing to techno music as the construction and coding of the virtual world is broken down; until Deacon and Bridget return as skeletons of their former selves, contemplating the journey they have been on.

PART ONE

SPACE

Framing, Space and Ontology: Staging Transitions From The Real to The Virtual

1.1 Introduction

Throughout the philosophical narrative Gualeni presents, he states from the very beginning that his analysis is framed by German philosopher Martin Heidegger's (1889-1976) reflections on technology. Heidegger's work is prominent within the discourse of phenomenology and the ontology of being, with extensive criticism on technological domination and metaphysics:

> "In his fundamental treatise, *Being and Time*, he attempted to access being (Sein) by means of phenomenological analysis of human existence (Dasein) in respect to its temporal and historical character. After the change of his thinking ("the turn"), Heidegger placed an emphasis on language as the vehicle through which the question of being can be unfolded." (Korab-Karpowicz n.d.)

Gualeni assures the reader that Heidegger's techno-pessimist viewpoints can be used as a framework to investigate virtual worlds. Heidegger essentially believed that "Technology is characterised by the inherent danger of becoming a totalizing perspective", thus humans will become less open to alternative viewpoints and exploited by the technologies they have created (Gualeni 2015).

In Gualeni's quest to battle technologies dehumanising branding, Gualeni states that he wants to overcome 'traditional ontologies', specifically analysing the techno-pessimist lines of inquiry by Heidegger. This pessimism, in relation to communication and the state of being in an environment, infers that: "technology is, instead, dialectically recognized as an autonomous force striving to dominate rationally a world made of objects, including mankind (Heidegger, 1982; Vattimo, 1991, 40, 41; Richard Villa, 1996, 182; Costa, 2007, 33– 47)" (Gualeni 2015). How is this challenged when we encourage audiences/participants to reflect on the technology throughout their experience? By placing the frames of the real and virtual side by side, I want to investigate the inquiry that virtual spaces are active agents that show our way of thinking: "The metaphors in virtual worlds emerge from inevitably human contexts, computers as mediators are nothing but "humans who calculate"' (Gualeni 2015). A key aspect of virtual reality is its ability to transport someone visually into another environment. The transition from an actual real space to a virtual space creates a wealth of possibilities, but also a wealth of techno-pessimist concern. I believe the construction of these virtual spaces and how the theatre

makers stage this transition from one space to the next concerns the topic of how these theatre makers frame the transition between actual real space and the virtual space.

In Part One, I would like to argue that the specific way Urland/CREW and PIPS:lab stage the transition from reality to the virtual aligns with inquiries concerning virtual reality as an ontological tool. In terms of staging, I will be particularly looking at how this transition is framed; how does virtual reality as a technology frame our point of view and how does the presence of multiple frames affect our conceptualisation of being within space. Although these two performances consist of two contrasting forms of virtual reality, they use specific tools to aid and amplify this transition from one space to another.

1.2 Defining Virtual Spaces: Telepresence and Simulation

In regard to identifying virtual spaces, I would like to briefly analyse the differences between telepresence and simulation. I believe it is important to define the virtual and performative spaces we are dealing with. The two performances individually represent what Gualeni defines as the two categories that virtual/digital experiences are defined by within media discourse; the first is called telepresence: "In other words, telepresence technology allows humans to establish aesthetic and interactive relationships with their world in ways that transcend their scale, their spatial location, and, often, their native biological capabilities" (Gualeni 2015). The second category is simulations: "From a strictly ontological standpoint, the qualities of simulated worlds have no necessary relation to the world humans inhabit as biological creatures, although simulated worlds are designed through (and mostly for) human kinds of worldviews" (Ibid. 2015).

In *EXPLORER/Prometheus Ontketend,* the virtual space is projected into the theatre space, providing the illusion that the virtual is augmented into the real, which aligns with this notion of telepresence. Within this projected virtual world, the ability to manipulate the staging of the space is controlled by the technicians sat beside the stage and seen by the audience; however, the performers can also manipulate the organisation of the space by interacting with objects in real space that are connected to the objects projected in virtual reality. Although the objects capabilities are fixed in reality, for example a white cube will always be a white cube on the physical actual stage; in the virtual space, the object has thousands of aesthetic possibilities. This capability encourages the immersant (in this context the performers) to interact with the construction or order within this space.

In this specific example of virtual reality, we are presented with performers in virtual reality and the audience positioned as distant observers. The technology is staged within traditional theatrical conditions: the performers are on stage and they face an audience in a black-box theatre setting. The audience have no power in the manipulation of the space, which complicates the separation of simulation and telepresence. I would argue that the audience in some sense are watching a simulation

of a virtual space, whilst the construction and interactions of the performers within this space align with the qualities of telepresence; or as an audience, are we witnessing the construction of telepresence because we are observing virtual reality and actual reality simultaneously?

Anyways leans towards the classification of a simulation. A simulation of a train journey, that does not affect the construction of the space in reality and is designed for the audience to experience their characters personal thoughts (an experience that is somewhat not possible in our biological reality) in relation to the other characters within the cosy train carriage. As soon as we put on the virtual reality head-mounted display, we are observing and immersing our brains into one space - there is no simultaneity. This form of immersion mirrors the analysis of 'cognitive immersion' explored by Rosie Biggin in her book *Immersive Theatre and Audience Experience* (2017). Biggin explores this concept in relation to immersive theatre practices, specifically referencing the work of English theatre company Punchdrunk, who are famous for creating immersive narratives in actual real-time spaces. 'Cognitive immersion', according to Biggin: "[...] is related to brain activity. Sensory immersion is concerned with how a participant is engaged in the here and now of a performance [...] Immersion and interactivity are not mutually exclusive in this context; nor do they guarantee each other" (Biggin 2017). This I believe can be applied to how audiences are immersed within virtual worlds that are presented as a 360-degree video experiences. The immersion that takes place: "[...] is to place an audience member/participant within the world or the aesthetic of the work. Achieving this effect may not necessarily require them to engage with the work physically" (Ibid. 2017). Most importantly, In PIPS:lab, the virtual space (a 360 degree video) is not too different from our own; whereas, in *EXPLORER/Prometheus Ontketend* the virtual world is completely constructed by digital code and has the aesthetics of a late 1990's video game.

Therefore, how does the 'cognitive immersion' that takes place affect our understanding of human ontologies? In the context of human-technology relationships, the 'Virtualisation' of environments and bodies have become a 'cultural shift' in their own way (Klich and Scheer 2011). As Slavoj Zizek indicates in Klich and Scheer's text: "Virtual reality is experienced as reality without being one. However, what awaits us at the end of this process of virtualisation is that we begin to experience "real reality" itself as a virtual entity' (Zizek, 2001, p. 11)" (Zizek Qtd. by Klich and Scheer 2011). A virtual train carriage becomes more exciting than the real space we encounter in day to day life. Maybe this signifies how PIPS:lab have used virtual reality as an ontological tool to explore a mundane activities. Zizek also questions whether the ongoing prevalence of virtual reality in our modern culture will conclude with the inability of the participant to distinguish between the virtual space and actual real space. Our human ontologies, our sense of being the world, is heavily defined by platforms, such as the internet/world wide web, that allows us to easily blur fiction/fact or real/fake realities; which coincidentally drives the narrative for EXPLORER/*Prometheus Ontketend.*

As a contextual note to the analysis of space in performance studies, academic Birgit Wiens explains how the performance space has now transcended its traditional meaning: “Indeed space is now seen to function as an ‘active agent’ and co-player in theatre events (McAuley 1999, 41)” (Wiens 2010). Now with the presence of mediated performance spaces and virtual reality: “spatial and temporal conception of live theatre – performed before an audience in the here and now – but in a form that reinterprets and extends these concepts” (Ibid. 2010). As Wiens argues, the presence of virtual spaces forces us to constantly reinvent the analysis we apply to these spaces, addressing the new thematic questions that are attached to new technologies, such as: “[...] presence, telepresence and absence; perception and teleperception; and new performance modalities” (Ibid. 2010).

In one sense, the theatre space has always been fluid in regard to how a narrative is represented visually. The theatre maker and scenographer can transform the given space into the world of their choice, however, the possibilities are limited to the dimensions of the stage space and the frame that the audience look at from their position. With the presence of multimedia and virtual reality (presented in the work of CREW/Urland) there are no strict dimensions and limitations to the aesthetics or staging of two virtual characters. If we are constantly dealing with digital spaces that are always changing, how does this affect the audiences state of being, when the notion of being in a space becomes distorted and incredibly fluid. The premise of *EXPLORER/Prometheus Ontketend* narrative is based on how the characters deal with the virtual world constantly changing, aligning with ‘the promise’ that the internet will ensure freedom. In the beginning, the characters are in a cosy living room setting, then the angles of this space begin to alternate, one moment the space is upside down, then spinning or uncomfortably zoomed in, confusing the characters. Then they are falling into a black abyss and land onto a beach, then a cube constructed by digital code, suddenly Bridget becomes a sofa and poignantly says to the distressed scared Deacon: “Don’t fear it. Surrender to it, you have to join it, it’s a part of you, you are a part of it” *(EXPLORER/ Prometheus Ontketend* 2016).

This moment aligns with Gualeni’s exploration into how virtual experiences affect our state of being, our ontology concerning ‘where we are’ and ‘who we are’ within virtual or augmented spaces. Urland and CREW have used virtual reality as a tool to not only explore the fluidity of the internet space, but also as a way to expose, through the nervous character of Deacon who is frightened by the rapid change of his physicality and surroundings, how fearful some still are of letting go/accepting technological advancement. The core motivation for Gualeni’s text is arguing that virtual reality worlds and simulations “[...] need to be recognized as uniquely extending, distorting, and fragmenting the perceptual, cognitive, critical, and operational capabilities of human beings” (Gualeni 2015). Gualeni acknowledges that surrendering ourselves to these virtual worlds will influence our behaviour or thoughts, however, if we are aware of these capabilities in a self-reflective manner, this technology can be used to our advantage:

> "[...] virtual worlds can be recognized as pragmatically opening up new and interactive horizons of thought, and of ways to understand time, space, properties, and causation that are supplementary, and in some cases even alternative, to those through which human beings structure their everyday relationships with the actual world (Gualeni, 2014a)." (Gualeni 2015)

The first example that comes to mind is the technology of Skype or Facetime, where we can communicate digitally and visually with people from different time zones all over the world, therefore, creating more possibilities and definitions of human relationships. Although this is universally a positive technological advancement, this also brings us to the topic of how virtual reality also represents the danger concerning the overstimulation of images. I believe that this is a prominent theme within *EXPLORER/Prometheus Ontketend*, specifically towards the end when theatre makers are watching a video montage of pixelated internet images typically found during the 90's, including a choir that sings joyfully yet eerily about honouring the internet. It is common knowledge that the internet provides us with an oversaturation of images and content, similar to how Urland and CREW demonstrate many possibilities of how and what the virtual space could look like.

1.3 Martin Heidegger's 'Enframing'

A main concept I would like to address in Gualeni's text is Heidegger's ideas concerning "Enframing". It is a term that is not explored thoroughly enough throughout the text but an important concept concerning the ontological status of virtual reality. In a sub-section handily titled 'Ontological machines?', Gualeni explores the notion of "Enframing" deriving from Heidegger's text 'The Question Concerning Technology' (1954):

> "The danger posed by technology should be identified, according to Heidegger, as the "coming into presence of the enframing" (Heidegger, 1982, 41– 43). The "Enframing" (Gestell) consists of an objectifying gaze on the world, a particular declination of rationality that understands everything that exists as a resource that can be employed and exploited with a functional scope in mind. Heidegger was particularly concerned by the fact that we are not aware that we are looking at the world in that particular frame of mind, which "remains veiled and disguised. This disguising is what is most dangerous in the danger" (Heidegger, 1982, 37)." (Gualeni 2015)

Heidegger viewed technology as "a means to an end" (Scrivner 2014). The technology is not dangerous on its own, the danger lies in how the technology is used and how this reflects on our ideas of what it means to be human: "Enframing is what defines the technological world in which we now live. Its biproducts - alienation, widespread poverty, environmental destruction, species extinction - can be understood as results symptomatic of our Enframing mode of revealing" (Ibid. 2014). Thus, how can

media or the technological frame be a ‘dangerous act’? The circulation of media and the presence of screen culture is dangerous in terms of spreading damaging social and political viewpoints, but what if this technology enables us to adopt a point of view or understanding that is beyond our culturally or familial grounding. I believe that Gualeni’s text tries to move away from this techno-pessimist conception, by arguing that the better we philosophically and mechanically understand these technologies, the more beneficial and less threatening they are to human ontologies or societal thought. We could argue that framing is a system that generates distance, therefore arguably creating points of view and a space for self-reflexivity in order to conceptualise representations of reality.

A highly Heideggerian outlook on virtual reality would be that by immersing ourselves completely within a new world, this will result in humans neglecting their true essence or events that happen in the world; but how is this complicated when these worlds are positioned side by side or link to each other? Virtual reality is indeed an instrument made by humans for humans to engage in forms of immersive cinematic storytelling. We are not completely passive as spectators and are given a certain agency to actively search for the information or meaning: “VR is much better suited for environmental exploration, for *storyfinding*, than for the more constrained notion of storytelling” (Uricchio 2018). However, I believe that the case studies referred to in this thesis purposely don’t fully immerse their spectator (denying ability to alter the virtual worlds environment) in order to give them this self-reflexive distance. Distance to analyse the virtual and the real alongside each other. Certain performative devices employed by the theatre makers arguably ensure that Heidegger’s predictions of ‘Enframing’ occur in a certain way, to benefit our understanding that our experience is framed in a specific manner. Both Urland/CREW and PIPS:lab’s decision to place their audiences/participants at a distance, engages with this notion of being in two spaces at once. As CREW state in an interview titled ‘On the Border Between Performance, Science and the Digital’, the use of virtual reality challenges the spectator to play with these two realities: “We’d rather have our playing field in the middle of two realities, one leg in the virtual, one leg in the real and the capacity of the mind of the immersant to balance and shift in between these two realities” (Nedelkopoulou et al. 2014).

We cannot ignore that our human existence, whether it be technology or a performance, is framed in a specific manner by many factors. In one aspect, I agree with Heidegger’s notion of ‘disguising’ as a product of “Enframing” the gaze, however, this has always been the case concerning traditional dramatic modes of theatre and performance. In Hans-Thies Lehmann’s text *Postdramatic Theatre* (2006), Lehmann meticulously documents the transition from dramatic modes of theatre to contemporary performance practice (1960’s onwards) and calls this accumulation of contemporary practices ‘Postdramatic theatre’ (Lehmann 2006). Whilst discussing Aristotle’s conception of tragedy, Lehmann states that the representation on the stage is within the classic frame of a beginning, middle and end, in order to frame the representation of the narrative (Ibid. 2006). Although contemporary practice directly challenges this very basic structure, what we see in the performance space has still

been framed in a specific way to tell a narrative or experience, which encourages the audience to feel or perceive an event in a certain way.

A famous example of performances being framed and concealed in a specific manner is Richard Wagner's (1813-1883) famous concept of 'Total Theatre' (Gesamtkunstwerk). In terms of staging, the auditorium was specifically built to 'disguise' the orchestra and place the audience in the dark not facing each other; a framing technique to completely engross the audience in the world that was represented on the stage (Hartnoll and Found 1992). Although placing a Wagnerian reference seems obvious in regard to the immersive experience of the audience, it provides context to how virtual reality aims beyond just immersing the audience into an environment, as CREW's Eric Joris clearly states: "We aren't keen to replicate the Wagnerian ideal of total absorption. In immersive terms we would speak of a 100% feeling of presence, of total belief, elegantly phrased: 'the illusion of non-mediation'" (Nedelkopoulou et al. 2014). Since the emergence of Lehmann's Postdramatic, theatre makers want to eliminate this 'disguise', with the urge to create a fluid notion of space, opposing all traditional forms of strictly framing space and narrative in a traditional dramatic form. In a way this somewhat mirrors the construction of a virtual reality headset, the virtual world is a frame attached to our eyes and the construction of the space is disguised, producing the effect of feeling immersed in this digital environment. The architectural theorist Marcus Novak points out that virtual reality emphasises the fluidity of, therefore: "The artist who designs these immersive digital habitats will be able to transcend the laws of the physical world [...] forms in cyberspace can respond to the viewer [...] in cyberspace, architecture becomes a form of poetry" (Qtd. in Packer and Jordan 2002). From a possible Heideggerian perspective, the fluidity of the virtual space and spatial endlessness could be seen as a way of disguising a certain truth. There are always limitations to this fluidity and a sense of control, for all virtual structures have to be programmed in order to exist (Ibid. 2002). We have to question the intentions behind this space: How does the space want us to move and how are we positioned by this virtual environment? What does this virtual space represent and what does it want me to believe?

1.4 Identifying the Frames in a Virtual Reality Experience

In both case studies, the virtual world has been programmed to fit within a specific frame. In PIPS:lab's *Anyways,* the virtual world is framed by the lens of the virtual reality headset. We are placed within a 360-degree pre-recorded environment for a specific amount of time, we cannot go beyond what is recorded within this formation of a virtual world. The headset acts as a mediator that places the "participant inside information", we become observers at the centre of the experience, therefore, providing the illusion that we are in a 'frameless' never-ending environment. (Dixon 2007). Jon McKenzie articulates this in his essay 'Virtual Reality: Performance, Immersion and the Thaw' (1994), where he emphasises how the feeling of total immersion within a virtual world comes from the illusion

that there are no frame edges at all (McKenzie 1994). We are placed at the middle of a situation within a space, where the participant "[...] experiences the space from the "inside out" rather than from the "outside in"" (Dan Sandin qtd. In McKenzie 1994). This frame is also one that is constantly in motion and not strictly controlled by the narrative of the characters, reintroducing this idea that we have to find the story within the projection, instead of the story projected to us. The continuous frame also affects our relationship to time and space because we are presented with: "[...] continuous "real time" and "real space" (3-D) computer environments" (McKenzie 1994). The virtual world's ability to create a space that is continuously flowing, or specifically to *Anyways,* a recording of a real space that most people have a strong familiarity with (the train carriage); challenges our perception and definition of reality, possibly neglecting the fact that this space has been meticulously constructed.

Anyways is an experience within an experience. The narrative explores characters within a virtual reality experience, provoking them to philosophically discuss their relation to one another and their environment. Which is at first glance a very ontologically engaged series of events. Although the participant adopts the role of an observer where we don't have any agency within this environment; by placing our observing experience within the body of another, our own experience of using virtual reality is directly affected by the character. I believe all designers of virtual worlds have this understanding that when the experience is immersive or technologically mediated, this will influence the participants thoughts or awareness in some way:

> "Anything experienced through a digital simulation will, in fact, inevitably be filtered through the ontological core of digital computation. As is the case for any form of mediation or technological augmentation, computers are recognized as framing both thought and praxis in a specific way, which is both advantageous and limiting in its applicability." (Gualeni 2015)

In *Anyways,* the ontological core of our experience is understanding how virtual reality affects the relations between eccentric characters in a confined space. I would like to specifically reflect on one character I experienced whilst attending a demonstration of *Anyways* in 2017, where the character I took the position of was a man flying above the train. Until it is revealed at the end that he is also part of the conversation in the train carriage, the participant experiencing this character has no idea that they are part of a dialogue that references a virtual reality experience within a virtual reality experience. Unbeknown to this specific participant, the other participants could be flying across locations completely isolated from one another. This viewpoint is isolated from the other narratives, a condition that reinforces Heidegger's 'Enframing' concept - where one is concealed by the frame of his/her experience in relation to the construction of the reality (Gualeni 2015). It is key to note here that from the other character's perspective, you see this man (the one who experiences flying) in the corner with a virtual reality headset on. From this perspective, this man becomes a device to connect us to actual reality; an anchor to reality that signifies how the technology is positioning our bodies, our behaviour and what we must look like in actual reality with a headset attached to our heads.

Our ontology, our perception or existential reactions towards time and space are comforted by this mirroring of our own experience. This experience allows us to detach ourselves from our own realities or existence within society, which is deeply cathartic, but then we have the ability to find our way back to our own human presence/existence by removing the head mounted display. This familiarisation in the virtual space is a device that acts as a comforting reminder that one is not trapped in this alternative reality, that our experience is framed by a short time frame with constructed conditions. In Gualeni's text, he identifies this as a key element of the virtual reality design process, where the makers of these worlds need to fully understand: "[...] the needs and the (perceptual, cognitive, and operational) capabilities of the intended recipients of the virtual world or simulated experience" (Gualeni 2015) Unlike *EXPLORER/ Prometheus Ontketend,* where chaos is embraced and experimented with within a computerised version of virtual space, *Anyways* reveals this necessity to implement control within the freedom of exploring a new reality. PIPS:lab have effectively used specific signposts in order to effectively transition from one space in reality to another.

In Urland and CREW's *EXPLORER/ Prometheus Ontketend,* the transition from one reality to another is staged within the live arena of a traditional black box theatre setup, contrasting the close proximity of PIPS:lab's six participant only installation. The virtual world is projected onto a large fabric screen, providing the illusion that the virtual is four dimensional and part of our own reality. The stage space is the 'portal' for the virtual reality to situate itself in. There is a beautiful moment at the beginning of the performance, where the performers place two white cubes on stage, they stand still and begin to slowly explore their surroundings. Birdsong accompanied by menacing echoey sounds and then a synth melody plays whilst the fabric screen, positioned at the front of the stage, begins to the rise slowly and in that moment, the virtual world inhabits the stage. The performers bodies begin to the disappear as the contrast of the projection becomes stronger, their bodies being replaced by their virtual characters Bridget and Deacon (a visual example of this can be seen in figure 4). The construction of the space and its transition from one to the other is not disguised in anyway.

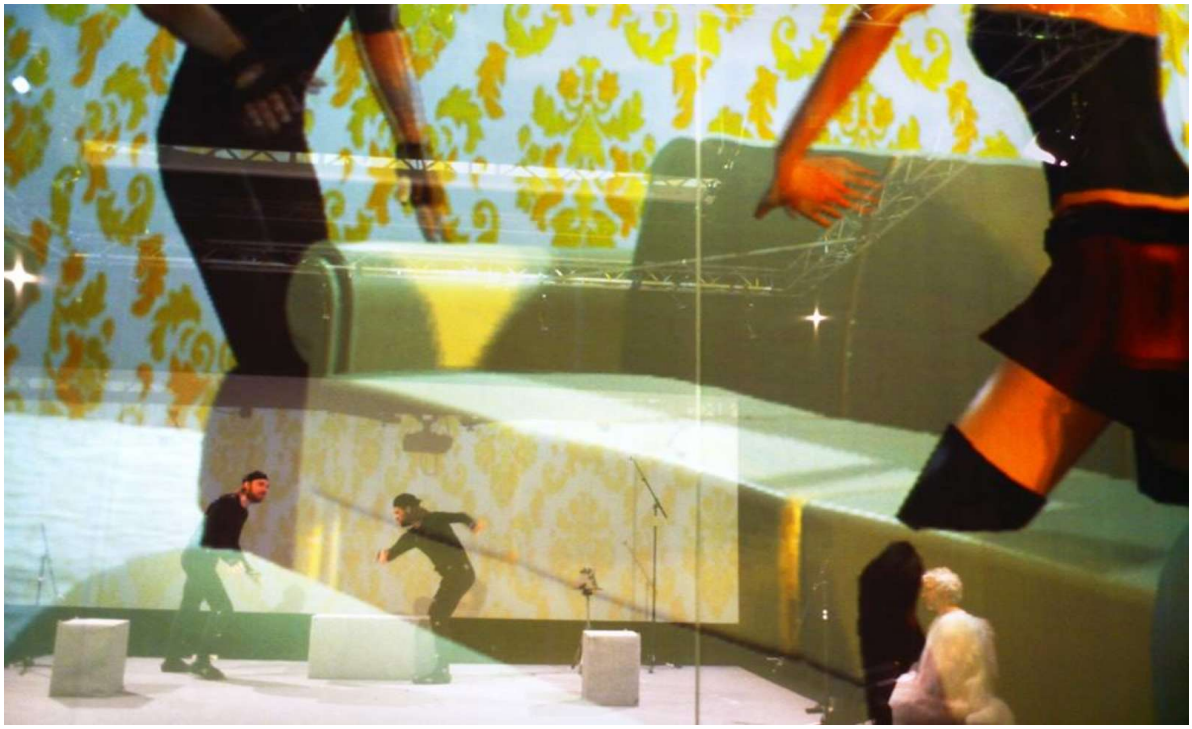

Figure 4: *This image demonstrates how the virtual world is projected over the performers Marijn Alexander de Jong and Ludwig Bindervoet in the black box theatre space. (Urland 2016)*

By implementing this, the audience are aware of these two worlds, the world of Bridget and Deacon is controlled and framed by the performers and the operators positioned by the stage. I believe by exposing all of these elements, by revealing the virtual world's construction, the audience are able to see virtual reality as an ontological tool. A tool that can show the transformational potential of the performance space. The technology of virtual reality enables digital landscapes to go beyond the screen of a monitor and become tangible part of our own physical reality. The ontological reasoning of 'where we are' in relation to the world is extended and arguably beyond any conceptualisation of what a frame is; we have entered a definition of reality and space that is beyond the spherical matter of our earth.

This blurring reflects the postphenomenological identification that our contemporary technological world enables us to blur the lines between virtual and actual spaces. Whilst describing the work of Don Ihde, a key figure in postphenomenological studies, the philosopher Peter-Paul Verbeek iterates a key idea: "[...] technologies are identified as fundamental mediators of the relationship between human beings and reality [...] new possibilities for humans to shape reality and be shaped in return" (Verbeek et al. 2015). Within Gualeni's text, this logic is always embedded regardless of the type of virtual reality audiences or participants engage with, there is always a connection between these two worlds: "Each state of a digital world has the inherent possibility of developing and changing into innumerable other potential configurations that have a perceivable logical (causal) connection with the present one" (Gualeni 2015).

Although the audience are not immersed in the virtual reality space, the augmented quality of the projected virtual world (where the performers are concealed behind a screen) initiates how the two realities can directly affect each other. Augmented in this case refers to "physical space overlaid with dynamically changing information so as to create a new kind of physical space" (Klich and Scheer 2011). As the show progresses, you begin to believe that this virtual reality is actual reality. According to Gualeni, this directly affects our ontological senses: "In terms of their ontologies, being exposed to a multitude of incoherent and often bizarrely unworldly virtual experiences, can contradict, confuse, and trivialize traditional values, ideas, and beliefs while asserting the triviality of any form of knowledge" (Ibid 2015). Our insistence to specifically separate our reality from the virtual is challenged. The blurring of realities is noted as a trait of CREW's work, where "the audience of these artistic creations is coerced into cognitively negotiating between the real and the medial frame, between 'looking through' and 'looking at'" (Vanhoutte 2010). Within this specific performance, this blurring between spaces became intensified when an audience member sneezed, and the virtual character Deacon breaks his narrative to say "bless you" to the audience member *(EXPLORER/ Prometheus Ontketend* 2016). Although we know the narrative is controlled by our guide Dudkiewicz who is positioned outside the virtual frame, in that moment the two spaces collide and blur, for we believe this virtual entity is directly addressing us. We imagine a possibility where virtual reality and actual reality can exist in our actual physical space.

1.5 The Guide: Transitioning from the Actual to the Virtual

A key technique the performances have in facilitating the transition from the actual real space to the virtual reality space is the role of the guide. In virtual reality practice, this seems to be an integral part of easing the audience into this new foreign space. At the demonstration I attended of PIPS:lab's *Anyways*, I distinctly remember a participant constantly apologising for this being her first time experiencing a virtual reality performance. The participant became worried over participating in the 'installation correctly' and this particular moment has intrigued me ever since. Is there a correct way to participate in these virtual worlds? Although *Anyways* only asks the audience to sit back and observe a pre-recorded space, we have to take in consideration that this technology is still relatively foreign to many theatre audiences. It is also a technology that can question a person's ability to participate, as if the woman was apprehensive or scared of what she might find or miss within the virtual world; in that moment, the technology was spoken about as this dangerous entity that had to be entered correctly.

Although the audience members are not participants in a virtual reality experience, within *EXPLORER/Prometheus Ontketend*, the narrator Thomas Dudkiewicz becomes our guide in this transition from real space to virtual space. The performance begins with Dudkiewicz introducing the space and the team to the audience: "[it is a] construction of 12 stage platforms. A surface of 6 x 4

covered by an equally sized grey carpet. It is also a portal to 1994" *(EXPLORER/ Prometheus Ontketend* 2016). The audience are always made aware of the space around them, we witness the organisation of the space as the performance transitions from virtual reality projection to the bare stage space compiled of objects. I question whether the necessity for a connection to reality in these works, is a way of not losing oneself within this new reality and feeling too disjointed from our personal realities, therefore we implement factors that still give us a sense of control over our situation. Here we see Heidegger's fear concerning his term 'Enframing' put into action again, on the grounds that losing oneself to a digital reality is potentially losing or 'exploiting' one's personal or rational thought (Gualeni 2015). This is where the role of guide becomes useful in dissolving these fears, acting as a mediator between one space to another.

In *Anyways,* the female conductor stands in between the two rows of seating and gives us instructions on how to adjust the headsets and so on. When the virtual reality experience begins, the setting has changed but her position in the space and her presence stays the same. After presenting more instructions she exits the space. The participants are left alone. When the experience is about to end she assumes the same position and instructs us to take our headsets off. The guide becomes an ontological tool that activates the relational category (referencing to Aristotle's categories) within the fabrication of human ontologies. The importance of tools within our existence is explored by Gualeni in this manner:

> "As a common experience in everyday existence, humans can develop a close familiarity with tools (from the proverbial hammer, to the layout of a keyboard, to the dimensions of a car) to a point where, with practice, these technical artefacts are perceived and used as native effectors. This characteristic aspect of being-in-the-world is what Heidegger labels as encountering objects that are ready-to-hand (Zuhanden) (Heidegger, 1962, 137– 143 / SZ, 104– 110)". (Ibid. 2015)

With this ideology in mind, we could argue that the ontological tool described here is not the virtual reality itself, but the presence of the guide. The conductor's presence frames our experience, providing the audience with comfort and familiarity. She is a human being within our actual reality, therefore, the sense of feeling alone or trapped is somewhat eradicated.

1.6 Conclusion

In Part One, I have formulated an in-depth analysis on how these two case studies have staged the transition from actual space to virtual space, demonstrating how the theatre makers use different modes of framing or staging this transition. I have also investigated how these spaces can be defined in relation to ontological concerns and philosophical discourse. What significantly stands out overall is how the effect of disguising or exposing different elements of the space within this transition, reveals

opportunities for ontological debate. By disguising or blurring the virtual with the real space in actual reality, virtual reality technology becomes a tool that challenges our ability to distinguish between what is real and what is strictly mediated. This blurring can affect our ability to self-reflect, which is a key aspect for virtual reality as an ontological tool according to Gualeni's analysis. By decoding the virtual space in relation to the actual space, we can understand our relation to technology and how it specifically positions us in relation to our world. I think it is also important to note how the understanding of ontology also reveals how the theatre makers create specific methods to ensure the participants and audience members are comfortable, therefore, providing the illusion that they are in control. That they can mentally separate the dream like quality of the virtual from actual tangible reality. Finally, the co-existence of the virtual and real space redefines our notions of space completely, specifically how our everyday space is formulated or could be completely constructed by technological tools. An existence that can either elevate our understanding of space or disguise the truth on which space is grounded.

PART TWO

The Body

Virtual Ontologies and Cyborgs: Investigating the Body-Schema in Virtual Reality

2.1 Introduction

When there is a transition from actual reality to virtual reality, we are witnessing a transition from actual bodies to virtual bodies. Virtual reality is not only a tool that reconfigures our notions of space but also the ontologies of our bodies. In the chapter 'Positionality in the Digital Age', Gualeni identifies that the presence of virtual reality has prompted a pivotal shift in our understanding of ontology in relation to the body and human experience. The chapter thoroughly decodes German philosopher Helmuth Plessner's complex theory concerning positionality and self-reflexivity, which Gualeni uses to argue that human ontologies have transitioned to virtual ontologies: "I structure an understanding of virtual worlds as mediators capable of enhancing and expanding the native body-schemas of human beings with supplementary, virtual body-schemas" (Gualeni 2015). The term 'Body-Schema' refers to the relationship or awareness one has to their own body ('Body Schema' 2018).

In the 360 degree pre-recorded virtual environment in PIPS:lab's *Anyways*, we assume the perspective and access the thoughts of someone else. Although we do not have control over these virtual bodies in comparison to the interactive virtual video games Gualeni refers to, a relationship or positioning is still established with this virtual body, displacement from our own bodies and a reconfiguration of our senses affects our body-schema. In Urland and CREW's *Explorer/Prometheus Ontketend* there are moments where the virtual bodies share the same space with actual bodies, the augmented virtual reality challenges our relationship to the actual bodies in the space (the performers and the audience) and also redefines the aesthetic possibilities of bodies in actual reality.

With this line of investigation in mind, Part Two will analyse the expressivity of virtual reality as an artist's tool and how it changes our perception of the human body. Examining how the relationship between the virtual body and the actual body reflects this transition from human ontology to virtual ontology. I will explore this transition by identifying how the bodies of the performers, audience and participants interact with virtual reality and how this interaction reveals the effects of human-technology relationships; such as the human dependence of technology to mediate experience and the human becoming cyborg narrative from postphenomenological discourse.

2.2 From Human Ontology to Virtual Ontology

I will begin by briefly overviewing Gualeni's analysis concerning Plessner's philosophy and how he applies this to the presence of virtual ontology. According to Gualeni, the essence of Plessner's ideas investigate how bodies relate to their environment. Plessner saw humans as 'incomplete', the human uses self-reflexivity to understand his/her existence, for humans are always "[...] intuitively aware of their own centre of experience" (Gualeni 2015). Throughout time, we have built tools to aid this construction of the self and the culture we live in: "First, man made the hammer, and then the hammer made the man" (Ibid. 2015). Gualeni uses this to frame the consensus that we build tools to constantly redefine or understand our position within the world: "human existence has to constantly be developed, reshaped, and redirected" (Ibid. 2015).

Tools and ontology will always have an interconnected relationship; we use tools to challenge the boundaries of how one should live in the world. Gualeni refers to Jos De Mul's philosophy that: "in Western culture, the creations of craftspeople and artists have always depended on the mastery of specific productive or expressive tools, and contemporary artists are no less reliant on technological tools than were their prehistoric predecessors (De Mul, 2010, 139)" (Ibid 2015). In this context, the theatre makers are using virtual reality as an 'expressive tool' and as an investigative tool. At the end of PIPS:lab's *Anyways,* the audience take the head mounted displays off and are encouraged to have a conversation about our experience. Whilst talking briefly to the maker Keez Duyves after the Spring festival showing, Duyves mentioned that he had asked psychologists to participate in the installation. He stated that their conversations focused not on their own experience, but the body language of the characters and the relationships established between them. Perhaps the psychologists saw this experience as a think tank experiment where we can test many personalities interacting in a specific situation or how to document our behaviour if life was a big virtual reality experience. The script by Duyves uses simple language but its meaning is complex and full of abstract philosophical questions, for example a character in an orange jumpsuit delivers a short speech about how his experience is connected to different colours. I wonder if the psychologist's scientific rhetoric produced a different meaning of the narrative completely compared to other participants. Reflecting on technological tools, our overdependence on tools exposes the truth that our entire existence is now defined by the technology we use - from hammers to hearing aids, phones, computers and coding. This truth brings out the techno pessimist rhetoric for technological world dominance as a threat to the state of human existence, where Gualeni, referring back to Plessner, describes as a moment where technology is thought as "[...] an artificial way to compensate for human incompleteness and finitude" (Ibid. 2015).

I would argue that indeed technology does act as a compensation for certain aspects of people's lives. When we crave a romantic connection, we can use a dating app to efficiently cure this sense of loneliness; if we want to compare our life to someone on the other side of the world, we can use internet

databases to answer our questions. I believe virtual reality does not answer our existential questions or enable us to feel 'complete' as human beings, instead it facilitates a space where we can challenge preconceptions of what it means to be human in reality, especially concerning our definitions of the human body and how this is mediated by technology. In this sense, the transition from human ontology to virtual ontology examines a transition from analysing human beings in relation to environments, to analysing human beings in relation to technology. Gualeni argues that virtual ontologies reflect on the potential virtual reality has as a tool that can experiment with or construct different human ontologies, virtual reality enables us to transcend what is physically possible in reality and manipulate this possibility: "[...] a new, broader humanism has already begun to arise" (Ibid. 2015). This humanism includes redefining the capabilities of the body and our relationship to other bodies in virtual reality in comparison to actual reality.

2.3 Actual Bodies Vs. Virtual Bodies

Within the construction of virtual ontologies, I would like to focus on the presence of virtual bodies in relation to actual bodies within the case studies. In virtual reality, the possibilities to manipulate the aesthetics of the human form and our surroundings are endless. This tool can either transport us to another person's body or that of an inanimate object. The term embodiment in relation to virtual reality is one that is easily confused or carelessly attached to the experience of virtual reality participants. In relation to this study, I align my thoughts with the definition provided in the text *Mapping Intermediality in Performance* (2010). In this text embodiment is defined by Kurt Vanhoutte as: "The implication for digital performance is that the embodied self is extended, hybridised and delimited through technologies" (Vanhoutte and Wynants 2010). However, in relation to my exploration of virtual reality as an ontological tool, I disagree with Vanhoutte that embodiment doesn't concern the analysis or comparison of the virtual and the real. My argument uses this comparison to explore this transition from human to virtual ontology, specifically how this virtual ontology reveals our relationship with technology and how this has defined our sense of self.

In Steve Dixon's pivotal text *Digital Performance: A History of New Media in Theatre, Dance, Performance Art, and Installation* (2007), Dixon provides a clear analysis of how the virtual body is defined:

> "Virtual bodies are new visual representations of the body, but do not alter the physical composition of their referent flesh and bones. Virtual bodies may appear to be bodily transformations to the (receiver's) eye and mind, but no actual metamorphosis takes place within the (sender's/performer's) actual body. The virtual body is an inherently theatrical entity, and there is an enormous amount of suspension of disbelief going on in relation to it." (Dixon 2007)

As Dixon implies, it is necessary to clarify that virtual bodies are digitally programmed and provide the illusion that our body has transformed. Our bodies do not change physically but our ontology, the positioning of our body in relation to its virtual form, challenges our perception in regard to how or what it could be like to live as another. Directly challenging the Aristotelian ontological categories of relation, experience and orientation - key configurations of how humans contemplate their existence within this world (Busse et al. 2015). The virtual body is not a tool that replaces the human body but acts as an extension of the body.

It is also important to note here, that a key difference between *Anyways* and *EXPLORER/ Prometheus Ontketend* is that the first separates the virtual bodies from the real bodies (the virtual is only accessible through the headset) whilst the latter combines virtual and real bodies on stage, performing in the here and now of actual reality. In *Anyways,* the performers and their bodies are memorialised/digitally mummified forever in the recording of this virtual world. We cannot change their presence in anyway, unless the theatre makers change the recordings of the character's inner thoughts fed through the bone conduction headphone. In *EXPLORER/ Prometheus Ontketend* the virtual reality is live. Each performance will differ slightly depending on how responsive the sensors or calibration is of the stage space and the performance of Marijn Alexander de Jong and Ludwig Bindervoet (Bridget and Deacon). Importantly, they have a degree of agency to how their virtual bodies are performed within the space.

In *Explorer/Prometheus Ontketend* the positioning of the performers in relation to the projection of the virtual world amplifies this extension. Towards the end of the performance, the projected virtual world transitions from hiding the performers behind a screen to placing the screen behind them, revealing to the audience their bodies performing in relation to the avatars performance on the screen. The symbiotic movement between the bodies in the virtual and the real provides this visual representation of the performers bodies, their behaviours and movements, being extended into a different world. They are both here with us in the present but also present within the sphere of the digital. In *Anyways,* this extending of the self takes place within the narrative and not as visually obvious as the other case study. The virtual reality experience enables us to take up the position of another person who is also experiencing virtual reality; arguably their experience becomes an extension of our own experience, which is amplified by allowing us as participants to hear the thoughts of our chosen character.

Referring to Dixon's notion of the virtual body being a 'theatrical entity', I believe that this is reiterated through the playful manipulation of what the human body can be in virtual reality. As I have previously mentioned in Part one, in *Explorer/Prometheus Ontketend* the virtual avatars change from throughout the performance. As the narrative progresses, the virtual bodies of Deacon and Bridget change constantly from cartoonish figures to objects or abstract geometric shapes: anything and everything that can be constructed by digital code, imitating the freedom of identity the cyberworld of the internet promises. Eric Joris from CREW states that this is why virtual reality is an attractive

medium for performance makers to use, they want to ask questions such as: "Why and how can we see from somebody else's perspective and how can we appropriate other bodies, which are not part of our own physicality? How can we experience bodies which are not ours? How does one's past and present affect the relationship to one's body?" (Nedelkopoulou et al. 2014). The performance closes with Deacon reflecting on this experience, he poignantly says: "It's as if I'm here but not here at all, shaped and formless at the same time. Have we succeeded? What have we accomplished? What do we do now? Or is it the fact that I am asking these question proof that I'm not complete?" *(EXPLORER/ Prometheus Ontketend* 2016). We could speculate that Deacon's character was created by Plessner himself, questioning his completeness to understand his own humanity or what he is in relation to his world; however, in this case he is questioning the virtuality that dictates his appearance or relationship to Bridget. Deacon is unable to succumb to chaos and becomes the most relatable character within the performance in terms of understanding our own personal experience of who or what we are in reality.

The ontology of human identity is playful and malleable in virtual reality, as Gualeni suggests in relation to the construction of video games:

> "[...] the sense and the structure of identity are malleable and fleeting; a particularly conspicuous manifestation of the fundamentally open and permanently under construction qualities of human existence. Through computer mediation, humans are, in fact, capable of experiencing what can be understood as both an extension and a fragmentation of their agency and identity." (Gualeni 2015).

However, do we consider the human performers behind the screen as extensions of the manipulated structures of Bridget and Deacon? There are moments in the performance where we forget that they are present, as if they have been swallowed by the virtual world on the stage. They are completely aware that they have control over the actions of their virtual avatars, however, I wonder if knowing that the virtual world they are performing in, controlled by the technicians on the side of the stage, affects their sense of agency. Mirroring the loss Deacon feels over controlling Bridget and the transformation of his body, prompting him to repeatedly ask Bridget: "am I still Deacon?" *(EXPLORER/ Prometheus Ontketend* 2016). There is a moment where the performers triumphantly take back their agency. As you can see in *figure 1,* the two performers are playing with objects that have sensors attached to them, whilst they move the object, the virtual world (which has transitioned from in front of them to behind them) begins to distort, producing a kaleidoscope of digital images. They become the creators of chaos simultaneously in reality and the virtual environment. The real bodies on stage take precedence over the technology that has masked them. I believe these theatre makers are not trying to replace the human presence with a virtual one but as a chance to gain the feeling of getting out of one's body, to reflect on yourself by assuming the role of another. If our human ontology has developed into a virtual ontology, I believe this refers to using the presence of the virtual to control aspects of your positioning in the world or your identity, to compensate for the lack of control or agency we have over our bodies/lives in reality.

Figure 1: *The performers move the objects around the stage to distort the image of the virtual world. On the left the narrator (Thomas Dudkiewicz) is for the first time on stage, reading from Dr. Timothy Leary's Chaos and Cyberculture. On the right, Eric Joris is in a white fox animal costume, Joris holds an electronic device that I assume is used to also manipulate the space. (Urland 2016)*

2.4 The Cyborg and Virtual Reality

The idea of virtual reality as a means to extend the human body, to experiment with the potential of human identity, leads to developments in the theoretical discourse of cyborgs. Cyborgism, stemming from posthumanist philosophy, in this context refers to the presence of cyborgs in a cultural, technological and a performative context. According to Jennifer Parker-Starbuck's *Cyborg Theatre: corporeal/technological intersections in multimedia performance* (2014), the cyborg term originates from Manfred E.Cylnes and Nathan S.Kline's definition from 1960, where the cyborg was a task-orientated machine that would provide humans with more personal freedom from work (Parker-Starbuck 2014).

Since this revelation, the cyborg has gone beyond its mechanical or scientific definition:

> "[...] 'cybernetic organism' comprised of part organic/living organism and part synthetic/technological material. Ranging from the fictional imaginary of

> Frankenstein's monster or Star Trek 's Borg to the reliance upon eyeglasses or hearing aids [...] the cyborg has emerged in fiction, popular culture, science, the military, and in daily life as a representation of the often-tangled line between bodies and technology." (Parker-Starbuck 2014)

As Parker-Starbuck refers to later on in her text, this "co-mingling of parts, machine and flesh" stimulates fear, a fear of the 'other' and technologies transformative abilities, threatening the human control over reality (Ibid. 2014). In Gualeni's text, the cyborg is briefly mentioned in regard to Donna Haraway's famous text 'Cyborg Manifesto' originally published in 1985. Gualeni's reference to cyborgs is framed by his exploration concerning the philosophy of technology revealing how humans use technology to express themselves and explore their existence:

> "This autognostic aspect of how human beings extend and objectify themselves, their ideas, and their desires in technical artefacts and systems is present in the work of several academics in the field of the philosophy of technology. Donna Haraway tersely stated that "the cyborg is our ontology," as it demonstrates (both in its practical integration with technology and as a revealing metaphor) the fundamental structure of being human (Haraway, 1991)." (Gualeni 2015)

If the technology is self-aware (autognostic) than how does this affect our sense of self-awareness? If technology is an extension of the self, a combination of machine and human, do we automatically assume that our agency is diminished? It is inevitable that our interactions with technology prompt us to adjust in order to make sense of the technology (how we can use it /how it uses us). The blurring of what it is considered authentically human in relation to the machine, like the blurring of reality and the virtual, is a factor that can affect or encourage us to reflect on our own ontology.

To expand on Haraway's idea of cyborg ontology, she describes this as follows: "The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centres structuring any possibility of historical transformation" (Haraway 2016). It is also important to note that Haraway's views were influenced by a wave of 1980's fear of military domination and destruction, therefore, Haraway was imagining a world where cyborgs dominated the human race in the near future - echoing an alien invasion from a disaster film (Gandy 2010). Although there is a lot of critique surrounding Haraway's political and feminist ideas, I see resemblances of this cyborg ontology (the "joint kinship with animals and machines") playfully investigated by PIPS:lab and Urland/CREW (Ibid. 2010). An idea that Gualeni overlooks within his analysis of the philosophical potential of virtual worlds, is investigating how virtual reality's ability to extend the human body makes our human ontology more consistent with a cyborg ontology.

In *Anyways,* the participant's body is digitally replaced with the character's body. When the participant looks down, they realise their body and their actions are not their own. Does this disconnect the participant from their own reality? Do we understand this as an extension of our body, an extension of our presence in a different realm, and if so, does our interaction with this technology make us part

cyborg? This line of questioning prompts an investigation into the postphenomenological study of cyborg intentionalities. In philosopher Peter-Paul Verbeek's analysis, cyborg intentionality refers to how the rise of technological tools have altered our experience of the world: "Humans do not experience the world directly here, but always via a mediating artefact which helps to shape a specific relation between humans and the world" (Verbeek 2008). As Verbeek explains (deriving from Don Ihde's ideas that human beings cannot experience certain things without the presence of technology) we have now entered the realm of 'hybrid intentionality', where the technology alters the human physicality (Verbeek 2008). A common example of this dependence is the invention of glasses. To interject a personal experience of mine, three years ago I was informed that I needed glasses and instantly I thought about every performance I had ever seen prior. Questioning whether my perception or my opinion of that event was affected by my unknowingly blurry vision or did this encourage me to focus on certain elements that others would disregard. These realizations effect my own ontological positioning, particularly how I relate to those around me, how I identify objects and environments; I had always been afraid of driving until I received my first pair of glasses. In a virtual reality experience, are we able to see clearer than we did before, or will we be removed further from the truth of our own reality?

Gualeni argues that traditional ontologies are challenged by technology because they move away from western philosophical debates on what truth is without abandoning them completely (Gualeni 2015). Gualeni explains that Heidegger wanted to overcome traditional Western thought, he believed that when the spectator engages with the artwork: "[...] these relationships can establish new worlds and facilitate the emergence of alternative worldviews" (Ibid. 2015). This is the basic premise of what theatre is in my opinion, constructing a narrative or world for the audience member to engage with. Technology enables humans to have the ability to disconnect from the world and imagine alternative ways of being, which Heidegger views as dangerous but also as a form of 'salvation' (Ibid. 2015). Along these lines, a virtual reality technology in its essence is a pair of digitised glasses, as scientist Steve Aukstakalnis explains: "[...] what we perceive as the location of objects in the [virtual] world around us is actually a reconstruction of light patterns bathing the retinas of both eyes" (Aukstakalnis 2016). We all are acquainted with the power of theatre performance in terms of aiding or changing people's lives, on a more metaphorical, proactive or symbolic level, however, with the concept of the human as cyborg in mind, virtual reality performance has the ability to directly change visual perception and the body schema - it is a technology that uses our vision to provide the illusion that our body is transported somewhere else in space and time.

Referring back to Verbeek, he establishes that cyborg intentionality's showcase how technological tools made by humans are now defining what humans are or will become. A key visual element of *Anyways* that comically plays with this idea that "human invents technology: technology invents human" analogy is the design of the headsets (Kumar Tripathi 2009). When one looks at *figure 5,* the design of the headset seems reminiscent of a robot's face, maybe a villain found in a science fiction comic book.

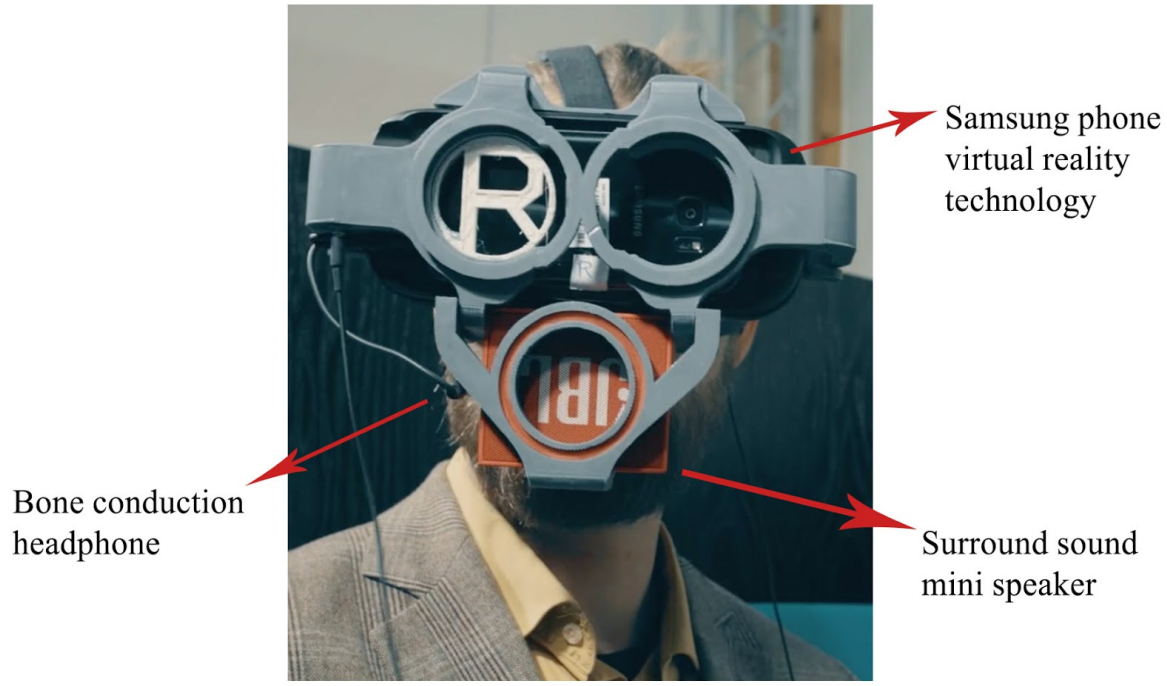

Figure 5: *Here I have added my own annotations to an image of the Anyways headset. Indicating where the technology is positioned within the 3D printed plastic mould (PIPS:lab 2017)*

The headsets are designed by the maker Keez Duyves and primarily we can see they have been designed for practicality, with an attachment for the surround sound speaker and a letter marker to indicate which participant is playing which character. An aesthetic that is completely different to the commercial virtual reality headsets we are accustomed to (e.g. the Oculus Go or Rift). At first glance, I instantly see a structure that is eerily reminiscent of a human face or a face of a mechanical creature. The dramaturgy of the participants transitioning from pre-headset to post-headset becomes this coincidental reference to the transition from human ontology to cyborg ontology. When the participants enter the space, there is excitement and apprehension about what will happen next, their body language appears to be comfortable and engaged as the softly spoken conductor delivers instructions. As they place the headsets on and the experience begins, there is an instant change in most of the participants physicality. Their bodies are static, some reach out their arms hesitantly then retract them instantly, but most only move their heads slowly from side to side. Their body movements in combination with the design of the headset, replicates the jolty mechanical choreography of human like androids. They appear restricted in reality even though the promise of virtual reality as a tool is that it provides this sense of freedom or escapism from actual tangible reality for the participant.

In *Explorer/Prometheus Ontketend* the projection of the virtual world becomes a double act, the performer's actions on stage are extended into the virtual world. We are presented with potentially four bodies on stage. In this regard, virtual reality is a tool that enables them to mediate with their digital presence, which also mirrors the narrative of the performance which explores how two characters deal

with the chaotic or questionable freedom the internet promises. The blurring between the virtual performance and the actor's performance in reality becomes this astounding visual metaphor for the interdependence between humans and technology. Eric Joris, the primary technological mastermind behind the virtual technology in *Explorer/Prometheus Ontketend,* insists that a cyborg ontology has always been present within Greek mythology:

> "Greek and Celtic myths are full of stories of hybrids [...] I can see a parallel here between these myths and our drive towards a technology that allows us to challenge our own and each other's perspective (and often corporeality). Our inspiration from myths, allegories, old tragedies is helpful because by nature they reflect upon the status of that very human; they redefine man all over again." (Nedelkopoulou et al. 2014)

At first glance, the connection between the story of Prometheus and the technology of virtual reality is difficult to grasp, but as Joris hints above, Prometheus was a figure that gave humans the technology of fire, enabling humans to forever progress much to Zeus' displeasure (Gillespie n.d.). When the World Wide Web was invented in the 1990's, this too became one of the biggest resources for human progression and knowledge. Now with the existence of cohesive and accessible virtual reality, we have a progressive tool that can access and understand technologies performativity and its relationship to human bodies, which Joris describes as the main inspiration for CREW's performance work: "We are interested in a technology that can be performative; performative in a sense that it allows us to think and dream of technology as part of ourselves and vice versa" (Nedelkopoulou et al. 2014). Although Joris indicates this cyborg reality as a dream accessed through technology, how far is this reality from the actual truth of how our society interacts with technology?

According to Ralf Remshardt, this interdependence and cyborg theoretical discourse can also be applied to the bodies of the audience, even if they are not directly immersed in the virtual environment, the performance is still mediated to them through the technology. Whilst analysing the constructs of Posthumanism, Remshardt's ideas indicate how the ontologies of the audience are also changing within these new performance environments, resulting in: "The gradual "becoming-cyborg" of the audience" (Remshardt 2010). Remshardt explains that before the audience even enter the performance space, their experience or spectatorship is conditioned by their daily interaction with multiple technological tools, constantly framing our contemporary world experience:

> "Today a spectator, or experiencer, of digital performance comes into the realm, site, or space of the performance already as a thoroughly initiated citizen of the cyberworld, conversant with the raft of devices she owns and/or manages, some of which are still attached to her body [...] practiced in dividing her attention simultaneously between screened and non-screened versions of reality." (Ibid. 2010)

Remshardt indicates here that our attention is already divided so much between the virtual and the real within our society, that we have already assumed the role of cyborg, the ontology of the human existence has become a cyborg existence and form of spectatorship: "That is, even without being fitted

with any prosthetic gear connected to the specific performance at hand – a walkie-talkie, VR helmet, datagloves, and so on – the experiencer is already a cyborg" (Ibid. 2010). The transitioning nature from the real to the virtual is a spectacle in itself but one that isn't too far from our daily existence.

Finally, whilst experiencing the work of Urland/CREW and PIPS:lab, I noticed how virtual spaces play and experiment with this idea of the cyborg as a gender fluid being. In *Anyways*, as a female participant, in the virtual narrative I had the body of a man. Although I had no control over this virtual body, there was a sense of gratification in being able to swap bodies with my male counterpart and hear his inner thoughts as if they were my own. In *EXPLORER/Prometheus Ontketend,* the ever-changing setting of the virtual world forces the virtual characters to adapt their behaviour but also their physical bodies. Two male performers play a seemingly heterosexual couple Deacon and Bridget. They become genderless or even multi-gendered beings as the performance progresses. Deacon fears these possibilities and feels controlled, whereas Bridget takes this opportunity to embrace the limitations of her digital existence. Halfway through the narrative, the walls of their digital living room begin to enclose on them and they are transported to a dark boundaryless space with a tiled floor. What remains of Deacon's body is a white mould of a basic male body, equivalent to the plastic bodies of male action figure toys - an outline of what he once was. Suddenly, another identical seemingly male figure enters the space. We find out that this is Bridget which unsettles Deacon considerably. Bridget giggles and playfully touches her new digital form, announcing to Deacon: "I have always fantasised wondering what it would be like to be you" *(EXPLORER/ Prometheus Ontketend* 2016). Deacon at this moment represents the fear of human-technology relationships, the feeling of losing control over your identity and perception within a digital landscape or the internet. Whereas Bridget represents the future, or as Urland/CREW state, 'the promise' of digital utopia in the 1990's (URLAND n.d.). In an interview with Urland and CREW, they state how the main inspiration for this fluidity stems from the belief that: "Throughout the world in reality you can impose certain rules and limitations but not in cyberspace where everything is free and truly democratic and equal in every sense" (PC URLAND 2015). Is assuming multiple forms or genders within virtual reality a form of equality? Does virtual reality offer a space to assume multiple identities?

This also provokes many questions about who is actually in control within this narrative in relation to the technology. Referring to Haraway's 'Cyborg Manifesto', I believe the fear of the mechanical human being references the tension between man and the machine, the fear of not being in control or as good as the technological counterpart: "[...] basically machines were not self-moving, self-designing, autonomous. They could not achieve man's dream, only mock it. They were not man, an author to himself, but only a caricature of that masculinist reproductive dream" (Haraway 2016). My assumption here is that Haraway identifies the machine, the cyborg and technology as a whole, as devices that threaten or mock the power and usefulness of the male human being. Which could coincidently link to why Bridget was quicker to accept and be playful with her identity within the digital narrative, whereas, Deacon struggled to let himself go within the chaos. Within this brief examination,

the transition from human ontologies to virtual ontologies, seem to threaten our initial ideas concerning control, even though the presence of interactive virtual worlds in performance and video games give us freedom to control a world where we have no responsibilities over our own body or the body of others.

2.5 Conclusion

Throughout this analysis, I have indicated how investigating the bodies relationship to virtual reality showcases how the theatre makers have used this tool to expose truths about human-technology relationships. Within this particular journey concerning the virtual and actual body, I have noticed that what jeopardises technologies potential for freedom, is our human concern over control. Specifically, who and what is in control of our physicality once we are immersed in virtual reality. This interpretation is based firmly on the narratives that frame the performances, narratives that place characters in a situation that they are unfamiliar with and have to adjust their bodies to. The theatre makers use virtual reality as a tool to distort the aesthetics of the body, which in turn complicates the relationships these bodies or characters have in relation to each other. This process also enhances our awareness of our own body-schema, even if we are not directly involved in this virtual reality world, we contemplate our own actions or the questions we would have if we were in that character's position. This contemplation would change into action/reaction if the participants or audience were able to move around or interact with the virtual worlds around them. However, the distance away from this experience of immersion is somewhat comforting for most theatre audiences, as we assume the role we have always assumed, which is to sit back and observe the images or information that is performed to us. Referring to Plessner's philosophy, our passive relationship to the virtual reality in these case studies enables us to confirm our position within this experience, our control is based on the confirmation that we are only observers. This sense of control is also complicated by the fact that technological tools create these nuances of a cyborg reality, and as I have explored above, our body instantly adapts to these technologies or changes our physical appearance or movement directly. Therefore, virtual reality's status as an ontological tool is confirmed by the complicated relations we have between virtual and actual bodies; specifically, how these makers use virtual reality to blur and merge them together - complicating any traditional notion we have regarding the understanding of truth in our world.

CONCLUSION

Now that we have reached the end of the analysis: how do these theatre makers explore the concept of virtual reality as an ontological tool? Throughout the journey of my research, my goal was to compare and contrast two completely different forms of virtual reality performance, revealing how they both contain similar ontological concerns despite their difference in narrative and staging. My argument resides in the belief that virtual reality is an ontological tool as Gualeni states because it challenges our conceptions of control: control over the developments of our body, control over our perception or thoughts and finally the construction of space.

By investigating the ontological qualities of virtual reality, one begins to realise that techno-pessimist theoretical perspectives are based upon the fear of losing control; we fear a time where the existence of technological tools will overtake our own definitions of existence. Echoing the rhetoric that we invented tools and now the tools are reinventing us, challenging us to truly accept that our experience of everyday life is conditioned by these technological tools. This I believe facilitates the feeling of being out of control in regard to having ownership over your own perceptions of your senses and your body. To summarise on the ideas of Chiel Kattenbelt, new media (such as virtual reality) "resensibilises perception", therefore, our interactions with technologies encourage us to redefine the way our senses engage and perceive these new media experiences (Kattenbelt 2010). I do acknowledge Gualeni's effort to cohesively argue that virtual reality is a progressive and expressive tool, however, I am aware that the specific moments I have chosen to analyse in these performances still reimagine the fears concerning the growing interconnectedness between humans and technology.

In these two case studies, our experience is staged in a manner that encourages us to self-reflect on our agency. Questioning whether these technologies extend our agency, reveal and disguising the fact that our agency is conditioned or framed in a specific manner. Within Gualeni's analysis of Heidegger, Verbeek and De Mul, there is a common understanding that the threat technology poses towards ontology is rooted in the machine's ability to disguise information and frame our experience in specific way. Echoing Gualeni's use of the Heideggerian concept of 'Enframing' where technology has the capability of creating a totalizing perspective, disguising truths about the world and directly affecting our perception of our own ontologies (Gualeni 2015). The theatre makers investigate this fear by showcasing how we can easily expose and blur the transition from one reality to another, encouraging us to reflect on how this affects our sense of self in relation to all forms of technological devices.

In Part One of my analysis, I identify how the theatre makers provide guides or objects within the virtual space to anchor the audience back to the reality of the actual space. In both case studies, the makers never push their audiences to feel completely lost within the virtual world and this makes me question what would happen to our ontological understanding if we were truly left alone in these virtual spaces. I wonder if we would celebrate or panic at the thought of being able to move around the virtual train carriage in PIPS:lab's installation, instead of comfortably observing at a distance whilst still experiencing some sense of cognitive immersion. This comfortability in understanding how the illusion

of virtual reality works, becomes a divisive measure to make us feel a form of control and perhaps a prevention from contemplating existential dread. There is a sense that we need to feel comfortable with these technologies or in control in order to feel less threatened. As the digital avatar Bridget explains to Deacon in *EXPLORER/Prometheus Ontketend,* the virtual presents to us a version of the world that exists without any defining framework of time, space or how we relate to others *(EXPLORER/ Prometheus Ontketend* 2016). Time and space are important ontological categories, therefore, when virtual reality challenges these concepts that literally frame our human existence, (if we align ourselves with the Aristotelian ontological categories specified in the introduction) the way we relate to all beings, objects and knowledge within the world are instantly affected. Therefore, the fear we may have over the ever-increasing dependence on technology redefines the basic notions we have of existence or how our senses work in our technological determined 21st Century environments.

In Part Two, the disguising of real and virtual bodies only further stimulates this narrative. The blurring between the organic human form and the new cyborg form, the impending awareness we have on how choreography, provokes another ontological narrative concerning control. I argue that the way technology physically affects the ontology of our body is amplified and extended further through the medium of virtual reality performance; that our perception of our bodies can be conditioned by the technology directly. A key argument I add to Gualeni's analysis is how an extensive look into cyborg theory can add additional context to this transition from human to virtual ontologies. If Donna Haraway's prediction of our impending cyborg ontology is correct, the way we engage with virtual reality has already been conditioned by other forms of technological mediation, therefore, we could second guess how virtual reality actually conditions our perception or whether it just amplifies our cyborg existence. I also acknowledge that the narratives of these two performances, encourage audience members in *Anyways* and *EXPLORER/Prometheus Ontketend* to question how their bodies or viewpoints are positioned by technology. For example, the weight we feel of the head mounted displays placed on our eyes in *Anyways* becomes a reminder that our experience is being mediated by a piece of technology. In *EXPLORER/Prometheus Ontketend*, we watch the bodies of the performers disappear and reappear within the frame of the projected virtual reality, encouraging us to reflect on how easily our existence can be submerged or lost within the digital. By confirming our position as observers placed at a distance, we formulate again a sense of control over our own experience. This dramatically contrasts the experience of the virtual avatars Deacon and Bridget, who have succumbed to the chaotic world of their ever-changing digital landscape, only to realise themselves, that their constantly changing digital form is exhausting and their experience has left them in existential melancholy.

In order for this research to progress, the next step would be to extend my analysis in two distinct ways. The first would be to apply my argument to performances that present highly interactive immersive worlds, allowing the participants to physically interact and walk around the virtual environment. CREW's independent performance projects would offer a good starting point in investigating how interactivity effects ontological discourse and contributes to our need for control in human-technology interaction. This will enable me to access elements of Gualeni's argument that could

only be applied to highly interactive forms of virtual reality engagement found in strategic video games. How would the ontological dynamic change when the participants have to actively problem solve within the narrative instead of observing from a distance? I was adamant from the inception of my research topic to personally experience the virtual reality performances, in order to gain first-hand experience on how the virtual reality could affect the state of its participants. However, this meant I was unable to find current performance work that involved a more active participatory role via a virtual reality head mounted display. The second progression I would like to explore is how to extend my argument on how the body expands our notions of control and ontology by looking into theoretical perspectives from contemporary dance practice. In my preliminary research, I was particularly inspired by an article by dancer/choreographer Scott deLahunta called 'Virtual Reality and Performance' (2002), where deLahunta vaguely argues how dancers and choreographers should be involved more within the process of designing virtual worlds and how the participant is instructed to move within this world – just like the dancer learns a choreography sequence (deLahunta 2002). Again, I believe this line of inquiry would also suit a performance case study that involved the participants to actively move around the virtual world.

Overall, the specific methods the theatre makers use to anchor the audience back to reality, allow a form of critical distance which only amalgamates when the real and the virtual coexist simultaneously in one single space. I am completely aware that Gualeni's arguments are formulated around virtual reality video games, however, when applying his theory to a performance context, we can see virtual reality as an expressive and performative tool that redefines any preconceptions we have concerning performance spaces or performing bodies. Virtual reality enables the audience and the theatre makers to hypothesise our future realities concerning human-technology relationships. Whether the self-reflexive nature of virtual reality encourages one to feel more 'complete' about their existence is dependent on how the designer or theatre maker frames their transition from one reality to the next; and how this subsequently challenges how much control we allow ourselves to let go of in the presence of virtual worlds.

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