

CHOREOGRAPHING THE CYBORG:

IM•MORTAL

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ABSTRACT

In *IM•MORTAL*, choreographer Emilio Colalillo examines the superior effect of choreographing movements with technology seen through projection mapping and video projections. It is known as spatialized augmented reality or 3-dimensional (3D) projection mapping, in live dance theatre. Specifically, to examine the effect of this modality, this thesis focuses on the evolution of humankind, a posthuman. This research will prove the success in bringing fantasy to reality to create a posthumanistic world through the use of technology, aesthetics and choreography in live theatre. The thesis examines how to augment reality through the illusion of 3D projections on stage with dancers with the correlation of music and choreography, the augmented reality stimulates the illustrative and visual meaning. The results show that spatialized projections and projection mapping produces greater 3D existence, expanding to additional layers of depth. With projections on the cyclorama, dancers, scrim and the illusion of holographic images, creates what is argued as a 4-Dimensional (4D) effect. The technology has an interactive quality with the dancers that augment reality and bring the imaginary and fantastical to live theatre, creating a futuristic experience.

Key Words: Posthumanism, Dance, Choreography, Video Projections, Projection Mapping, Augmented Reality

DEDICATION

This thesis is dedicated to my grandfather, Emilio Colalillo. My grandfather (or nonno in Italian), and I have always shared a special connection. We share the same name, which I believe brought us closer. My nonno had passed away when I was seven years old. His death was the first I had ever experienced. I have missed him dearly since he passed in 1999. My nonno would always tell me how I would go far in life because of my positive attitude. Even though he was from a very different generation, he was very ahead of his time and accepted me. He told me to always be who I am as long as I am kind. Whenever I am feeling anxious, upset or emotional, I will always remember him telling me not to worry and be happy and to find the positive in every situation. I am honoured to carry his name and this piece is dedicated to him. I know he would have wanted to see all my choreographic works. I love you Nonno.

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Introduction

According to the National Social Anxiety Centre, the biggest fear people have in life is the fear of public speaking or stage fright, while the fear of death comes in second (Montopoli). The fear of public speaking or stage fright is absolutely not the case for me, as I am a professional choreographer, dancer and performer, who loves to create, move and speak with passion. My biggest fear in life is the unknown of what will happen after death. My choreographic works are based on different emotional themes in life; love, trauma, forgiveness, transformation, hope, power or loss.

For my Master of Fine Arts (MFA) thesis project, I wanted to merge my passion with my biggest fear. I wanted to research about ideologies and theories of what happens after death to create an evolved world in dance. Growing up catholic and as a homosexual, Catholicism gave me a place to find my personal spirituality and although much of its teachings were against my sexual orientation and were conformist in value, my church community, family and friends were accepting. My own beliefs of God are that he may not be an actual man and that it was a powerful energy source that created the universe. I believe God (or the most powerful energy) is what created the universe, evolution, humanity, science and technology. Simplistic views of heaven and hell unleashed my rebel energy to create works with an emotional edge tackling themes of love, trauma, transformation, power and loss. For my MFA thesis I wanted to delve into a quest of what happens after death and express this through my own creative and technological research. I wanted to take the wonder of my own experiences of religion, life and art to see a world beyond.

Dancing and choreographing have always been a source of self-therapy for me when dealing with any form of conflict. Exploring existential themes through choreography would

give me insight into what the afterlife could be, and would help calm my fear of death. Through extensive research on posthumanism, I created my choreographic work entitled *IM•MORTAL*. The piece is about how even when we die, we live on in some way, whether it be through nature, reincarnation, a male and female creating a child, giving birth and passing along one's genes, going to heaven or becoming a cyborg. The theory of posthumanism has changed my perspective on what happens after death. Technological advancements have diminished my fear of death because of the effectiveness that technology makes to help humans. Technology shapes humanity and we are and will always be dependent on the evolution of new and innovative technological inventions.

Through my research I discovered how pervasive technology is and how embedded it is in our everyday lives. It is always advancing, causing humans to adapt to these changes. Even though when one speaks of 4D, it usually refers to *time*, I used technology to create a different kind of 4D effect, which in my performance came about by adding moving projections to become an extension of the choreography of the dancers 3D bodies. An almost holographic type of effect was created when using projections on the scrim and cyclorama in my choreographic work, *IM•MORTAL*. The technology turned the 3D human dancers into advanced beings that looked more technologically generated, as in a hologram, than the live humans they were. According to Holocenter Center for the Holographic Arts, “a hologram is a physical structure that diffracts light into an image. A hologram can refer to both the encoded material and the resulting image” (Holocenter). A holographic image can be seen by looking into an illuminated holographic print or by shining a laser through a hologram and projecting the image onto a screen. Other methods of projecting and reflecting images are often described as holographic – or even misleadingly holograms, because they have an optical presence, spatial quality or

iridescent colors.

There is clear distinction technology is evolving to create virtual holograms by steering light into an image. Augmented reality systems make a video projection appear at comfortable viewing distance. The virtual objects in augmented reality are a kind of ‘virtual hologram’. Kate Moss appears as a Pepper’s ghost video projection and not a hologram – The Pepper’s ghost technique, which uses a partially reflective surface to mix an image with the scene beyond. John Henry Pepper demonstrated the technique in the 1860s with it being used to overlay visual elements (often a figure – ‘ghost’) onto a physical set or stage (Holocenter). In my work, *IM•MORTAL*, although I did not fully achieve a true hologram, I reached a ‘virtual hologram’ effect due to the video projected images and the help of side lighting that augment reality by creating a 3D image in between the scrim and the cyclorama. These effects made my dancers appear to be of a different time.

This thesis argues that the use of technology is what differentiates human and posthuman. Technology is keeping the universe active and inspired. Technology opens up the imaginative mind to create inventions that captivate, intrigue, and inform species and ecology. It allows for the universe to evolve, embrace, contain and reinvent new innovations and discoveries. Technological advances can create a posthuman, a species that could live forever.

CHAPTER 1: POSTHUMANISM

This chapter explains the inspiration behind the creation of my choreographic dance project, *IM•MORTAL*. It breaks down the ideology of posthumanism, the ideas associated with technology, as well as the use of posthumanistic features in performance art. Here, I focus on cultural, philosophical and transhuman perspectives of posthumanism in relation to the artistic practice of my dance project. Note, I am not focusing on the other four definitions of posthumanism: antihumanism, posthuman condition, artificial intelligence takeover and voluntary human extinction. The three perspectives of posthumanism I solely focus on are the stimulus of the creative decisions used in my choreographic dance project.

What is Posthumanism?

Before knowing what Posthumanism is, it is important to look at where the term originated. The theory of evolution by natural selection, first formulated in Darwin's book, *On the Origin of Species*, in 1859, is the process by which organisms change over time as a result of changes in heritable-physical or behavioural traits. Everything evolves from something in order for new organisms, technologies and architecture to be generated. Research proves there has been constant evolution in organisms, ecology, religion, politics and technology (Darwin). Looking at contemporary western world, it is clear to see how far humanity has evolved over the centuries and consequently, one can see the evolution of humans, technology, society and ecology through current developments such as cyborgs and artificial intelligence. For example, the invention of the wheel evolved into an automobile and trains to help with transportation. (Snowden). Contacting someone by writing a letter and sending it in the mail has evolved to wireless technological devices that can send messages to anyone, anywhere in the world. By applying modifications and advancements to the biology of a human, one is able to generate and

manufacture an advanced version of the human. Using these technological enhancements a newer species is developed called a posthuman. For example, in the medical field, technology has saved lives with the use of pacemakers, insulin machines, prosthetics and many other medical and technological devices to help with disabilities and illnesses.

Posthumanism is a philosophical hypothesis that conceptualizes the reclassification of the human both biologically and technologically. Posthumanism is a way of thinking in multi-layered ways that extend the technological, biomedical and human properties. Posthumanism is a suitable method to grow the strength of the non-human domain in post-dualistic and post-progressive modes, consequently permitting one to imagine posthuman fantasies, which will fundamentally extend the limits of the human creative mind and imagination (Fernando 30). This allows for creative and new inventions that inspire the fantasy to become reality for the human. Posthumanism features the ability to change or modify human aesthetics, the environment, performance, machinery, architecture and media. As a result, this forward thinking allows history to evolve and new and innovative technologies to amplify and enhance everyday life experiences. These technological advances provide another layer of transformation along with science and nature, allowing fantasy to become more accessible for the human and posthuman. The transition to posthuman is as follows, human to transhuman to posthuman (Scott 7).

A transhuman is argued to be the point at which the human being begins surpassing his or her own limitations, but is still recognisable as a human person. Transhumanism deals with eugenics, which “is a movement that is aimed at improving the genetic composition of the human race. Historically, eugenicists advocated selective breeding to achieve these goals. Today we have technologies that make it possible to more directly alter the genetic composition of an individual” (Rivard).

Posthumanism is sometimes used as a synonym for an ideology of technological advancement known as transhumanism because it affirms the prospect and desirability of achieving a posthuman future, although in purely evolutionary terms, spurred on by technological advancement and integration with humanity. Transhumanists discuss biotechnology, cybertechnology and other technological advancements for the purpose of evolution (Scott 8). Transhumanism supports the use of science and technology to improve human mental and physical capacities, through the integration of technology and humanity. The transhumanism movement regards certain aspects of the human condition, such as disability, suffering, disease, aging, and involuntary death as unnecessary and undesirable.

A posthuman ideal discusses the ideology of the transformation after life, in which humans transform into cyborgs. “Cyborgification is essentially the way toward remunerating, innovatively and technologically, for the intrinsic impediments of normal man” (Scott 6). As theorists for cyborg identity, both C.L. Moore and James Tiptree, Jr. show that “it is not enough simply to escape our old bodies or to cast off our prescribed gender identities and is vital to extend that of which we already are” (Tiptree 398). In Stevenson’s article research shows that the cyborg man, the organism after humans, cannot just be about departure from humans; it should also be concerned with the securities that attach people to each other from the past and the essential associations that characterize adjusted systems and networks. Self-rule for the cyborg is both inconceivable and inadequate. In our departure from the choking influences of independent liberal subjectivity, it is significant, even essential, not to go alone into becoming a cyborg. When transforming or converting to cyborg, historical influences and bio-genetics are ingredients to recreate the future in conjunction with present matters (Stevenson 101). Posthumanism keeps a critical and deconstructive standpoint informed by the acknowledgement

of the past, while setting a comprehensive and generative perspective to sustain and nurture alternatives for the present and for the future. Within the current philosophical environment, posthumanism offers a unique balance between agency, memory and imagination, aiming to achieve futuristic legacies in the evolving ecology of interconnected existence (Ferrando 32). Connections of past, present and future are all embedded within a posthuman to evoke the fantasy from the new species.

As humans have evolved over the centuries, it is argued that humans never really have been human and are a constant biological change in relation to the environment. As time has progressed over the centuries, there have been constant advances and more accessibility in new resources, technologies, cosmetics and nutrition, which have improved the human species to evolve. Furthermore, posthumanism argues that the existence of organisms has consistently and proactively been posthuman due to the fact that all beings are symbiotically related to the organic and technological worlds that sustain them (Hengel 3). This further proves that the future is dependant on the past and by manipulating the former, a more innovative form or product is produced. Posthumanism has a much stronger critical edge, attempting to develop through enactment new understandings of the self and other, essence, consciousness, intelligence, reason, agency, intimacy, life, embodiment, identity and the body (Ferrando 32). Nevertheless, humans, transhuman and posthuman, share similar qualities, and in order to evolve one needs the prior to help enhance the future.

Posthumanism discusses the social and biological construction of a posthuman as well as the transition from human to posthuman. The main factor contributing to the transition from human to posthuman is through the use of technology. Such technological advancements push the ability to create and expand the possibilities and options when producing a new species.

Technology is at the forefront of what it is to be posthuman as it primarily relies on technological advancements, modifications and transformations to recognize the difference between human and cyborg (Hayle 5).

Posthumanism and Technology

Humans have relied on the use of technology for centuries to support everyday life necessities and experiences. As technology has evolved, society has become dependent on its use. Humans are required to adapt their social conditions in the technologically changing environment in order to actively participate in the advancement of the world. In the book, *The Evolution of Technology* by George Basalla, the author proves that technology existed many centuries ago and helped with daily life activities. Technology started with stone-tool manufacture, which is the earliest known technology used two million years prior to that of mineralogy or geology (Basalla 31). After stone-tool manufacturing, dated ca. 6000 B.C., the transition went from stone to metalwork. In the latter half of the nineteenth century, science had an influential impact on the nature of electricity, magnetism, foundation of electrical light and power (Basalla 32). It was not until the nineteenth century when science and technology were amalgamated to work with one another.

Technology has advanced so far from the invention of the wheel into greater and more powerful inventions. The simple use of a telephone to make a phone call has now evolved into a device that performs numerous kinds of activity such as access to information on the Internet globally. Additionally, the use of machinery has improved as automobiles and aircraft can transport us to various places more efficiently. Computer science has changed the way we live by providing an unlimited amount of access to information thus giving humans the power to generate new ideas using this information and technology. What will the newest invention be?

Will it change lives forever? What will the future of technology look like from that of the past?

The answer is in the imaginative mind.

Research predicts that the use of technology amalgamated with human biology will create a posthuman, a cyborg. Evidently, technology is that extension of humans, in which the social and biological construct of a human is redesigned and reconfigured. Technology is an attribute and main feature of the posthuman who differs from humans. Technology is more than a functional tool for obtaining energy to aid in the difficulties of human biology. The technology arrives to help with immortality to create the posthumanist cyborg. In addition, posthumans are known to be a correlation and symbiotic connection of human and artificial intelligence. It is the result of creating rich, small but cumulatively profound technological augmentations to a biological human, i.e. a cyborg. This is shown by redesigning the human organism to create a new species by using advanced "nanotechnology or radical enhancement using some combination of technologies such as genetic engineering, psychopharmacology, life extension therapies, neural interfaces, advanced information management tools, memory enhancing drugs, wearable or implanted computers and cognitive techniques" (Siedel 15). Posthumanism redefines and reconstructs inventions and tools already created and extend them to endless and futuristic possibilities.

Theories of posthumanism examine the duality between the natural conception of humans and the technologically modified version of humans. The natural conception of a human is based on biological, scientific and physical characteristics that have created a prototype that is recognisable today as human. In contrast, the idea of a posthuman focuses not only on the biological, scientific and physical but also the non-human abilities, the use of machinery and technology and the use of the nonphysical realms. Thus, to dismantle a posthuman, there are

strict dualisms that must be broken down. The dualities between human and non-human animals, biological organisms and machines, the physical and the nonphysical realm, and ultimately, the boundary between technology and the self (Ferrando 29). Technology, within a posthumanist frame, can be collected through the work of Martin Heidegger, specifically in his essay *The Question Concerning Technology*, where he states, “Technology is therefore no mere means. Technology is a way of revealing” (Ferrando 29). Posthumanism investigates technology precisely as a mode of revealing, thus reassessing its ontological significance in a contemporary setting where technology is used to enhance the current functions of society and push the limits towards the unknown (Ferrando 29). This allows for society to operate with increased efficiency and convenience as well as providing inventive and imaginative experiences for society to continue creating an advanced product.

The concept of bionics is significantly related to ideas associated with posthumanism. Bionics discusses the scientific approach to constructing artificial organisms that include characteristics and aspects to that of living organisms. The Bionics designer Hugh Herr explains that by designing the biological body to better communicate with the synthetic world, it will fundamentally change who we are. Humanity will end disability in the 21st century and establish the scientific and technological basis for human augmentation by extending human capability beyond innate physiological levels, impacting the cognitive, emotional and physical capabilities. There are ways in which to build new bodies; from a scale of biomolecular tissue and organs, to Hugh Herr’s NueroEmbodied design. When someone undergoes surgery to remove a limb, the body tissue is manipulated and sculpted using surgical and regenerative prosthesis. One loses the proprioception of the limb that is lost. Proprioception is the awareness of when you flex and extend your muscles; biological nerve sensors are sent to your brain in your nervous system to

allow you to feel the natural sensations of the limbs and muscles when in extension or in flexion without seeing it with the human eye. Technology has created prosthetics to replace the lost limb, however, the natural sensation of being able to move the missing limb is lost. Nevertheless, technology has helped improve the way of living to create prosthetics for people with amputations to function more comfortably.

Since the invention of the prosthetic, researchers have improved the overall function in order to actually feel sensation of the added limb. Hugh Herr and bionic designers at the Massachusetts Institute of Technology (MIT) have created a new paradigm, known as the agonist-antagonist myoneural interface (AMI). AMI is a prosthetic surgical procedure connecting the robotic limb to the human body. When the robotic limb is attached it allows for the human to actually move the limb with the natural sensations as if it were a human limb. Scientists at the Center for Extreme Bionics at the MIT Media Lab have designed another neural interface and correspondence worldview that can send position directions from the brain's sensory system to a mechanical prosthesis, and transfer proprioceptive criticism indicating position of the joint back to the nervous system. AMI involves a novel surgical approach to limb amputation in which dynamic muscle relationships are preserved within the amputated limb.

The AMI was validated in extensive preclinical experimentation at MIT prior to its first surgical implementation in a human patient at Brigham and Women's Faulkner Hospital. The AMI consists of two opposing muscle-tendons, known as an agonist and an antagonist, which are surgically connected in series so that when one muscle contracts and shortens — upon either volitional or electrical activation — the other stretches, and vice versa. This coupled movement enables natural biological sensors within the muscle-tendon to transmit electrical signals to the central nervous system, communicating muscle length, speed, and force information, which is

interpreted by the brain as natural joint proprioception” (Herr). Herr argues that technology will become part of our identity and embedded in our biology. He states, “Previously, humans have used technology in a tool-like fashion. We are now starting to see a new era of human-device interaction, of full neurological embodiment, in which what we design becomes part of us, part of our identity” (Herr). Herr believes that the marriage of technology and biology is the future of humanity. "During the twilight years of this century, I believe humans will be unrecognizable in morphology and dynamics from what we are today," Herr says. "Humanity will take flight and soar” (Herr). This further supports the ideologies of posthumanism as the author is suggesting that through the use of technology what is recognizable as human today will become foreign but this will evidently allow for humanity to advance and flourish creating endless possibilities for evolving, transforming the human, posthuman and their world.

Posthumanism Performance

As technology progresses, so does society and the perspective on life in progressive ways. The connection of the biological and technological is becoming increasingly popular. The question of whether the corporeal body is now seen as being obsolete comes into account in order to discuss what or how advancements can be made in the human body performance? Advancements are seen in the medical field, social media, performance art, culture and most notably in relation to this thesis in terms of dance and technology. In regards to the medical field, as previously stated, the inventions of bio-technics and prosthetics aid in the performance of everyday life functions from that of the previous disability. On social media platforms such as Instagram and Facebook, there are many filters and editing options to enhance the way one looks in their photos and/or videos. This is a way of revealing a different version of

oneself enhanced by technological advances. The constant need to reinvent and research to create the newest and best thing is persistent in society today.

Posthumanism resonates artistically and creatively in performance and art praxis. The use of technology in combination with artistic practices amplifies the work to increase a level of awareness regarding futurism. Posthumanism signals the new confluence of physical materiality with performative consciousness resulting from immersive virtual reality environments in performance, which increasingly contributes to the traditional notions of embodiment and presence of corporeal literacy” (Braidotti 136). “In performance, the body is metonymic of self, of character, of voice, of presence. But in the plenitude of its apparent visibility and availability, the performer actually disappears and represents something else – dance, movement, sound, character, art” (Braidotti 150). In such a formula, even if marked by disappearance, the body still has its determined place in an operation of metonymic translation (Braidotti 136). Thus any theatrical production running today, intermedial or not, already contends with portal: digital culture and posthumanism, the posthuman subjectivity of its audience, a dislocated and distributed subjectivity that Braidotti has called *nomadic* (Braidotti 137). Seen this way, a posthuman reading of performance allows for the raising of an emergent consciousness, for new performance ecology. Posthuman refuses to close down the available connections, intersections, and nodes; rather it insists on making them visible and articulating the need to reconnect with them (Venkatesh 139).

In performance art, technology has come a long way from the use of trap doors in ancient Greek theatre times to the present day use of layered mapping of projections on the stage. An artistic framework provides a site for abstraction and consideration, allowing for the exploration of enhancing traditional theatre. Artists now not only work with the visual, but also the

biological, and the mechanical, effectively exploring the obsolescence of the corporeal body.

Artists transcend their role as an artistic creator to a scientific role that allows the artist to draw questions of this extension to the traditional role of performance. This allows artists to further their knowledge and understanding of how to use artistic aesthetics in combination with that of the changing technological world in order to enhance their artistic praxis.

Posthumanistic art has influenced numerous artists to evolve their art by examining posthumanistic theories and applying the theory to the art or performance. In relation to this thesis, the question is, how to further extend live dance theatre in a posthumanistic way? An influential Australian dance company, Chunky Move, who produced *Glow*, is a formidable and enticing interplay between choreography, dancer, traditional stage production, and novel technologies (i.e., Frieder Weiss' Calypso software development) that coalesced the futuristic cyborg to be real. This unique combination of choreography and technology created an out-of-this-world experience for the viewer, which further enhances the cyborg theme of the piece. Frieder Weiss in collaboration with dance company Chunky Move works with software technology that uses lighting and projections through a synergy with the dancer. Firstly, he works with a framework consisting of an infrared camcorder and a computer with the Calypso programming system. Calypso is a distributed video software system that tracks a body and creates visual images surrounding the body on the floor (Birringer 111). It uses calculations of motion capture in different kinds of ways and is explicitly for theatrical use. Weiss has the video and frameworks addressing one another in relationship to the dancer to amend the realism of the work. The technological framework is that it is simply being receptive to sounds, as it follows a larger range of the dancer's body. Obarzanek states "the software is an arrival to working with the oscilloscope (his ongoing spotlight) anticipated onto the display floor, following the dancer

(attributable to a calculation made in Weiss's Calypso) simply as reacting to sound files. This has achieved outstanding visuals with sound in relation to the movement" (Birringer 122). This performance was the catalyst to inspire me to create *IM•MORTAL*. The idea of using traditional theatre elements like the lighting, projections on the cyclorama to create imaginative, 3D images interacting with dancers in a live performance, inspires me to create more than just a live dance performance, but to use these elements to bring the illusion of fantasy to reality on a stage.

CHAPTER 2 | AESTHETICS

This chapter goes into depth about the aesthetic influences that inspired the crafting of *IM•MORTAL*. It explains the term avant-garde and the use of it in choreography. The chapter highlights some inspirational choreographers and artists who use an avant-garde approach. Here, it is further discussed how an avant-garde aesthetic is carried through in the technology and costuming of my work.

Avant-garde

The vision behind the entire piece, *IM•MORTAL*, was to create a choreographed dance work that looks 3D, futuristic and technological. In order to do this, the work had to surpass my previous works to push the boundaries of dance and production by adding more technological vision. Seeing the unusual, the unexpected and being introduced to experimental ideas, has always captivated my attention and inspired me to create experimental works. Avant-garde is a term to describe all of this. The term avant-garde has always been primary for my artistic practice when producing works. “*Avant-garde* today generally refers to groups of intellectuals, writers, and artists, including architects, who voice ideas and experiment with artistic approaches that challenge current cultural values. *Avant-garde* ideas, especially if they embrace social issues, often are gradually assimilated by the societies they confront. The radicals of yesterday become mainstream, creating the environment for a new generation of radicals to emerge” (Porter). Porter’s reference pushed my choreographic practice from earlier works to an entirely new level. Posthumanism is an evolved version of the human, so I sought to go beyond the boundaries of tradition, to create the choreography in an unusual and unfamiliar way. Avant-garde aesthetics engages audiences’ attention because of the unexpected imagery that happens throughout the artwork. Avant-garde aesthetics eschews the ordinary to become extraordinary. In

my dance, in order for the work to look aesthetically posthuman, the choreography, costuming and the technological elements needed to be unordinary - avant-garde.

Choreography

The choreography in the work is extremely physical, active, vibrant and pattern based. To create the avant-garde choreography, I had to think outside of my ballet, modern and contemporary repertoire of movements I already knew and enhance it to the most extreme capabilities of my dancers. Inspiration for the sequential movements in choreography came from two inspirational, avant-garde choreographers, Merce Cunningham and Alwin Nikolais.

In general, inspiration for me to create choreography derives from Merce Cunningham (1919-2009). He was an avant-garde, modern choreographer who created choreographic movements based on various exercises, scores, chance methods, and experimentation. He quotes, “In using chance operations, the mind is enriched” (Seibert). In his creative process, he would use chance methods to create a phrase of movement. In doing so he would write certain body parts on slips of paper and use chance method to pick out random slips and create movements from the slips of papers chosen. For example, if the slips chosen read; head, arm and knee, then the dancer would have to use that as instructions to generate movement (Siebert). This creative method is very abstract when producing choreography; however it is captivating to watch because of the unexpected movements and transitions that are created from using the chance method. When developing his chance choreography, Cunningham states that even simple movements can be seen as inventive through use of dynamics in repetition, speed, quality that all give the movement more texture (Seibert). This process that Cunningham used is the method I chose to use when creating a score for the soloist in *IM•MORTAL*, and for various sections in collaboration with the dancers, on the York Dance Ensemble (YDE). The chance method

produced eccentric, unusual and imaginative movements on the dancers. These movements were then taken and put in a sequential order that transitioned into one another. The results of the phrases were vigorous, energetic and dynamic.

Alwin Nikolais (1910-1993) was a pioneer multimedia, modern choreographer. His works were very experimental at the time, technological and colourful. In an interview, in the New York Times with Alberto Del Saz, known as Tito, the artistic director of the Alwin Nikolais Centennial and the Nikolais Louis Foundation, he quotes, “It’s very accessible to people. You don’t have to understand what dance is all about. He’s creating an environment on stage that is allowing the audience to participate and be stimulated by it. He was as much about stimulating the imagination” (Del Saz). This is the absolute primary focus I aspire to in all my pieces to become accessible to all audiences. I want to bring forth the avant-garde spirit to all communities. I want to merge the unusual with the familiar in order for all audiences to appreciate the work, even without having to understand it. Alwin Nikolais also created choreographic work that had emotional motivation. He defines his method with a metaphor. Movements developed from gestures provide the audience some context when the piece is more abstract, in order to provide some emotion or familiar reference for the audience (Del Saz); creating a touch stone.

To give the audience some familiar information in my work I use gestural movement; my dancers use the sign of the cross to symbolize religion. *IM•MORTAL* is about what happens after death, what is to come next. The familiar gestures of the sign of the cross imagery, suggests ideas of the afterlife in heaven. Whether or not the audience understands the exact meaning of the movement or not, it is the gestures that provide a spark that ignites imagination to make a connection between movement and theme. The choreography incorporates a lot of intricate

formation changes and patterns and the use of elevations with the dancers to add to the posthumanist look. The choreography also uses movements that interact with the projections, which add to the 4D aesthetic that I define in my own way at the beginning of this paper, which allows the audience to seem as if the dancers and visuals are connected. The dancers 3D body interacting with the projected images on the cyclorama add more depth and another layer to the performance (View video reference of *IM•MORTAL* at 3:02).

Costuming

Costumes are designed to allow dancers freedom of movement while at the same time enhancing the visual effect of dance movements—for example, the ballerina’s tutu, a multilayered skirt that creates an impression of lightness and flight (Young). When I think of costuming, I always have my dancers wear something that relates to the theme of the piece but with an added unusual element of the costume that seems avant-garde. In fashion, my biggest inspiration is Alexander McQueen. He was iconic in the fashion industry and even after his death his brand is a worldwide success. Alexander McQueen produces extraordinary, avant-garde fashion designs and concepts. He quotes, “the world needs fantasy, not reality” (McQueen). This quote truly exemplifies what I am attempting in *IM•MORTAL*, to achieve a fantasy world - a world apart from the norm. He states that you must know the rules first in order to break them, in doing so you keep tradition but demolish the rules (McQueen). The costuming was inspired by McQueen’s tenacity. The dancers in my work were dressed in nude undergarments with a translucent garbage bag over top acting as a clear dress. The effect of this costume reflecting the light added another dynamic visual layer to the work. The dancers seemed as if they were from the future. The soloist dancer wore silver, silk garments with a pink LED light pulsing around her neck. The pink light symbolized that the soloist was immortal. The silky fabric the soloist

was dressed in also reflected the lighting producing beautiful and unique visuals that made the soloist seem as if she was from the future. This costume was to showcase how the soloist was immortal. Adding the LED light on the dancer's neck made it seem as if she had already evolved into a newer species. The soloist seemed as if she were a cyborg already. As Alexander McQueen quotes, "people don't want to see clothes, they want to see something that fuels the imagination" (McQueen). The costuming for *IM•MORTAL* was chosen to open up the imaginative portal (Reference in video of *IM•MORTAL* at 6:00).

Technology

Technology in performance adds another layer to the artwork that excites audiences and keeps them engaged. For some dancers and audiences, the main interest of innovation in technology is the technological use of the dancer's body. Any other production elements become of secondary significance – sound, light and other media structures are utilized distinctly to help the artist who is the prime transporter of the artistic message. In any case, innovative technological improvement challenges this view and contemporary dance companies and organizations are progressively performing works, which fuse refined media with innovation. In *IM•MORTAL*, I wanted the audience to see the choreography and movement from the dancers, the music, the light, the costuming and projections as an unified entity.

Influences

Many dance companies are advancing their production values with technological elements that are avant-garde and have influenced me when creating *IM•MORTAL*.

Asphalte by Compagnie Dernière Minute

The innovative technology used in *Asphalte* by Compagnie Dernière Minute is exceptional for its successful effortlessness. The set is commanded by a focal square of light,

which outlines each piece, as if making borders of a comic book. Like the computer screens the vast majority of us know about, it is fit for giving a strong foundation, becoming translucent for the bodies behind it and giving a kaleidoscope of strobe-lighting shadows.

Essential hues and solid geometric lines give the stage sets a solid Pop-Art feel with little gleaming 3D squares that furnish the artists with a variety of vitality structures. These straightforward props pass on the prized nature of urban versatility just as depicting various charges of vitality from physical development, static brightening, electrical charge, and minuscule cell vitality to a space-age lunar scape or post-atomic drop out.

6 Breaths by Sydney Dance Company (SDC)

The innovation utilized in SDC's *6 Breaths* consolidates an opening and closing video-workmanship projection by Tim Richardson to the music of Ezio Bosso. This monochrome projection comprises parts that move like a herd of flying creatures or leaves passed up the breeze to mystically shape a mammoth 3-dimensional formed torso. This informs the audience as well as references the dance theme of unfurling not as a demonstration of discontinuity yet of humanistic creation (Ashley).

As in *Asphalte*, technological innovation sets the movement's style and tone of elegance. The size and visual intensity of the projection could, without much of a stretch, overwhelm the dancers movements; consequently it is deliberately used to set the stage before the dance itself completely unfolds. This inspired the beginning of my piece to showcase a huge projection of a morphing great ape into a human to set the theme of evolution for the audience and to question what will come next?

Glow by Chunky Move

Artistic Director of Chunky Move, Gideon Obarzanek, choreographed the dance work *Glow*. It utilizes advanced intuitive video innovative technology to make a moving two-part harmony of the actual dance artist and the technological 'other'. With the utilization of movement detecting software and live-generated algorithms, the technology satisfies its job of steady support being an accomplice of the dance artist in a living responsive environment, where no two performances are actually the equivalent of one another (Ashley). This relationship between the technology and the dancer drove me to create the posthuman aesthetic I saw in *Glow*. The choreography in *Glow* was extremely complex where intricate movement symbolized a creature that was out of this world; a cyborg. The movement from the choreography was captured through cameras and procusing images onto the floor, creating an interactivitybetween the dancer and the technological images displayed.

Every one of these dance works features the critical test of technology with dance movement execution. The dancers are connected somehow to the technology in each work. Even though the technological elements are different within each work, the achievement and success depends upon the craftsmanship of the choreographer, realizing how to incorporate this innovative technology into their specific artistic vision.

In my work, *IM•MORTAL*, the dancers' choreography interacted with the moving projections. The relationship between the dancer and the technology blended together in support of one another, rather than one being dominant over the other. The technology, the choreography, the music and the costuming all connected equally together.

CHAPTER 3 | TECHNOLOGICAL CHOICES

This chapter focuses on the reasoning behind the use of technology via projections, lighting, music, and/or props in connection to each theme and scene in my choreographic project, *IM•MORTAL*. Each technological choice is explored in relation to the research regarding posthumanism.

Program Software

In order to create the projections, I used the video program software, Video Leap (Lightricks Ltd.). This program is only enabled on mobile devices. The use of this software allows me to create projections and design the aesthetic vision of what will be projected and where it will be projected on the cyclorama or scrim.

Section 1: Evolution

The first section of my piece is inspired by the theory of evolution. As mentioned in Chapter 1, evolution has shown us how humans have transformed from the great apes. There is a sense of magic when viewing the differences of what living organisms looked like many centuries ago and how they have evolved to this day? During the choreographic process I did not choreograph my work in order from beginning to end. I created it in sections and then had placed each section in an order to make one full dance piece. The first section of the piece I titled, *Evolution*, in order to showcase the idea of evolution. To illustrate this wonder, the opening image of my work saw a great ape slowly transforming into a human. The audience sees the imagery of transformation from the early ages of a species to the present day and it sets the tone for the piece. The projections are displayed on both the scrim and the cyclorama with 3D human bodies dancing. This creates a double layer effect of the video, which allows the audience to see almost a holographic version of this transformation from great ape to human. The double

layering between the scrim, the cyclorama creates a holographic effect, bringing the illusion of seeing an actual face morphing itself from great ape to human in front of human eyes – live audience. Coupled with this projected video image, I want to stay with the theme of illusion and magic by using ‘floating’ dancers. These ‘floating’ dancers are foreshadowing the idea of birth. It is a metaphorical image of a new species that will come after the transformation of humans. I chose to use 8 dancers, 4 of which were dressed in all black clothing, while the others were dressed in nude undergarments representing birth. The magic comes from the 4 dancers in black who lift the 4 dancers in nude. The side lighting was an effective way to showcase the dancers signifying birth while camouflaging the dancers dressed in black. It creates the illusion of floating, bringing the idea of magic, fantasy, and futurism to my work (See figure 1 in Appendix).

I came about the idea of the magic of floating dancers via Dimitris Papaioannou. He is an internationally acclaimed and award winning choreographer from Greece. In his work, *The Great Tamer*, he uses imagery of body dysmorphia. In front of a live audience he creates the illusion of displacement where he creates movement with human limbs and attaches their limbs in innovative and futuristic ways. In order to do this, he has his dancers in strategic black clothing only showing some skin on parts of their body, depending on which limb is to be displaced and assembled onto another human. The black clothing is what makes the dancers invisible so the dancers limbs can appear to be floating. This is what creates the magic on the stage (Papaioannou). The idea he created with dancers wearing black created magic on the stage which is what I wanted for this section. Instead of having displacement of limbs moving around a body like he created, I wanted to showcase the idea of a species floating and elevating in space giving the illusion that the visible dancers are doing these actions by themselves.

The music for this part of the piece is different than that of the rest of the music used in this work. I have always been inspired by classical music from my ballet roots that is a major contrast from the electronic and techno music I listen to generally. I used the music of Ludovico Einaudi entitled, *Experience* for this section because his music is emotional, intense and is engaging to listen to. The music is a classical sound using only instruments. This has a more solemn feel, fostering feelings of wonder and curiosity for the audience to question what will happen next? The music allows the dancers to move soft and gently as they float in the air giving the illusion of flying.

Section 2: *New Species*

The next section in *IM•MORTAL* is titled *New Species*. This is because it occurs after the section of the dance with the projection of evolution. This asks the audience to question themselves, what species will come after humans? This scene answers that question which is, a new species, a posthuman, and a cyborg. Taking into consideration the idea of illusion and magic to create a posthumanistic experience, I had the scrim still present downstage for this section because of the interactive quality and the effect the projections create in relation to the dancers with the scrim and cyclorama. The beginning of the scene starts centre stage with the soloist, Kaitlyn Seibold in a fetal position. The projections start with an ultrasound of an infant inside of a mother resembling the idea of being born into a new species (See figure 2 in Appendix). The soloist dances in silver, silk fabricated garment giving her an otherworldly feature. Around the soloists neck is a pink, LED light fixture that pulses to the beat of the music. This LED light symbolizes the identity of the soloist and how technology is part of her DNA. The light pulsing to the beat of the music, gives the sense that this being is born, who evolved from human to a new technological organism, a posthuman.

As the section progresses, the projections change into geometric lines and orbs that fly into the centre of the stage. I chose these projections because it resembled a journey in outer space and had a very futuristic essence to the moving images. These projections were to show the process of a transformation from human to posthuman. Four more dancers, dressed in nude garments join the soloist. The other dancers in this piece represent the idea of human, transhuman and posthuman. The group dancers represent how we are all born again, whether we are reincarnated, passed on through birth, become a ghost, etc., part of us will live on and be joined in the futuristic world. The soloist and the dancers interact with the geometric line-shapes that are being projected. Due to the use of the scrim, the projections seem as if they are going through the dancers' bodies to transform them into cyborgs.

The projection on the scrim and cyclorama provide another futuristic quality to the stage, amalgamating the use of technology and movement to help create the overall illusion. A scrim is a piece of fabric that depending on lighting can be opaque or transparent. "Scrim both reflect and transmit light. When the scrim is only front- or side lit at a very steep angle, it will appear opaque if everything behind it stays unlit. A scrim will become almost transparent if the scene behind it is lit, while the scrim itself remains unlit. A combination of both lighting (or projecting onto) the scrim and lighting the scene behind it can create a foggy 4D scene. When adding a 3D body in addition to this will create a type of holographic effect (Reference in Video at 3:40). The more the area behind the scrim becomes lighter, the more it will 'bleed through' and appear" (Showtex). This effect from the scrim works well towards the holographic effect both in the previous scene and in this scene due to the dancers interacting with the projected images on the scrim and cyclorama (See figures 3 and 4 in Appendix). From previous knowledge of working with scrims and viewing shows with scrims and projections that I was certain I could achieve this

holographic effect with a double layering of the moving image projected. When using video mapping techniques, it was a challenge that required a lot of trial and error due to the complexities of the images that were being projected. To clearly see a moving image when doing video mapping, the image must be textures, lighter in colour and projected onto a whiter coloured surface. Moving images that are darker in colour, less textured and more solid and projected onto a darker surface will not provide as much clarity to the image being projected.

The music for this section is by 80 Doppel D, *Cielo* that has an intense downbeat and is relatable to the audience because of popculture. Music that has a beat becomes more accessible to audiences. For audiences that do not understand dance, the use of music can really draw them in. “The atmosphere created by the sound of music can give the performance a sense of greater meaning, carried by the emotional landscape of what we hear” (Burrows 183). The music in general for this work has an ultramodern sound to it, thus allowing the audience to feel as if they are in a futuristic atmosphere.

Section 3: Colourful Species

It is clear to see that the world is full of colour, both visually and metaphorically. Colour in a metaphorical sense is referred here symbolically to the world becoming more accepting and tolerant of changes in societal norms regarding race, homosexuality, transsexuality and transgender. “Although color has rarely been examined as a sociological topic, the meaning of color is linked to numerous social domains and serves as a collective representation. Color contributes to social meanings in institutional orders, stratification systems, and identity” (Fine 443). The idea of colour in this section represents colour as identity and freedom of the world becoming more accepting of sexualities, genders and species.

This section of the piece is titled, *Colourful Species*, representing the idea of how our world is consistently evolving to that which meets the changes in societal norms such as gender and sexuality. Representing a liquid, fluidity, transcending the norms in terms of colour identity. To showcase this, the scrim for this section is flown out during a black out and only the use of the cyclorama is used for projections. This is the point in which more dancers enter the stage. The projection starts with four neon vertical lines, dividing the cyclorama into four vertical columns. The dancers are placed in the middle of each column. The technology from projecting the image onto the screen, forces the audience to view these dancers as if they were actually inside the columns (See figure 5 in Appendix).

As the dance progresses, the use of video mapping materializes the image on the dancer. Video mapping is using technology to project imagery onto a surface. The projections can be as simple as indoor stage effects or as complex as video onto buildings and industrial landscapes. The purpose of projection mapping in events is to provide a more engaging experience for the audience, through visual stimulation (Cooper). The use of video mapping in *IM•MORTAL* allowed me to project a moving, colourful smoke projection on the dancer to create a visual representation of a transformation, which relates to the theme of posthumanism. I want the audience to see a new species emerging. This combined with moving gobos create an unusual texture that fosters a feeling of metamorphosis as it is projected onto the dancers (See figure 6 in Appendix).

The projections after the video mapping continue with the theme of colour and are multi-coloured explosions of smoke that are constantly changing. The added effect of textured gobo lighting all over the floor combined with the projections increases the projection effect as if the

projection were continuing onto the floor, giving the 4D effect on the stage adding a new layer to the 3D moving dancer bodies (See figures 7 and 8 in Appendix).

Later on in the same section, the projection of a pink and white smoke explosion on the lower left corner of the cyclorama (upstage left on the stage) where a dancer has a fast solo with choreography in relation to the smoke explosion (See figure 9 in Appendix). This provided an effective interactive quality, seeming as if the dancer appears out of the projected smoke explosion. After this, a horizontal strip of red smoke appears as the projection and the dancers form a horizontal line in relation to the projection (See figure 10 in Appendix). The projection and the choreography make it seem as if the smoke and dancers are one. This again fosters the idea of the connection between human and posthuman/cyborg with technology.

Section 4: *DNA Modified*

The projections in this section slowly transform into atoms that build up into a new DNA. This symbolizes that technology will become part of each organism as we move into the future. For this section, I wanted to use a prop for the soloist dancer to manipulate in abnormal ways. William Forsythe says, “A choreographic object is not a substitute for the body, but rather an alternative site for the understanding of potential instigation and organization of action to reside. Ideally, choreographic ideas in this form would draw an attentive, diverse readership that would eventually understand and, hopefully champion the innumerable manifestations, old and new of choreographic thinking” (Forsythe 5). I wanted to challenge my old way of choreographing without props, and add a prop to this section to enhance the visual aesthetic and meaning. The soloist reappears with two LED light up balls that symbolize the DNA molecules on the projections. Props are meant to enhance the work and create symbolism in reference to the theme of the work (Koner 63). I incorporate these balls because they look like the DNA molecules that

are being projected. It is as if the dancer is holding some of the molecules from the projected images that are on the cyclorama. I wanted to use a simple object that can be manipulated in various ways. The soloist bounces the balls and catches them in difficult ways while dancing around the stage. The ending of this section is when the two LED balls turn off. Two other dancers take the balls and touch the soloist with them, pretending to inject the soloist with the technological DNA in order to show a rebirth of the soloist becoming another new species connecting to the next section (See figure 11 in Appendix).

Section 5: *New identity*

After the injection of the technological DNA of the soloist, the soloist begins a kind of right of passage solo of the piece that I call, *New Identity*. This is the section of the piece where the soloist comes to realize the elements of human, posthuman, and technological features that have turned the soloist into cyborg. The projections transition into white floating vertical rays that provides an angelic atmosphere. This is constant throughout her 4-minute solo as she wore a pulsing LED pink light around her neck. The music by Max Richter, *Dream*, contrasts the intense beat in the prior sections where a heavy beast was used. The idea of virtuosity plays here between the music and the movement, where the athletic and intricate movements contrast the angelic music (See figure 12 in Appendix).

Section 6: *Post-cyborg*

The final section of the piece is called, *Post-cyborg*. It is in reference to understanding how we have transitioned from great ape, to human to posthuman/cyborg and then that which comes after? This section of the piece goes back to the use of music with an intense beat, by 80 Doppel D, *The Dark Way*, to allow the audience to foster feelings of adventure, excitement, anticipation and curiosity. Doris Humphrey states, “Art is for stimulation, excitement and

adventure” (Humphrey). To this end I create athletic, emotional and powerful movements that can capture this sense of expectation.

In the beginning of this section, the dancers lay feet first in a horizontal line from downstage left to right. The purple lighting in relation to the projections, shines down on the dancers and the reflective quality from the plastic costuming, creates a glowing effect on the dancers. As the dancers move, the purple particles match the direction of the choreographed movements. The interaction between the dancers movements and the direction of particles projected created the effect of human and technology interaction (See figures 13 and 14 in Appendix).

The dancers eventually stand up and come to the centre of the stage in a clumped formation and are backlit. The projections are an abstract version of colourful smoke and the dancers dance doing gestural movements in unison. The use of the back lighting creates a futuristic silhouette of the dancers. We see the outline of the plastic costumes and the dancers' bodies. This effect creates an atmosphere of outer space where the dancers are alien-like creatures; a new species is created (See figure 15 in Appendix).

As the section progresses the colour scheme turns to blue and the projections are a large blue circle that spins in relation to the dancer's movement in circular formation around the stage that act as if the circle on the projection is causing the dancers to move. Technology is moving the dancers in this new cyborg world (See figure 16 in Appendix).

The dance progresses and white smoke appears on the projections with a bit of haze in the air adding to the 4D effect of the piece. The soloist dancer is caught in the area of the projection where the smoke goes around. The dancer moves in accordance with the moving image of the smoke as if she is the controlling factor (See figure 17 in Appendix).

Immediately after the solo, the lighting becomes a textured diagonal light on the floor from both stage right and left, upstage to downstage, in relation to the textured, geometric blue lines of the projected images (See figure 18 in Appendix). The reason these projections were used is to symbolize the different journeys of humans to posthuman, with the use of technology, which conforms to us.

At the ending of the entire piece we see a moving, abstract, colourful space themed projection and the lights on stage flash and blind the audience. It leaves the audience wondering what will happen after posthuman? As the blinding lights fade to black, the audience still sees the soloists, pink LED light to symbolize she is immortal (See figure 19 in Appendix).

In conclusion, the use of technology is integral to the performance and in illustrating the theme of posthumanism. The use of the scrim, cyclorama, lighting with textured gobos, projections and video mapping images, add an illusion of a holographic layer to the work or what I am calling a 4D layer when the scrim was not present. The technology in the piece was instrumental in illuminating the theme of the work. Technology brought about not only accessibility but merged with the other artistic elements to create this posthuman story in a multifaceted way.

CHAPTER 4 | CHOREOGRAPHY

Chapter Four explains my choreographic explorations and decisions. It describes the use of my choreographic techniques in discourse with the technology used. Each section in the work uses various choreographic techniques. The theme of posthumanism is the primary inspiration for the choreography in *IM•MORTAL*.

“The Dancer believes that his art has something to say which cannot be expressed in words or in any other way than by dancing... There are times when the simple dignity of movement can fulfill the function of a volume of words. There are movements, which impinge upon the nerves with a strength that is incomparable, for movement has power to stir the senses and emotions, unique in itself. This is the dancer's justification for being, and his reason for searching further for deeper aspects of his art.”

— Doris Humphrey

Evolution

The first section of the work, *Evolution*, uses choreographic explorations based on partner work. I use stationery elevations inspired by Allen Kaeja for this section. Allen Kaeja is a dancer, choreographer and artist. He specializes in contact improvisation, elevations and partner work. He creates “the art of flying” (Kaeja). Kaeja has developed a form called “elevate dance”. He mentions that in order to fly in partner work; the connection of the dancers must be organic and executed through breath. One must use anchor points, which is any location where your joints bend in connection to the other dancer’s anchor point. This allows you to harness the lift and perform with ease rather than muscular strength (Kaeja). The idea of the lifts in my work was to have the base dancers invisible but lifting another dancer. Wearing black clothing

covering the entire body, in order to not be visible by light. The other dancers being lifted were wearing nude coloured garments to be visible in the light and seen as if they were floating with no support. Variations of certain elevations that were stationery are executed and the visible dancers who are floating are also upside down or partially upside down. I have worked with Allen Kaeja and using his techniques and exercises helped me generate the images when doing partner work.

I had each couple contact improvise by sharing each other's weight, making use of negative space and by finding different anchor points on the body to help sustain an image that is elevated in the air. I watched each couple improvise and saw with my knowledge what was working and chose an image that the couple could practice with and keep exploring as each rehearsal went on. I worked on this section every single rehearsal, so the dancers could feel extremely safe, comfortable and motivated to practice their image and explore new ways to enhance it as they kept on practicing. The choreography of the floating elevations are referencing the projections of the morphing of a great ape to human to inform the audience that something new is coming.

New Species

In the next section of the work, I use five dancers, 1 of whom is the soloist and 4 ensemble dancers. The soloist begins upstage centre in between the scrim and the cyclorama. The projection is on both the scrim and the cyclorama of an ultrasound. The choreography is inspired by the movement of the projection of the infant in the ultrasound. The soloist starts in the fetal position and manipulates her body to start moving as if she is about to become born and enter the universe as a cyborg. This choreography progresses into more wave-like moves in reference to the technological waves of the ultrasound. Having the dancer move in the middle of

the scrim and cyclorama create the effect of being actually in the ultrasound. As the projections turn into geometric lines that shoot towards the middle of the stage, the 4 ensemble dancers join the soloist by moving with the lines of the projections that catapults them to the cyborg/posthuman. The lines thrown in the projections interact with the dancers. The dancers move and react to the projections as if the lines are shooting inside of them. The dancers were accepting the geometric lines as a technological and biological transformation into a new species. To create this section took only two hours of rehearsal time to learn the choreography. I first worked with the soloist for an hour to show the projections and how they connect perfectly with the timing of the music. Together we watched the images and choreographed movements that gave the illusion to the audience as if the projections and the dancers were working together. The second hour, I added the rest of the dancers involved in this section and we watched the rest of the projections and did the same process as I did with the soloist. This is the process I use for choreographing sections where I want the moving projections to seem as if they are connected with the dancers giving that 4D effect I discussed earlier in this paper (Refer to Video at 4:00).

Colourful Species

In the sections that follow, *Colourful Species* and *New Identity*, the choreographic exploration is from the use of a movement based score. In the book, *A Choreographer's Handbook*, it quotes “ a score is a tool for information, image and inspiration, which acts as a source for what you will see, but whose shape may be very different from the final realisation” (Burrows 141). For *Colourful Species*, I work with the idea of score based choreography. I choose to use the version of a score that is more inspiration based. This choreographic tool inspires me to create scores for my dancers and then help shape and craft the results in creating choreography for the dance. In order to do this, I teach 4 different combinations that use

contemporary movements that are extremely active with the use of jumps, turns, leg extensions and floor work in an abstract and less technical way. I divide the dancers up into groups of 4 and 5 and give them a score as follows:

Score

Rules: Must start with number 1 and end with number 5, however number 2, 3 and 4 can be done in any order.

1. Entrance - Running in from different directions
2. Canon - use any form
3. Use the choreography learned in the four combinations learned but in different sequencing of each movements
4. Must incorporate a lift
5. Exit running off in different directions

I give broad terms to use in this process because I want the dancers to take the idea of posthumanism and interpret it in new and innovative ways. The outcome of this is extremely captivating to watch as I can see new discoveries being made from the original choreography. This references the idea of posthumanism referring to a cyborg from transitioning to a human, like using set choreography and transitioning it into something new. This section symbolizes the idea of accepting changes in sexuality, gender and appearance, so I want the choreography to mirror that by using set choreography and allow the freedom for the dancers to be creative and manipulate the choreography. I worked individually with each group to really capture the futuristic quality of the work. Every movement the group showed me, I would explore with them how we can take it one step further by either jumping, spinning and/or playing with timing to really enhance each movement.

DNA Modified

In *DNA Modified*, I incorporated the use of LED light up balls as a prop for the soloist. The projections on the cyclorama in this section are DNA molecules floating on the screen. The prop is to symbolize those molecules as if the soloist's DNA is evolving from human biology to technological. Together, the soloist and I explored through improvisation, different and creative ways to move with the prop. The balls were able to bounce and so we played with object connectivity and disconnection with the balls.

New Identity

In *New Identity*, I use the same score based process to give the dancer freedom to interpret this score and after I manipulate it to my artistic vision. This score for the soloist is as follows:

Score

Rules: The instructions below can happen in any order, except the first point.

- Rebirth
- Curiosity of technological self
- Repeat a gesture 21 times (mimicking a malfunction in technology)
- Upside down floor work (showcase the dynamic use of the body and how technology can allow the body to move in unthinkable and non pedestrian ways)
- Acceptance of self and discovery of being a cyborg
- Slowly descend to ground as if you will be entering a new universe to become something new again

The use of this score and section is to allow the audience to take a breather from the intense beat of the music in the section prior and to appreciate one dancer on stage and acknowledge

every aspect of the movements. The choreographic intent challenges the audience to see movement that goes beyond human. Nearing the ending of this section, we see the ensemble dancers entering upstage from stage left and right connecting in a line, attaching each hand to shoulder and walking slowly downstage towards the soloist. The ensemble dancers pass the soloist as the soloist goes under their arms as they begin to lie down on the floor. This depicts the soloist coming to an end of her cyborg life and will transition into something newer than a cyborg. The mood and feelings of this section were to allow the audience to take a breath from the intense beat of the music and movement in the previous sections. The choreography I created for this part was to enhance traditional contemporary movement by using the chance method. The movements created had familiar gestures of my traditional contemporary movements but with an elevated and more technological visceral way. During this process, the soloist and I worked hard to refine each movement to make sure each gesture had qualities of human and cyborg. These innovative movements with the music in this section were to foster feelings of wonder and acceptance of being evolved into a new species.

Post-cyborg

In the final section, *Post-cyborg*, the use of canons in movement are used to portray a journey of transitioning into a new species. “A canon is a section of movement that consists of one phrase that is performed at different times in either an overlapping or sequential relationship by two or more dancers. Canon is used as a compositional device to add interest, depth and variation to either a sequence or whole section of the choreography. A canon can be broken down into two forms: strict or loose” (Blom 5). This is why the use of canons works well for this section, as it is visually captivating to watch. It allows the audience's eyes to track the movements in a sequential order. The use of canons are a way of showing patterns that are

effective visually in the choreography and the audience can feel comfort in the familiar. The beginning canon phrases are in relation to the moving purple particles that are projected. The choreography moves in all the directions of the projections. As the sections progresses, the projections turn to abstract coloured smoke. The choreography transfers the dancers into a clumped formation in the centre of the stage.

The choreography uses gestural movement. I find using gestural movements, allows the audience to reference the gestures and create imagery in their imagination in accordance with what they see. The choreographed gestures come from the projections and iconic religious images. I reference the sign of the cross because I come from a Catholic background. Whether the audience believes in religion or not, this choreography is to illustrate how one might resist or believe in religion in a posthuman world. This is my act of rebellion in the dance to showcase the duality between religion and technology.

The use of canon and gestural movement is also seen proceeding in a circular formation in correspondence with the projection of a moving circular blue ring, referencing the world. In addition to the canons, I periodically place the soloist dancer to appear throughout the finale in order to give shock value of breaking away from the canon and unified movements of the others. This foreshadows the ending where the ensemble runs into the centre stage and disappears and the audience is left seeing the soloist in a blackout and the LED ink light is flashing. This symbolizes the title of being immortal.

My choreography is always athletic, energetic and emotional. Previously, my choreographic process would be to create physical and emotional movement and then find music. Once music was found, I would then look at any technological elements, lighting and costuming. During the creative process of this work, I had all elements of technological, costuming, music

and lighting in my mind. Doing this process as opposed to my previous process was effective because I was able to finish the dance faster than usual. My choreography being finished sooner in the process allowed me to edit, change and add more to the dance. Working in this way further developed my choreographic process and I will work this way in all my years to come.

In general, the choreographic explorations in *IM•MORTAL* are inspired by post humanistic qualities. Choreography is based on the projections in each scene. The choreography is heavily driven by the beat of the music. The movements in each phrasing come from a contemporary and post-modern dance background. Aesthetic qualities of avant-garde and athleticism are primary for this choreography to create the extraordinary, posthuman.

CHAPTER 5 | OBSERVATIONS AND FEEDBACK

This chapter explains the creative process and the learning outcomes throughout the creation and development of this project. This chapter will also explain the challenges, successes and other observations during the creative process and performance of *IM•MORTAL*. It will include several reviews from audience members from both the dance and non-dance community and it will explain where the future of this work aspires to reach.

On February 12, 13 and 14, 2020, *IM•MORTAL*, my dance thesis project inspired by posthumanism, premiered at York University in the Sandra Faire and Ivan Fecan Theatre. The work was seen in the department of dance showcase, *Language of Landscape*, where I worked with the pre-professional company, the York Dance Ensemble (YDE).

Creating *IM•MORTAL* was about challenging my old choreographic practices with new, innovative and technological ways. I was thinking differently, expansively, creatively, technologically and artistically. The goal of the entire process was to open up my imagination as an artist; to produce art that is innovative and risky. I enjoyed choreographing this project as a whole entity (my new choreographic practice), rather than focusing solely on choreographing just movement before thinking of production values (my old choreographic practice). With my research in posthumanism, my creative process sought to imbed my dance work with technology. The technological elements of lighting, projections, music, in connection with my contemporary movements, allowed me to become a “post-choreographer”.

Posthumanism explains how technology is embedded in the human biology, and to utilize this idea in a choreographic term, I felt as a choreographer that technology was inside my brain when creating the work. Using multi-modes of the technology integrated with my choreographic practice, gave me a feeling that technology is inside me. I was experiencing my posthuman self. I

created this project with all technological, physical and artistic elements as part of the entire creative process. As a result, this saved me a lot of time in crafting the project, leaving more room to edit and fine-tune any errors before the presentation. Using this creative practice has inspired me to continue to use this process in my future projects and choreographic pedagogy.

Choreography, patterning, and aesthetics have always been at the forefront of my creative practices when generating artistic work. My company, EMiMOTION, I founded in 2012, with works that have toured internationally, have all incorporated three main aspects: Energy, Media, Individuality, which are all in motion (choreography). Energy resembles the physicality of the dancer and choreography, media refers to the technological elements incorporated in the dance and individuality is about the actual dancer internalizing the theme of the piece by creating an individualistic version of the images and movement. These elements all relate to the concept of motion, where each aspect is shown through movement. As I choreographed this project, I kept in mind the major theme of this work, posthumanism, where technology and human collide to become cyborg with that of my own artistic praxis (EMiMOTION).

Creative Process

Choreographing *IM•MORTAL* was exciting because of the new and inventive choreographic movements I was able to create with the dancers. Taking the Chance method from Merce Cunningham, emotional and gestural ideas from Alwin Nikolais and movements associated with the projections, all successfully assisted me to go beyond my usual choreographic ability. The challenges I faced mostly related to my use of scores. Scores are extremely beneficial in generating new movement material. However, the process took longer than I expected. Anna Halprin quotes,

“Scores can be used to serve many purposes. One is a process for integrating personal growth and artistic expression. Scores can become a way of externalizing hidden feelings, attitudes and blocks, which because they are hidden and unconscious, cannot be altered or even used as material for art experiences. Unconscious or hidden feelings can become limitations rather than possible creative resources. Scores can be used to bring these resources to the surface and out them into some kind of context. Once performed, a perspective is gained, a valuation takes place, and change and growth can occur” (Halprin 49).

I agree with Halprin, as the score process was a way of finding different intentions within the choreography. Some dancers would foster various feelings when performing the score, thus causing them to perform with different intentions, qualities and textures. My assessment of their creative performance was either approved by me or not. I would accept their choreographic decisions if it met my posthumanistic visions. If not approved, I would help edit and add to their creation to meet my vision. This was a great experiment in my choreographic process because I was able to see different potential outcomes and perspectives on my creative score that I could choose to use or not to use if it added to my preference of the posthuman theme. Some issues with the score process was that the dancers had trouble executing new ideas, breaking old choreographic habits and thinking differently and creatively. The dancers would fall back on their technique and regular movement phrases rather than exploring unusual and innovative possibilities. After the dancers created work from the score given, I would consider the work and aid in any revisions of movements that I felt needed more clarity. In collaboration with the

dancers, I would challenge the dancers to use the chance method when having difficulty creating movement.

The chance method helps the choreographer, if having a block in the creative mind, in generating movement in order to see new and innovative solutions. During the process of choreographing, I found myself repeating a lot of movements, so the chance method and score process allowed me to open up the potential of what else my work could become. Halprin agrees and states, “When you choreograph, you create. When you use scores, others create. That’s how I don’t burn out. I make space for others to be creative, I tap into their potential and I learn something from what they do with my scores. So I never burn out” (Caruana Galizia).

The use of technological elements in discourse with the movement and choreography was strategically created with incorporated moving projections that looked futuristic. Images of geometric lines, DNA particles, colourful explosions, all connected with the choreography. I challenged myself to really use the projections in a way that would enhance the dancers movement and not distract. The projections seemed at the time to be an extension of the dancers that brought the 4D and holographic effect to life.

Some challenges were with the technical elements of the content and the projections when video mapping on the dancers. Originally, I had created abstract smoke projections on the dancer, but in order to see the moving smoke on the surface, in this case the dancer, needed to be wider. For a projected moving image to be seen that is less textured is much harder to see clearly projected on a dancer. Images that are smaller geometric patterns work well on surfaces that are 3D like a body. For future works, I will use this idea when video mapping on dancers and other 3D surface areas. Surfaces that are 2 dimensional like the cyclorama or the scrim are much easier to project larger images with less texture with more clarity.

The scrim was the most useful technological element. The scrim provided much of the magic in this work. The scrim was used for the first two sections of the piece with moving images of a great ape's face morphing into a human face, an ultrasound of an infant, and moving geometric lines and particles shooting into the centre of the screen. I was curious to explore further the use of the scrim because of the effects I had previously seen with lighting techniques. Using projections onto the scrim created a double layering effect onto the cyclorama. The major technological success was using images of moving geometric lines and particles that seem to create a holographic effect. It was as if the lines from the projection were injecting themselves into the dancers. It has made me more interested to explore moving geometric patterns projected onto the scrim and play further with dancers movements to see what else can be created from this effect.

Post Performance Feedback

I personally invited art enthusiasts, dancers, dance scholars as well as non-dance and art enthusiasts. Felicity Medeiros, is an elementary school teacher with the Toronto District School Board and has no artistic background. She informed me that the project I created was accessible to all audiences. "The work was mature and futuristic, however I would love my students to see this work to inspire them about technology and science" (Medeiros). She explained to me how even though she does not understand dance vocabulary, the use of the heavy beat in the music, the use of colourful and interactive projections and creative costuming, allowed her to appreciate and become more engaged in the dance performance.

Joanne Chow, is a graduate from the dance program in Juilliard, and is an award-winning choreographer. She quotes, "I was taken on a journey of the past, present and the future. The work made me question what humans will become next? The dancers were extremely physical

and the choreography looked as if the dancers were not human. The dancers seemed as if they were advanced robots, who do not move like a stereotypical robot but an advanced, technological mover” (Chow).

Future

I attended all three performances and aside from the people I invited, the audience was a mixed crowd of various art enthusiasts and some non-dance university students. In general, during the entire performance on all three evenings, I observed all audiences to be extremely engaged in watching the work. The audience seemed to be interested in the technological elements that had their eyes wide open. My work is meant to engage all audiences by bringing non-art enthusiasts to the theatre. I want to make all my work accessible by connecting the avant-garde with those who appreciate it and those who are new to it. By doing this, I will continue to advance my technological knowledge and explore software applications that can be used to interact with dance for live theatre. The software, Calypso, as seen in Chunky Move's, Glow, is of interest to me to explore. Keeping the 3D effect active, I would love to develop a way for the audience to wear 3D glasses, while the projections are 3D and the dancers costuming is able to appear 3D when wearing 3D glasses. My work is to inspire and open up the audience's imagination. I want to take my technological and artistic performance work to schools. This work can inform students about science, technology, social and economic matters. It will allow students to also be inspired and want to be involved with the artistic community. I work for all of the school boards in the Greater Toronto Area, where I teach workshops in the performing arts, as part of their curriculum. My plan is to introduce these technological elements to inspire the youth in various schools. Allowing children access to the performing arts can encourage them to explore this industry more, producing the next generation of artists.

My final thoughts on this project are that posthumanism has opened up my imagination and motivated me to express my artistic practice in the most innovative ways possible. My belief is that we need fantasy in order to enjoy reality. When we open up our imaginative mind, we think of creative and new discoveries to be made. Even though I will always fear death, I am hopeful for life in the future. I believe technology will continually advance and help with any health issues, prolonging our life. One day technology will advance so vastly that we will become post-cyborg, and even if I am not alive to become one, I have faith our world will evolve into the extraordinary, creating endless possibilities beyond the imaginative.

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Appendix



Figure 1: First section, *Evolution* (projection of morphing great ape face to human on scrim and cyclorama with floating dancer) Photo by: Emilio Colalillo.



Figure 2: Soloist, Kaitlyn Seibold, in second section *New Species*. (Projection on scrim and cyclorama of ultrasound) Photo by: Emilio Colalillo.



Figure 3: Soloist, Kaitlyn Seibold in *New Identity*, interacting with the geometric projections on the scrim and cyclorama. Photo by: Emilio Colalillo.



Figure 4: *New Identity*, 4 dancers and soloist interacting with projection particles on the scrim and cyclorama. Photo by: Emilio Colalillo.



Figure 5: The beginning of the third section *Colourful Species*, 4 ensemble dancers in between neon column projected on the cyclorama. Photo by: Emilio Colalillo.



Figure 6: Dancer, Rowen McBride in *Colourful Species*, video mapping happening on the dancer. Photo by: Emilio Colalillo.



Figure 7: Ensemble dancers in *Colourful Species*. Costuming of plastic dresses. Photo by: Emilio Colalillo.



Figure 8: Ensemble dancers in *Colourful Species*, showing the gobos of textured lights on the floor acting as an extension of the projection. Photo by: Emilio Colalillo.



Figure 9: Dancer Morgan Stasiewicz coming out of the projected smoke image. Photo by: Emilio Colalillo.



Figure 10: Dancers lining up with red smoke projection. Photo by: Emilio Colalillo.



Figure 11: 2 Ensemble dancers and the soloist with the LED ball. Photo by: Emilio Colalillo.



Figure 12: Soloist Kaitlyn Seibold in section *New Identity*, with angelic ray projections. Photo by: Emilio Colalillo.



Figure 13: Use of canon in direction with the projection and costumes reflecting the light. Photo by: Emilio Colalillo.



Figure 14: Dancers interacting with the direction of the projections. Photo by: Emilio Colalillo.



Figure 15: Ensemble dancers back lit and doing choreography relating to the movement of the projected smoke. Photo by: Emilio Colalillo.



Figure 16: Dancers interacting and referencing the circle image on the projection in the section *Post-Cyborg*. Photo by: Emilio Colalillo.



Figure 17: Dancer Sadie Cahill in section *Post-Cyborg*, interacting with the smoke projections. Photo by: Emilio Colalillo.



Figure 18: Geometric projected lines in *Post-Cyborg*. Lighting is diagonal light on the dancers diagonal formation. Photo by: Emilio Colalillo.



Figure 19: Final image of the piece where dancers fall and only the soloist is left standing. Photo by: Emilio Colalillo.