Our Home and Haunted Land

An Exploration of Space, Memory and Virtual Reality

by
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Abstract

Our Home and Haunted Land: An Exploration of Space, Memory and Virtual Reality

is a linear virtual reality experience that examines the colonial histories embedded in the names of a number of Toronto spaces. It incorporates research-creation and decolonial methodologies to expose the violent legacy of the land with live on. The project uses virtual reality as a means to challenge what Sara Ahmed calls the "whiteness" of our societal and physical space by reinserting a simultaneously historical and futuristic Blackness in profound allyship with Indigeneity.

The project explores the following questions: how can immersive digital storytelling be used to decolonize space and embody history and memory? How can virtual space be used to visualize the cultural and historical relationship between physical spaces? The following tensions are at the core of this project: an "invisibilized" history that permeates the construction of our society; names that allude to a past that remains largely unknown; counter-archives that seek to tell stories that challenge the dominant history.

Key words: virtual reality, immersion, photogrammetry, decolonialism, memory, history, toponymy, archive, space, place

I want to acknowledge the land on which this project was made and whose history is the topic of this project. I am indebted to Doctor Dolleen Tisawii'ashii Manning, member of Kettle and Stoney Point First Nation and professor at Queen's University, for the powerful wording of this acknowledgement and the permission to reproduce it.

Land Acknowledgement

Toronto, Tkaronto, is located on the ancestral homelands of the Anishinaabe, Haudenosaunee and Huron-Wendat peoples. To occupy means to seize the land, in the advancement of settler wealth at the expense of those who are withheld from the land. Toronto is Treaty 13 territory, also known as the Toronto Purchase, signed in 1787 by representatives of the Crown and a band of Anishinaabeg known today as the Mississaugas of the Credit. The treaty was under dispute for over 200 years - the Mississaugas understood that they were renting the land, not extinguishing their rights to it. A land claims dispute was settled in 2010. Today, Toronto is home to many First Nations, Inuit, and Metis as well as many other diverse communities. I am grateful to the Indigenous people here and across Turtle Island for their hospitality and am committed to working toward decolonial justice with them.

Acknowledgements

international projects and for their incredible hard work in creating the platform and the VR

community that allowed to access a Black Futures Grant.

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Statement of Contributions

Our Home and Haunted Land grew from its original conception as my thesis project to also encompass a 2D large-scale exterior projection adaptation as a second phase and a more elaborate full VR project as a third (pending funding).

I fully conceived the project and script. I created the photogrammetry scans and point cloud renderings, staging and lighting them in Unreal. I had assistance in finishing the piece as described below. It was essential, as I am a novice in the 3D creation space, to ensure that the first phase was built in a way that served to support the next phases to avoid having to redo work. All the work was done under my supervision in accordance to storyboards and other documents that communicated my vision.

Producers Alison Duke and Ngardy Conteh George from Oya Black Arts Coalition came on board to assist with a substantial grant application that we secured as well as to provide logistic support in terms of contracts and budget management. They also served as a sounding board for the content in complement to my advisory team. Henry Faber acted as technical consultant, advising on technological issues and using his extensive network of contacts to find the right people to assist me at key moments in the development process. Richa Thomas provided development support and establishing protocols for the rendering and exporting of the Unreal files to 360 video. Sally Luc customized and animated the main character from an asset that was purchased online. Lora Bidner composed the music and created the sound design.

1　Introduction

"The past isn't dead. It isn't even past"

William Faulkner

1.1　Project Genesis

Our Home and Haunted Land is a linear virtual reality experience that examines the colonial

histories embedded in the names of a number of Toronto spaces. It incorporates research-

creation and decolonial methodologies to expose the violent legacy of the land we live on. The

project uses virtual reality as a means to challenge what Sara Ahmed (2007) calls the

"whiteness" of our societal and physical space by reinserting a simultaneously historical and

futuristic Blackness in profound allyship with Indigeneity.

As a filmmaker and media artist, my practice is varied encompassing documentary,

experimental and narrative film as well as video installation and, most recently virtual reality.

The motivation for partaking in graduate studies was two-fold: I wanted to deepen my

understanding of virtual reality both from a technological viewpoint and as a medium for

storytelling while simultaneously expanding my knowledge of decolonial methodologies that

were already implicit in my creative practice. As a trained architect, I've always had an interest

in space. As a filmmaker, I am constantly looking to experiment with cinematic language and form. Virtual reality combines these two preoccupations in significant and complex ways.

Thematically, *Our Home and Haunted Land* has its origins in a chance encounter I had on the Queen streetcar in the summer of 2019 with an elderly gentleman from Guyana. He asked me for the time, then sat next to me and started recounting numerous stories about the street. He had worked in what are now the posh and trendy Candy Factory Lofts when the building was still used to produce Rockets candies. He had later found another job at a shoe factory further down the street in an industrial building that has since been torn down to make room for yet more condominium towers.

Figure 1. The Gladstone Hotel

Then we reached the Gladstone Hotel, and what he revealed about this Toronto landmark which is barely 5 blocks away from my house totally floored me. The hotel, built in 1889, and the adjacent street are named after British Prime Minister William Ewart Gladstone, son of John Gladstone, who the man revealed, was the largest slaveholder not only in his home country, but in the entire British Empire. I was shocked, not only by the revelation, but by the fact that I was totally unaware of that history. It suddenly provoked a deep questioning around the names of the streets and the significant places that surround us.

In the spring of 2020, I enrolled in a photogrammetry class at OCAD. It was the start of the global Covid-19 pandemic and a lockdown had been declared in Toronto, closing all nonessential businesses and confining us mainly to our dwellings. Finding new materials to scan was challenging. After many self-portraits and other scans of my home interior, I decided to tackle the most iconic building in my neighbourhood: the Gladstone Hotel. It wasn't until a few weeks later that I recalled my streetcar encounter and put the two together. Creating 3D photogrammetry scans of significant Toronto spaces and telling their colonial history using their names as a starting point was an opportunity to pursue a deep exploration of virtual 3D space and the ways in which it could carry historical narratives while integrating a Black perspective.
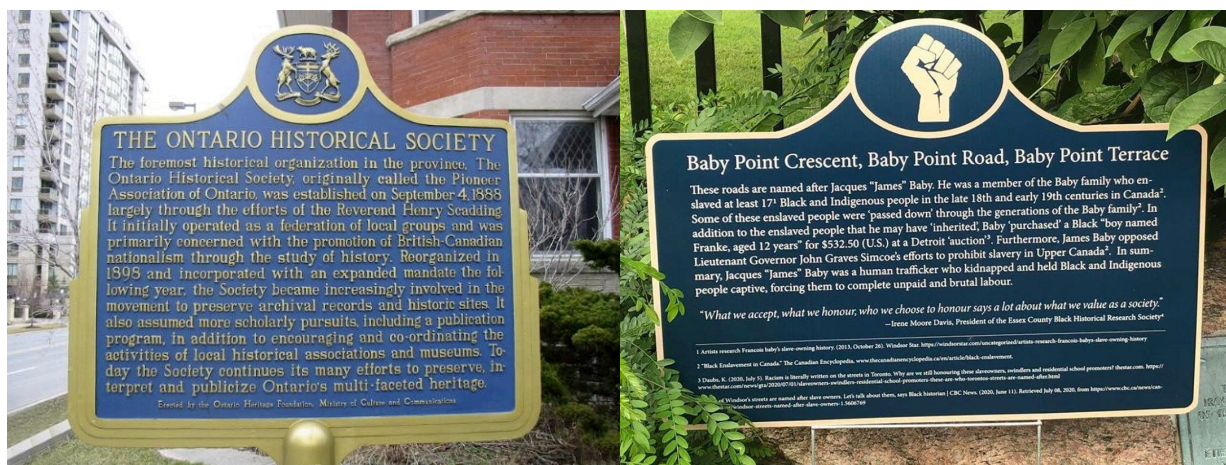
Figure 2. (left) Ontario Heritage plaque. Photograph copyright the Ontario Historical Society. Used with permission. Figure 3. (right) Cardboard facsimile of a plaque at Baby Point. Photograph copyright Jim Sugiyama. Used with permission.

As I researched the locations that would form the basis of my examination over the summer of 2020, cardboard replicas of the official Ontario historical plaques started appearing giving the colonial histories of particular locations in the city and the south-western part of the province. I was struck by the overlap with my project thematically, and also in the manner in which they

sought to create a counter-archive. One appeared at Baby Point which is the subject of exploration in this thesis. The cardboard sign was soon vandalized by a local resident who was disgruntled by its content, providing a vivid example of the ways in which some histories are suppressed and, reinforcing the importance of my project.

The racial capitalism that we all live in along with its colonial roots are constantly negated, not just by (not so) marginal voices on the right, but in our society in general. Black and Indigenous people along with other groups that have been "othered" are always, as Sara Ahmed points out, seen as foreign in a society and physical spaces created by colonization for "whiteness." (2007, 157) Their presence, constantly seen as suspect, needs to be questioned, and at times forcefully removed. The ever-growing number of Black and Indigenous fatalities at the hands of police are a result of that strong, yet invisible societal construction. While George Floyd's death in the United States ignited a wave of protests around the world, we should not forget D'Andre Campbell and Regis Korchinski-Paquet or Eishia Hudson, Jason Collins and Kevin Andrews on our side of the border.

Canadians love to think of themselves as gentle and kind, particularly when they look to the south, but this vision is only possible because of the many very careful erasures and excisions that have been made to our national narrative. *Our Home and Haunted Land* is a decolonial act of memory and protest through the creation of a counter-archive. It puts technology in the service of 3-dimensional digital storytelling to reinsert the Black and Indigenous presence in the Canadian space. It firmly asserts the simultaneity and entanglements of past, present and

future and our need to carefully attend to them because, to cite the title of a recent book by Nick Este, "Our History is the Future."

1.2   Research Questions

Technologically, my main interest lies in virtual reality and other immersive media as an emerging form of storytelling. While these technologies aren't new, the term "virtual reality" was coined in the 1980s by Jaron Lanier (Grau: 2002, 22), they have yet to find wide adoption outside gaming. The simplest definition of virtual reality is an "immersive, interactive experience generated by a computer." (Pimentel & Texeira as cited in Ryan: 2018, 93) As a storyteller, I see the tremendous potential of virtual and augmented reality to transform the way we can build narratives. Within a research-creation framework that calls on decolonial methodologies, this thesis asks the following questions: How can immersive digital storytelling be used to decolonize space and embody history and memory? How can virtual space be used to visualize the cultural and historical relationship between physical spaces?

1.3   Themes and Contribution

As a Black feminist, my work strives to assert the Black presence in Canada both in the contemporary and the historical context. Virtual reality allows me to push that process one step further by not only retelling Black stories but by effectively inserting Black bodies in virtual spaces. This enables a deeper contestation of the invisible whiteness that is inscribed in our societal and physical context, and also permits a fulsome exploration of virtual space and embodiment that is deeply entwined with decolonial methodologies. The strong alignment of

technology and content allows for the emergence of a form of storytelling that differs from the mainstream and contests the dominant white cis-gendered male perspective in the virtual reality and gaming spheres that often perpetuates racial and sexist stereotypes.

Racialized artists such as Stan Douglas, Lisa Jackson and the Hyphen-Lab collective have harnessed the potential of virtual and augmented reality to engage with innovative storytelling. This project follows their lineage and confirms the need to see Black and Indigenous perspectives on futurism, and to amplify their voices in the public sphere. It uses a new technology to comment on the colonial past, embedding futuristic Blackness into a space from which it has been historically excluded in the context of the primordial Indigeneity of this land. *Our Home and Haunted Land* looks at the "invisibilized" history that permeates the construction of our society through names that allude to a past that remains largely unknown by creating a counter-archive that seeks to tell stories that challenge the dominant history.

1.4   Scope and Limitations

The technical limitations are such that the final output of the project is a 360 video of a virtual reality build. The video can be screened online in a 360-video player or, ideally, in a VR headset. While this is not the originally intended result, the compromise had to be made because the point clouds from the photogrammetry scans used to build the 3D environments are computationally heavy precluding a live rendering in a headset. It should also be noted that the linearity of the project limits the scope of the research to immersion and its affects, only marginally touching upon interactivity.

In terms of the topic of the project, engaging respectfully with Indigenous content requires careful consideration. My positionality and the viewpoint it embodies are an integral part of my practice. I am constantly aware of being external to Indigenous cultures and of the care that has to be exercised in the acts of excavation and representation. While this project is done with a profound sense of allyship with First Nations people, I cannot claim to speak on their behalf. I am committed, however, while engaging with Indigenous histories, to comment on what I perceive as the profound harm that was done and, expose their deep entanglements with the histories of enslaved Africans on Turtle Island and beyond. The Indigenous people were dispossessed of the land they lived on for millennia, while Africans were excised from their land and forcibly brought to the so-called New World to tend the land that the settlers had claimed as theirs.

The history of colonialism and enslavement in this country is rich and complex. The virtual reality project at barely 10 minutes in duration is obviously limited in scope and can only tell a miniscule part of the story. It omits, for example, the fact that in New France, Indigenous people made up the majority of the enslaved, and that celebrated Mohawk Chief Joseph Brant is estimated to have held close to 30 people in bondage[1]. In the process of sharing colonial histories, this project is but one of the many stories that need to be told.

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[1] *Sophia Burthen Pooley, Part of the Family*. (n.d.). Retrieved February 18, 2021, from http://www.archives.gov.on.ca/en/explore/online/slavery/sophia_pooley.aspx

1.5   Methodologies

Research-creation is at the centre of the work I do as a media artist but is only recently gaining credibility in the humanities and social sciences. It involves investigations of specific topics through aesthetic experimentation and the production of artistic work (Chapman & Sawchuk: 2012, 6). My project engages with Chapman and Sawchuk's further subcategorizations "research-for-creation" in terms of archival materials and technological tools and "creation-as-research" for the overarching project of crafting a virtual reality experience.

The research-creation process integrates two interconnected axes. The first axis deals with the approach to the content and structure of the narrative and is built on an assemblage of decolonial methodologies that draws from many sources that are engaged in conversation with one another. Starting from the notion that history is ultimately a tool to yield power and that the city is a living archive that embodies our colonial history and the underpinnings of our contemporary society, my enquiries intersect with notions of critical cartography and geography, as well as hauntology, addressed through an overarching afrofuturist lens. It questions the whiteness physically and figuratively embedded in the elaboration of the spatial construct we call Canada.

The second axis grapples with questions related to the affordances of immersion and storytelling in three-dimensional spaces and how it differs from content made for two-dimensional screens. The creation of the virtual reality experience engages with issues of expanded cinema, immersion, affect through a practice-based enquiry into the medium.

Building on the content of the first axis, it inserts Blackness to reveal and contest the whiteness of our urban and national landscapes. It enquires into the positionality of the body in virtual reality and explores the affect that space and the occupation of space by Blackness creates.

1.6   Chapter Overview

The next chapter describes the decolonial methodologies, methods and concepts that underlie this thesis and are integrated in the research-creation process. Chapter 3 summarizes some key notions in virtual reality as well as artistic works that serves as an inspiration to this project. Chapter 4 outlines the thematic axes of *Our Home and Haunted Land* as well as the historical and archival research methods and findings that served as the basis of the narrative script. It is followed, in chapter 5, by an overview of the technological exploration that was necessary to achieve the project, while the full technical process is documented in detail in Appendix A. Chapter 6 deals with creation-as-research and describes how the historical and the technological research were integrated into the conceptualization and execution of the project in relation to the critical framework. Chapter 7 presents the final project and, summarizes the findings while chapter 8 offers final thoughts and outlines unanswered questions and possible further explorations.

Throughout this document I chose, as VR theorist and researcher Mel Slater does, to refer to those partaking in a virtual reality experience as "participants" as opposed to "users" which is the most common term (World VR Forum: 2017). I espouse his notion that "participant" more adequately describes the human role within VR and points to qualitative differences in

interaction. While "user" refers to a utilitarian relationship where someone appropriates a tool

to a particular end, "participant" acknowledges an engagement with the content to actively

create the meaning of a work.

2   Methodologies and Concepts

The explorations in *Our Home and Haunted Land* are dual in nature with the narrative seeking

expression in technological creation and the articulation of virtual space. Although I speak to

technological issues separately from the content, it is more for the clarity and legibility of this

document as the technology, form and content are deeply entangled throughout the making.

As a creator, this interweaving and layering is the nexus of my practice. This chapter presents

the diverse decolonial methods, methodologies and key concepts that informed the research-

creation process.

2.1   Decolonial Methodologies and History

At the core of *Our Home and Haunted Land* is the decolonial objective to make visible the

foundations of the society we live in: Indigenous genocide and the dispossession of land, as well

as wealth accumulated through the forced labour of Africans held in bondage. The project

firmly situates Canada in the "Black Atlantic" which Paul Gilroy defines as an "intercultural and

transnational formation" (1993, 2) that goes beyond national and ethnic identities. The physical

and figurative geographic space encompasses Europe, the Americas, the Caribbean and West

Africa and was born of the hulls of the slave ships that connected these regions through the

Middle Passage and led to "both industrialization and modernization." (1993, 2) Canada has

eagerly branded itself as the land of the Underground Railroad, where enslaved Africans from

the United States found freedom, conveniently omitting that slavery was legal in this country

for over 200 years. Although this territory wasn't suited to the plantation economy that was

prevalent in the southern United States, enslavement in Canada, much like in New England,

provided free labour for household and farming duties as well as particular trades. The country

also contributed to the international triangular trade with Newfoundland-built ships

transporting enslaved Africans through the Middle Passage and, cod caught in the Maritimes

sent to feed the enslaved in the Caribbean in exchange for rum. This history is often occluded,

and I am indebted to Canadian scholars such as Afua Cooper, Charmaine Nelson, Frank Mackey,

Ken Donovan, Natasha Henry, Deanna Bowen, Camille Turner and many others who work

tirelessly to unearth, recover and share the narratives of the Black presence in this country.

Franz Fanon in *The Wretched of the Earth* states that part of the violence of colonialism is the

erasure and distortion of the history of the colonized. (1963, 37) History, its elaboration and

dissemination, often proclaimed as objective, is simultaneously battleground and ammunition

for both propaganda and self-affirmation. Maori scholar Linda Tuhiwai Smith echoes Fanon in

noting that the writing of history is about power and domination, "It is because of this

relationship with power that we have been excluded, marginalized and 'Othered.'" (2012, 35)

Placing history at the core of the relationship between power and oppression is foundational to

decolonial methodology. It provides a lens through which to contest hegemonic official history

and displace it by creating multiple counter-histories. As Michi Saagiig Nishnaabeg scholar and

artist Leanne Betasamosake Simpson states, "There is never only one story. We have to seek, to

look again and again, even at the things we think we know by heart. To look through another's

eyes, consider another perspective." (Davis, A., Simpson, L. B., Maynard, R. & Rangwala, S.:

2020)

2.2   The Archive

There is no official history without the archive which, as Achille Mbembe reminds us, is the

ultimate tool of nation building on which its existence is predicated. (2002) Historians examine,

assemble and reinterpret the archive creating "history," using a modality that deliberately

renders invisible their role in the re-telling and any biases they may hold.

The state has a vested interest in expunging any problematic aspect of its past through what

Mbembe calls acts of "chronophagy." (2002, 23) The adjective "chronophage" in French literally

means, "time-devouring" and alludes to the selective pruning in the archive of problematic

branches of its content in order to provide a more linear and sanitized version of history aligned

with its mandate of nation building. This devouring of time and subtraction of the past is

pervasive, yet incomplete, often leaving a palimpsest. Thinking of the city as an archive, which

has partly resisted "chronophagy," allows for the discovery of its contents and what it points to.

The streets and spaces that we habitually walk through and whose names invoke a certain

geography are also permeated with historical allusions that roll off our tongues even as we are

unaware of what they refer to. As Judith Butler reminds us, "the past is irrecoverable, and the

past is not past; the past is the resource for the future and the future is the redemption of the

past." (2003, 467) These tensions are at the core of this project: an "invisibilized" history that

permeates the construction of our society; names that allude to a past that remains largely

unknown; counter-archives that seek to tell stories that challenge the dominant history.

2.3 Blackness, Indigeneity and Space

Black and Indigenous populations share a common, yet dissimilar, experience of colonization. Tuhiwai Smith (2012) notes that Indigenous people (like enslaved Africans and their descendants) bear the wounds of the colonizer's gaze, categorizations and actions that regarded them as less than human. Both populations historically experienced exclusion from public spaces, where they needed to show documentation attesting to their right to be there. This colonial legacy is still inscribed in the spaces we inhabit. The rash of killings of Black and Indigenous people, as well as many altercations with police, both in Canada and south of the border, shows how dominant white populations immediately perceive Blackness and Indigeneity as illicit, undesirable and ultimately threatening in many spaces whether they are simply jogging in the street, walking home with some candy or having fun at the pool. A Black or an Indigenous body is often read as a provocation worthy of immediate and forceful repression as opposed to whiteness whose transgressions are tolerated or overlooked. In Toronto, in July 2020, Black Lives Matter protestors were arrested and held for hours for throwing paint at a few historical monuments, while during the Covid-19 pandemic mainly white anti-mask demonstrators flaunting public health regulations were observed by police without any repercussions.

The exclusion that Blackness and Indigeneity experience is a result of their distance from whiteness that marks how they are perceived and how they can move through the world. Sara Ahmed (2007) cites Fanon in bringing forth the argument that colonialism made the world of reference "white," that is a world impregnated by "whiteness" and made for certain bodies

while excluding others. Canadian scholar Katherine McKittrick further details how "the experience of being black (re)defines how space, place, home and nation are materially and specifically emotionally located and perceived." (2000, 129) McKittrick notes that this impacts the body and the self-awareness of those labelled as "other." Thinking of Fanon's description of being stared at in the section "Fact of Whiteness" in *Black Skins, White Masks* (1967), McKittrick states that the Black body is marked "by three (or more) inscriptions: the colonial eye/gaze; colonial history and memory; and the subject's relationship with their lived, natural body—or the bodies of others." (2000, 128)

Those inscriptions shape the way populations that have been "othered" experience space. Critical cartographer Wickens Pearce makes an important distinction between "space" as a generic construct and "place" which is shaped by affect and the specificity of human experience. (2008) A "place" is a lived "space" that carries affect that is the result of an intimate connection and knowledge. This project, by reinscribing colonial histories onto urban spaces, transforms them into significant places and also brings to light their whiteness. It highlights the erasure and exclusion of those who have been "othered" by colonization and makes them visible anew. In *Our Home and Haunted Land*, the Black body of the narrator is the only one that is seen whereas Indigeneity is described throughout, and whiteness while absent and only spoken of, imprints and defines the space. These three presences and how they are inscribed in the 3D spaces/places represented are an important part of the decolonial methodologies.

2.4   Toponymy

Toponymy, the study of place names, reveals how the act of naming is a primordial part of the colonial project which makes the violent seizure of the land through the *terra nullius* doctrine complete, negating everything that was there before. Linda Tuhiwai Smith notes that the colonizers' erasure of Indigenous names with millennia of history through the "renaming the land was probably as powerful ideologically as changing the land." (2012, 117) The new names become the expression of colonial values and power, imprinting the language we speak and use to describe our lived experience, and ultimately, our ontologies. Dierdre Mask in *The Address Book* (2020) describes how a town in Florida deliberately named streets after Confederate generals to send a message to the Black population, and the debate that still rages about those names today. This encoding is transparent demonstration of how the whiteness of space that Ahmed describes is at times effectively deeply etched and entrenched.

2.5   Critical Fabulations

Numerous problematic names remain enshrined in our cities, while other dark stains that the state seeks to expunge are destroyed or erased from the archive, or even blatantly omitted. Indigenous, Black and racialized people as well as women are more often than not ignored or discounted rendering their voices silent and their existence invisible. Historians dealing with these demographics must grapple with this lack of documentation.

Historian Saidiya Hartman cautiously makes the case for "critical fabulations" (2008, 11) as a way to remedy those archival gaps by imagining what has been omitted. It is a controversial

method among historians as it incorporates and acknowledges subjectivity. Hartman first used critical fabulations in her book *Lose Your Mother* (2006) to depict Venus, an enslaved African woman who died crossing the Atlantic at the hands of a slave ship captain. There were scant words in the archive about Venus, aside from her name. Hartman argues that this absence is a form of violence and seeks to find a way to reconcile the traditional methods of historical research with the need to humanize those whose stories are often excluded from official records. She makes it clear that it is by no means a way to romanticize history, but rather a mode of narration to "expose and exploit the incommensurability between the experience of the enslaved and the fictions of history." (2008, 10) She firmly inscribes her practice in the Black radical tradition by engaging the imagination with the goal of addressing historical gaps about slavery and the Black experience in the Americas.

My work frequently implicates the archive and I have first-hand knowledge of its numerous omissions and silences. Hartman's description of her approach of decentring the narrative voice in order to tell the story from different perspectives while negating linear temporality in some ways remedies the problematic invisibility of the historian's voice that Achille Mbembe underscores. This aligns with my goal of revealing fragments of the complex and entangled histories in our immediate environment that are most often rendered invisible and is a method I integrate both in the voice of the overall story in *Our Home and Haunted Land* as well as its structure.

2.6 Colonial Violence and Haunting

Another method that has been used to contend with the erasures of the archive and personify history is related to the notion of haunting. Eve Tuck and C. Ree, through a comparison of Japanese and American horror films in "Glossary of Haunting" (2013), observe that while in accordance with Buddhist beliefs, Japanese protagonists are usually haunted as a response to a misdeed from their past that they must redress, their American counterparts are generally "innocent" and pursued by a force that is unknown to them. Tuck and Ree go on to define the phenomenon of haunting as a constant quest for justice in response to the violence of colonialism that constantly goes unacknowledged and suppressed.

The use of the term in the title of my thesis is a direct reference to Tuck's analysis which inscribes the haunting in the context of Robert Stanley Weir's translation of Canada's national anthem lyrics first written by Adolphe-Basil Routhier and set to a melody composed by Calixa Lavallée. The title alters the words that open the anthem "Oh Canada! Our home and native land" and transforms them into "Our Home and Haunted Land." In addition to acknowledging the forgotten and erased history, it also points to cues to metaphorically represent the historical relationships that are explicated in the narrative I am crafting.

2.7 Futurist Speculations

Decolonialism and afrofuturism share some significant commonalities in terms of their critique of the way Blackness is defined, confined and experienced. Their project is to imagine futures of Black liberation. Scholar Mark Dery in his essay "Black to the Future" (1994) defined afrofuturism as a "speculative fiction that treats African-American themes and addresses

African-American concerns in the context of 20th century technoculture — and more generally, African-American signification that appropriates images of technology and a prosthetically enhanced future." (1994, 136) Ytasha L. Womack in *Afrofuturism: The World of Black Sci-Fi and Fantasy Culture*, further describes the movement by quoting curator Ingrid Lafleur as: "...both an artistic aesthetic and a framework for critical theory, Afrofuturism combines elements of science fiction, historical fiction, speculative fiction, fantasy, Afrocentricity, and magic realism with non-Western beliefs." (2013, 9) Musicians Sun Ra and George Clinton as well as author Octavia Butler are some of the most recognizable names associated with the movement, which encompasses music, visual arts, literature and often formulates a social critique of the present and the past.

Whereas mainstream projections about the future are grounded in utopic or dystopic relationships with technology, afrofuturism is mainly preoccupied with recentring the Black experience and conjuring a better existence while inscribing it in the technological future in which it is rarely included. Alondra Nelson points out that afrofuturism is also in opposition to the point of view of those she calls "neocritics," notably Timothy Leary, who claimed that technology would create a future where the body, and therefore race and social identity, would no longer be of import. (2002, 2)

For many (Womack, 2013; Maynard, 2018; Dery, 1993), the enslaved Africans transported on ships across the Atlantic were the first alien abductees, taken from their home, separated from their family and community, forced to speak a new language, stripped of their humanity, worked to death, bred like animals and used in brutal scientific experiments. Womack asks:

"Were stories about aliens really just metaphors for the experience of Blacks in the Americas?" (2013, 17) She notes that time bending and blending are hallmarks of afrofuturist narratives where "future, past, and present are one" (2013, 135). Nelson points out that author Ismael Reed's process for imagining afrofutures begins with an investigation of the past. He uses the term "necromancy" to designate his technique of "us[ing] the past to explain the present and to prophesize about the future." (Reed quoted by Nelson 2002, 7)

Our Home and Haunted Land uses an afrofuturist narrative to entice participants to engage with the past that is contained in the present. It is a strategy that creates the necessary distance to shift the usual gaze that we observe the world through, to allow for a different viewpoint to arise. Afrofuturism is in dialogue with the decolonial framework centring the Black perspective and giving it its proper position in the past, as well as in the speculative future.

3 Storytelling and Virtual Reality

The virtual reality industry is led by mostly white cis-gendered men, leaving women, racialized

and LGBTQ populations on the margins both on the content creation and the end user side.

Persistent allegations of sexual harassment at gaming giant Ubisoft (Schreier: 2020) and a

female Twitch gamer's forceful reply to a male troll that recently went viral (Justich: 2021) are

but two examples of the inhospitable tech environment. It is no surprise that gaming and porn

are the most common form of VR. Lisa Nakamura notes that these experiences "offer common

gendered fantasies of empowerment that rely upon mastery and subjugation of virtual non-

male, non-white bodies and space, of toxic embodiment." (2020, 52) Racialized artists, such as

Lisa Jackson, Stan Douglas and the collective Hyphen-Labs are nonetheless exploring the

medium's capacity for decolonial storytelling. This chapter surveys their work after establishing

some relevant concepts that inform the exploration of space and virtual reality in my project.

3.1 Expanded Cinema and Virtual Reality

On a formal level, the project is creative exploration of the nature of virtual reality that engages

with notions of expanded cinema and narration. Janine Marchessault and Susan Lord recount

how Gene Youngblood described the notion of "expanded cinema" in 1970 as "an explosion of

the frame outward towards immersive, interactive, and interconnected forms of culture."

(2003, 8) He wanted to see cinema go beyond the boundaries of the cinematic to include video,

holography and computer-generated images. His definition encompasses virtual reality which

can be considered as belonging to a lineage of immersive cinematic technologies that includes

the stereoscope, 3D and Imax cinema. Virtual reality also disrupts the cinematic model as Ariel

Rogers writes that, "virtual reality headsets are immersive and centring, they are also unanchored, breaking the tight identification of frame and screen that has dominated much of cinema's history." (2019, 135) By immersing participants in a 360 space, virtual reality doesn't fully escape the act of framing as the participant's field of vision in the headset restricts what they see. But it is a moveable and responsive frame that changes according to participant's head movement. Proximity to objects also impacts the mobile frame: the closer an object is to the participant, the more of the frame it occupies, occluding other elements.

The preoccupation in this project isn't with virtual reality as a means of recreating reality with verisimilitude, but rather to bring the concerns of experimental cinema and expanding upon them in a three-dimensional space. The virtual spaces I create, while generated through real-world data are configured in ways to craft new imaginary places. Oliver Grau views the expression "virtual reality" as "a paradox, a contradiction in terms [which] describes a space of possibility or impossibility formed by illusionary addresses to the senses." (2002, 15) I want to explore the different modes of engagement that are made possible by breaking down the barriers of the screen and reducing the distance between the participant and the environment, allowing for a complete immersion in virtual space.

3.2 Virtual Reality and Immersion

There are numerous definitions of virtual reality. In the context of this project, I am interested in those that centre and describe the participant experience rather than the technical apparatus. One of the simplest ones is put forth by the literary scholar and critic Marie-Laure

Ryan who defines it as "a computer-generated immersive and interactive experience." (1999, 111) For Ryan, immersion refers both to the effect of the technology and a psychological state. She names 3D representation and a 360-degree virtual environment as the main features that create immersion and can be augmented by interactivity that entices the participant to further engage with the experience. (2018, 98) Oliver Grau adds that the best virtual reality projects involve the full sensorium and "appeal not only to the eyes but to all other senses so that the impression arises of being completely in an artificial world." (2002, 14)

Neuroscientist Mel Slater, however, makes a distinction between "immersion" which he defines as the characteristics of the digital environment as created by the technology, and "presence" which he uses to describe its impact as it is felt by participants and the degree to which they respond to it as if it were real. (2009a) In order to define a clear terminology related to virtual reality, he employs the expression "place illusion" (rather than "presence") to describe that sense of "being there" despite the fact that you know you are not. (2009a, 3551) His studies lead him to describe immersion, not as a binary, but as a continuum that relates exclusively to the technical capabilities of the system delivering the experience. (2009b, 195) Higher or lower degrees of immersion depend on aspects such as the image resolution, field of view, sensors, the power to render the virtual environment in real time as the participant moves in it, which can further be enhanced by haptics that allow for interaction with objects in the virtual space.

My project falls on the low end of Slater's spectrum, where the participant through a headset can be fully immersed in a space that they can apprehend by moving their head, although they

are experiencing a pre-rendered stereoscopic 360 video instead of an environment rendered in real time. This is necessary due to the size of the files used and the computational power required to process them. The 360-video will ensure that there are no glitches or breakdowns in the rendering of the environments therefore preserving the integrity of the experience.

In contrast to Slater, literary scholar Marie-Laure Ryan examines immersion in virtual reality through the lens of literature comparing it to the process of becoming fully immersed in a book. She also speaks of "the threshold of involvement," (1999, 114) the point where someone becomes fully engrossed in a novel or a virtual world and that leads to suspension of disbelief. She is excited by virtual reality's capacity to create possible worlds that are palpable "despite their lack of materiality" (1999, 114) and allow the participant to experience those worlds through their body, while also implicating the mind.

This particular mode of engagement that integrates physicality through the body is part of what attracts me to VR. It provokes a tangible, yet difficult to describe affect. The term "affect" here isn't an equivalent to emotion, but rather as Brian Massumi (2009) defines it, an "experience of intensity" that occurs prior to or outside of consciousness.

Marie-Laure Ryan's work is also useful in her comparison of literature and virtual reality. In my project, the story is told through a narration that is overlaid on 3D spaces that are mostly devoid of visual representations of humans and, forces the participant to conjure what they are being told, much in the way they would be invited to recreate the world of a book in their mind.

3.3   The Gaze

One of my first experiences of virtual reality was the through the *Nomads* trilogy by Quebec

duo Felix & Paul. (2016) Captured in 360 video, in a style reminiscent of National Geographic

documentaries, it depicts the lives of nomadic people in Mongolia, Borneo and Kenya. Despite

the production's problematic ethnographic gaze, one particular moment made a profound

impression on me. In the documentary about the Maasai, a group forms a human circle around

the 360 camera, placing the participant at the centre. They all look directly in front of them. As

a participant, there is a tremendous vulnerability in finding yourself so overwhelmingly and

insistently surrounded, if not trapped. It was unlike any viewing experience I had encountered.

One can think about the breach of the fourth wall in theatre or cinema, but it is not the same.

In those cases, you have the option to look away, to refuse the gaze. In this situation, if you try

to avoid one person's gaze, you are confronted with many others. There is also an important

spatial dimension to that situation where you remain constantly aware of the presence behind

you, even if you are not looking in that direction. The isolation from the outside world and the

immersion that the headset produces reinforce the effect. The people looking at the camera

are looking at you in particular, not at a general audience. There is no means of escape aside

from fully exiting the experience.

The multiple gazes in that documentary were at once insistent and inviting but also pointed to

the unknowability of the subject behind the gaze. The experience of being watched by multiple

people in the same way one is watching them in a spatialized manner is not something that

could be created in another medium. The counter-gaze makes the participant acutely aware of

their own act of looking. In a decolonial methodology, that direct gaze, and the affect it

induces, is a strong tool allowing the characters in the experience to respond and engage with

the participant in a way that asserts their strength and presence. It simultaneously returns and

fractures the colonial gaze that Fanon describes as inscribed on the Black body while

concurrently asserting a form of fugitivity, a refusal of that very gaze. It is a technique that will

integrate in my project to both summon the viewer, enticing them to form a more profound

engagement with the content and also to imbue my main character with a certain fortitude and

posture of resistance.

3.4   Positionality and Empathy

Figure 4. Hunger in Los Angeles by Nonny de la Peña. Photograph copyright Emblematic Group. Used with permission.

Nonny de la Peña was one of the first journalists to embrace the power of volumetric virtual

reality to tell politically engaged stories in what she coined "immersive journalism." She seeks

to denounce urgent social problems by provoking affect and empathy. Incorporating the

techniques of verbatim theatre, she uses actual audio recordings from emergency calls to 911

to recreate volatile events, notably the death of Trayvon Martin from the point of view of a

witness, in *One Dark Night (2015)* or a deadly incident of domestic violence, in *Kiya* (2013).

*Figure 5. **Kiya by Nonny de la** Peña. Photograph copyright Emblematic Group. Used with permission.*

Participants can observe the narrative unfolding from within, coming in closer proximity to the

3D virtual characters than they could (and would want) to people in real life.

While de la Peña and others hail VR's potential as an "empathy machine", Lisa Nakamura

decries this category of experiences that make participants "feel good about feeling bad" (2020,

53) by putting them in a voyeuristic context where they see the world from a position of

someone of lesser socio-economic privilege and vicariously take cathartic pleasure in

experiencing their pain. These projects can be divided into two categories: those in the third

person, where the user is immersed in the space as an observer and first-person experiences

that put the participant in the body of another in what Nakamura calls "toxic re-embodiment."

(2020, 53) Although Mel Slater's research (Banakou & Slater: 2016) points to a slight decrease in anti-Black racial bias after a participant is made to occupy the body of a Black person in VR, it is far from corroborating the claim that Chris Milk, the director of VR documentaries such Clouds Over Sidra, makes in his legendary Ted Talk (2015), that VR is the solution to the woes and injustices that plague our world. While the notion of walking in someone else's shoes literally becomes possible in VR, exhibiting empathy while inhabiting a racialized body has yet to lead to the concrete dismantling of systemic racism. As Christina Sharpe reminds us, "the repetition of visual, discursive, state, and other quotidian and extraordinary cruel and unusual violences enacted on Black people do not lead to a cessation of violence, nor does it, across or within communities, lead primarily to sympathy or something like empathy." (2016,117)

The process of bringing to light difficult and violent colonial histories is a task that must be done frankly while avoiding spectacles of Black and Indigenous pain. In *Our Home and Haunted Land,* the Black narrator is given the space to recount the past from her own perspective. She frames the narrative by addressing the participant directly, acknowledging their presence and implicating them to reflexively engage with their own positionality. She doesn't solicit empathy, but rather confronts the participant with their own social responsibility. It is an invitation to ponder and do something, rather than a call for pure emotional engagement.

3.5   The Body and Space in Virtual Reality

The solitary aspect of immersion creates a bubble where one is mainly cut off from one's surroundings. Just as the direct gaze is a technique to engage with the viewer, inviting them

into a virtual space creates a type of intimacy. One is "in" the space, surrounded by it, rather than outside the frame of a photograph or video looking in. The participant controls the frame by moving their head (and at times their body) to discover the virtually rendered space much like they would in the physical world. The physicality necessary to apprehending the virtual space, makes one much more aware of the act of viewing and provokes the adoption of an active posture. One has to be alert and make the conscious decision to look at what is behind them, up high or down low. There is a seeking, a sense that one might miss something if one does not look carefully. There is also a sense of purpose in trying to fully grasp and decode the space and the people who occupy it. Looking becomes an action beyond the decoding that is necessary in truly understanding images, it becomes an act of engagement. In the case of difficult material and histories, I intuit that it creates a context that facilitates a deeper relationship with the content.

The narrative I create asks the viewer to look beyond the immediate contemporary appearance of spaces to conjure both what they might have been in the past and may hold in the future. The afrofuturist narrator of the story fulfills the creative (expressive), transmissive and testimonial functions that Ryan describes shaping the way the participant experiences the immersive space. (2018, 147)

Virtual reality allows, through the immersion in places made of fragments of actual spaces, a further exploration of the whiteness of the physical and societal Canadian space. In *Our Home and Haunted Land*, the only person that is visible is Black, challenging the usual representations

of the Canadian construct. It is also a powerful symbolic act of reclaiming space which can only

be made possible in VR. Perhaps this is why racialized artists have started to engage with the

medium and explore its potential to locate the body in space beyond the confines of a screen.

Virtual reality enables an embodied experience that induces affect in a different modality than

cinema. It summons the full sensorium to produce a rich affect that cannot simply be

apprehended and dissected. The medium allows for an exploration of layered and complex

subject matters, but also for absence and erasure to resonate.

3.6   Artists and Virtual Reality

Artists have been using VR in ways that differ from hyper-realistic goal-driven first-person

shooter games, to investigate its potential beyond realistic depictions and interactions. These

works deal with complex issues and deploy innovative storytelling strategies that avoid the

"othering" of racialized groups and the empathy trap discussed above. I will examine a number

of compelling artistic uses of virtual reality and outline the creative strategies they integrate.
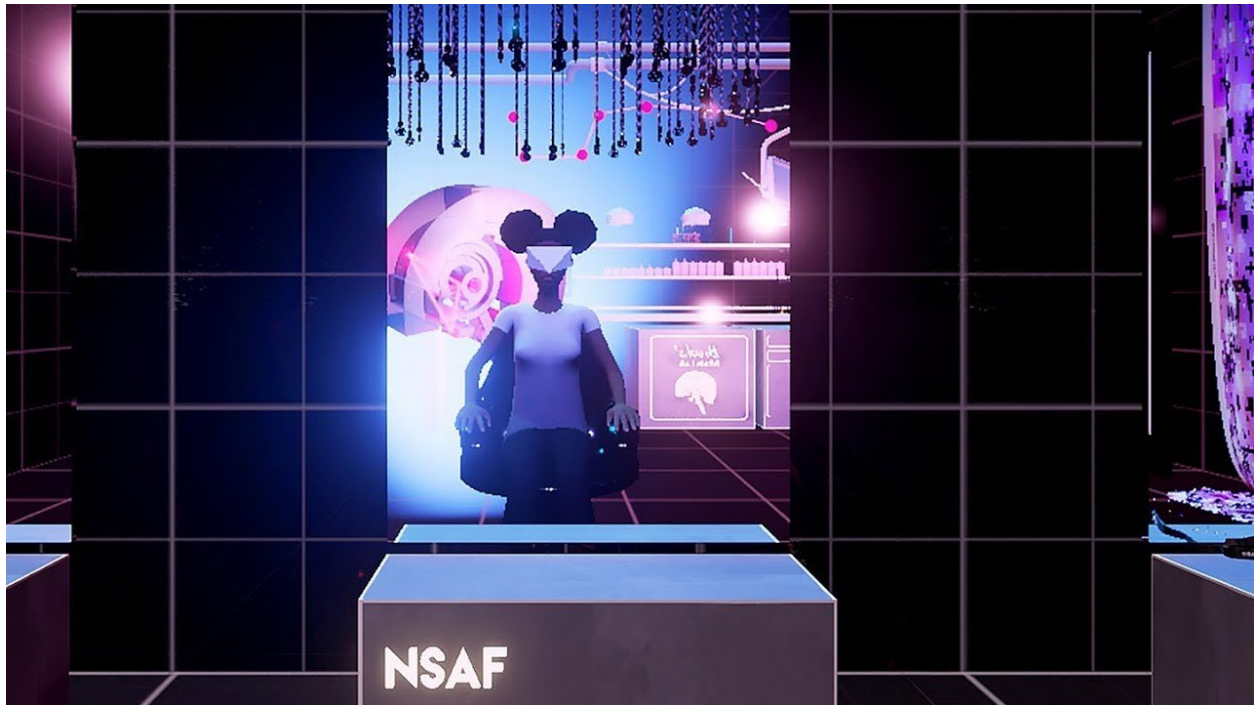
Figure 6. NeuroSpeculative AfroFeminism. Photograph copyright Hyphen-Lab. Used with permission.

The feminist collective Hyphen-Labs and their 3-part *NeuroSpeculative AfroFeminism* (NASF) (2017) is one of the first VR projects to tell a futurist story from the perspective of Black women. Starting at the Black hair salon, a culturally significant gathering space for the community, it aims to replicate the security and comfort traditionally found in that locale while situating it in a futurist realm. The second part of the experience begins with the participant discovering they are inhabiting the body of a Black woman as they catch a glimpse of themselves in the mirror before embarking on a psychedelic journey. In this case, that device is not meant as a way to embody and experience Black pain. It is simply presented as a point of entry that centres Blackness as opposed to the default whiteness. The project focusses on humour and wonder and eschews the trap of VR as an empathy machine. Blackness isn't seen through the lens of violence but expressed as revolutionary joy, providing a powerful

counterpoint to the norm. The female characters' body types also don't conform to the slender, "Barbiesque" figures that are often designed by men. The piece is an inspiration in its creative spirit and feminist viewpoint.

Figure 7. Biidaaban: First Light by Lisa Jackson. Photograph copyright National Film Board of Canada, Used with permission.

Biidaaban: First Light (2018) by Indigenous filmmaker Lisa Jackson features 3D environments created by artist Matthew Borrett. The futuristic project takes familiar spaces in the city and transforms them into environments reclaimed by nature. It integrates Wendat, Kanien'kehá:ka (Mohawk) and Anishinaabe (Ojibway) texts describing their ontologies and their relationship to the land that may be lost as the languages face extinction. The cityscapes are virtually devoid of human presence inviting us to think about the cataclysmic events that may have occurred and our historical role in it. Jackson's work demonstrates the impact of visuals especially on the cusp of the familiar yet foreign and the power that simple immersion in space can provoke.

Figure 8. Circa 1948 by Stan Douglas. Photograph copyright National Film Board of Canada, Used with permission.

Contemporary artist/photographer Stan Douglas' augmented reality app *Circa 1948* (2014), set

in the post-WWII period, adopts the film noir style to recreate the neighbourhood of Hogan's

Alley as well as the Hotel Vancouver. Open doors, fragments of dialogue and glowing objects

guide the participant's exploration of the spaces. While the buildings were recreated faithfully

from archival photographs, the inhabitants are portrayed as ghosts whose faint, glowing

outlines are at times barely visible, but who are well embodied through their voices.

The experience foregrounds the power of sound, especially when it is directional, in setting

tone and creating narrative. Rich soundscapes are an efficient way to add evocative

atmosphere to the 3D environments. It is also a strategy employed in *Notes on Blindness* (2016)

by Peter Middleton and James Spinney based on John Hull's sensory and psychological

experience of losing his sight. The volumetric VR experience uses binaural sound to indicate

various physical presences: the wind in the trees, a duck landing on a pond, a woman walking.

The spatialization serves to replicate a blind person's attention to sound to compensate for the

lack of vision in helping them determine what is going on around them. Visually, it renders the

shapes of the world as luminescent light blue point clouds set against a dark blue background

which I found quite mesmerizing and will rediscover and adopt for my project, albeit in a

different form, through my technological explorations.

In *Chalkroom* (2017), Laurie Anderson and Hsin-Chien Huang created a virtual reality experience

coupled with a physical installation that is an ode to language and storytelling. It was presented

at MASS MoCA in a room that matched the graphic style and the opening space of the virtual

reality experience. The result was a conflation of virtual and physical space as one became an

extension of the other. Anderson's voice greeted participants and described the structure of

the experience, creating a liminal state between the physical and the virtual world.

Figure 9. Chalkroom. Photograph copyright Laurie Anderson and Hsin-Chien Huang. Used with permission.

Figure 10. Chalkroom. Photograph copyright Laurie Anderson and Hsin-Chien Huang. Used with permission.

It also emphasized the intimate and personal nature of the VR experience and the collapse of time that allows the pre-recorded voice to be heard in the present. In *Our Home and Haunted Land*, the direct address and the layering of spaces/places are part of the exploration.

Alter Bahnhof (2012) by Janet Cardiff and George Bures Miller is not a virtual reality experience but induces a form of immersion through its use of video and sound. Participants armed with an iPod and headphones follow the path of a pre-recorded video through the old train station in Kassel. The overlapping of the virtual space of the video with the actual space, fiction with actuality, past with present, provoke a strange, perceptive confusion for the viewer. The recorded sound also melds with the ambient sound further contributing to the unsettling effect. While the video is only on the two-dimensional screen as a layer of augmented reality, it is still fully immersive as the viewer is in the diegetic space thereby extending the limited frame of the mobile phone. The tension between the physical and the virtual space is interesting as well as the conflation of temporalities.

Chalkroom interrogates the nature of space and produces an experience that is truly poetic. It creates an immersive world that plunges participants in something that is at once familiar and unknown and that challenges their usual perceptions of the built environment. Cardiff and Miller achieve a similar effect with their interactive sound piece. In terms of content, since I will be heavily relying on historical archives, my thesis has affinities with Stan Douglas' *Circa 1948*. The challenge that sets my piece apart is the breadth of history, locations and periods it spans. It must also do it in a heavily condensed format without being overly didactic. *Biidaaban* is also

a strong influence in terms of the richness of the affect that can be provoked by immersion in a

static space.

4 Research for Content Creation

The credibility of *Our Home and Haunted Land* rests heavily on the accuracy and depth of research necessary to craft its content. Two different types of research occurred concurrently: the historical research for the content and the technological research for the implementation in virtual reality. The historical investigation informed the script while the technological one informed both the production tools and methodologies as well as the visual style derived from them. Those two aspects, although very distinct, are also in symbiotic dialogue in the final project.

Under the overarching methodology of research-creation (Chapman & Sawchuk: 2012) that informs my artistic practice, I have broken down my methodology into 3 distinct chapters: Research for Content Creation, Research for Technological Creation which encompasses the two categories mentioned above and Creation as Research which outlines how the two initial types of research are brought together through artistic exploration in the making of the final production. Although the three different aspects of the research are outlined in succession in a linear format, it should be noted that the research process was iterative and intuitive.

4.1 Thematic Axes

At the onset, the goal of the project was to examine forgotten and silenced Black colonial history, but given the focus on space, it was impossible to do so without also addressing the history of the land and therefore the colonial violence the Indigenous population has been subject to. Encapsulating the Black and Indigenous histories and their entanglements through

colonialism by using an afrofuturist frame became the main objective of *Our Home and Haunted Land*.

4.2   Historical and Archival Research Methodology

The research involved municipal, provincial and international archives for documents, maps, photographs and drawings. Local historical organization websites, archaeological reports and historical volumes were also consulted. A separate section of the bibliography deals specifically with the historical sources.

Toponymy is the main mechanism employed to engage with the past, hence an initial round of research was done into the names of streets and spaces that refer to Indigenous and Black history. The inclusion of the Gladstone Hotel was a given as it was the impetus behind the project. Ryerson University, which in 2019 was the subject of a controversy around the naming of the institution after Egerton Ryerson who has strong ties to the residential school system, was also an early site of investigation. I had some hesitations about it as I thought it might not be recognizable to most Torontonians, but the Black Lives Matter protests on July 18, 2020, brought it into the spotlight and dispelled my doubts about its relevance.

I pored over maps of Toronto for Indigenous references. The first ones that stood out were Indian Road, Indian Trail and Indian Crescent all in the area between Roncesvalles and High Park. They are obviously not Indigenous names, although they do use antiquated language to refer to First Nations people. They allude to a trail that was used by Indigenous people for

millennia, but don't clearly follow its path. They were kept on a list for further investigation, but I couldn't locate much deeper and meaningful historical information about the significance of the Indigenous path they refer to.

The Baby Point site first arose because I was aware, through research by artist Camille Turner (Chen: 2013) that the Bâby family held slaves. It was only in digging a bit deeper that I found all the layers related to Indigenous history that made the site so rich, notably with the edge of the Humber River as the site of the Carrying Place Trail and also as the location of the Teiaiagon, a Seneca and Huron-Wendat settlement in the 17th century. The intersection of Indigenous and Black colonial histories made the west end site particularly notable and instigated an intricate process of research to fully uncover all the layers of history and meaning embedded in it.

While, in retrospect, the process may seem fairly straight forward, historical and archival research can be quite complex as it means digging for fragments of information from different sources, reconciling contradictory viewpoints while acquiring a deep understanding of the broader national and international context of the period covered. At times, a small, missing detail might lead to hours or days of searching. The broad digitization of archives has made the process easier, but there are still many records that aren't online, or require the cross-referencing of multiple sources.

As I have delved into Black colonial history and the transatlantic trade in enslaved Africans for other projects, I already know much of the context, historical background and key dates. The

Indigenous history posed a greater challenge. As I started doing research, I soon became aware

of how broadly it has been erased and how little I knew about it. I was forced to dig deep to

understand the ways in which the original inhabitants of the land lived and migrated for

millennia, the impact of the European arrival and their very different relationship to the

territory, the treaties that govern the sharing of the land and the distinctive ways they can be

interpreted. All this research isn't overtly expressed in the project, but profoundly impacts the

voice, posture and construction of the narrative. I acknowledge that still I have much more to

learn but hope that my project does justice to the problematic history and inspires others to

further investigate the subject.

4.3   Historical and Archival Findings

The highlights of the historical research included are but a fragment of the findings. I am only

relaying the information relevant to the construction of the narrative as it will be further

discussed in chapter 6.

4.3.1   The Gladstone Hotel and Gladstone Avenue

The Gladstone Hotel was built in 1889 close to what was then the Parkdale Railway station, a

major travel hub. It takes its name from the adjacent eponymous street meant to honour

William Ewart Gladstone (1809-1898), a career politician in Britain and the only person to have

been prime minister of Britain on four separate occasions (from 1868 to 1894). His father John

Gladstone was a wealthy merchant and politician based in Liverpool. In 1803, he started trading

cotton and sugar in the West Indies and soon establish plantations in Jamaica and British

Guyana, although he never set foot there. John was a strong defender of planter interests and an ardent anti-abolitionist. William was known as ultra conservative and used his position in the House of Commons to support his father's activities. Both father and son, once abolition seemed inevitable, lobbied for substantial compensation for slaveholders. In 1933, when slavery was abolished in the British empire, John Gladstone received more than £90,000, the equivalent of 9.5 million British pounds in today's currency, the largest sum of any slaveholder. He subsequently became one of the instigators of the scheme that brought workers from India to work in the Caribbean as indentured servants to compensate for the loss of enslaved labour. The historical records I consulted do not indicate how the decision to name Gladstone Avenue occurred or who may have suggested it. Although the Gladstone name isn't very widespread in Canada, it is in Guyana, where it was common practice for the enslaved to be given their holder's surname.

4.3.2   Baby Point

Figure 11. Map of Baby Point

Baby Point is situated in near the western boundary of the city of Toronto, at the intersection of

Jane and Annette streets. It is a quiet residential enclave, whose main point of access is

delineated by a stone gate. The name Baby Point refers to the housing development, but also

to the entire point which backs onto the Humber River and includes Étienne-Brûlé Park (on the

edge of the river) as well as the wooded area known as Magwood Sanctuary to the north.

The site along the Humber River was part of the Carrying Place Trail which was used for

millennia by Indigenous people to travel from what we now call Lake Simcoe to Lake Ontario,

and later became an important route for European fur traders. Its presence and strategic

location were part of the impetus for Governor Simcoe to settle what he called York as the

capital of Upper Canada (Turner: 2015, 23). The park on Baby Point along the Humber River was eventually named in honour of French explore Étienne Brûlé who was said to have been the first European to journey beyond the St. Lawrence River, passing by the location in 1615.

Up on the elevated part of the point, the Seneca and Huron-Wendat settled the Teiaiaigon between c. 1670 to 1688, although the site itself was likely used in a transient manner for thousands of years. Archaeological digs have revealed the existence of numerous burial plots on the point and there are conflicting accounts of what led to the settlement being vacated. Mainstream historians claim that it was the norm for these Indigenous settlements to last about a generation as they would move on when there was an accumulation of refuse, and the land they cultivated became less fertile (Fox, 2013). Indigenous oral history insists that there were increasing conflicts with the French who eventually burnt down the village, leaving the Seneca to return to their traditional territory in northern New York state (Missing Plaque Project: 2020).

Figure 12. Map of Baby Point produced by archaeologist A.J. Clark (n.d.). Source: Canadian Museum of Civilization, Gatineau, Quebec.

In the 18th century, the location became the Magasin royal, a trading post founded by Sieur

Douville. Various factors lead to its decline and it was eventually abandoned. The land was then

acquired by Jacques, commonly known as James, Bâby (1763-1833) son of wealthy fur

merchant Jacques Bâby (dit Dupeyron). James was born in Montreal, studied at a seminary in

Quebec and travelled to London before settling in Detroit with his father. In 1792, he was

nominated by John Graves Simcoe to the executive and legislative councils of Upper Canada

and became the Western District Court Judge the following year. He moved to York in 1815,

built a house and planted an orchard on 1,500 acres of land that he purchased and, rapidly

became a member of the Family Compact, an elite group that held most of the important

positions in the colony and included Peter Russell and William Jarvis.
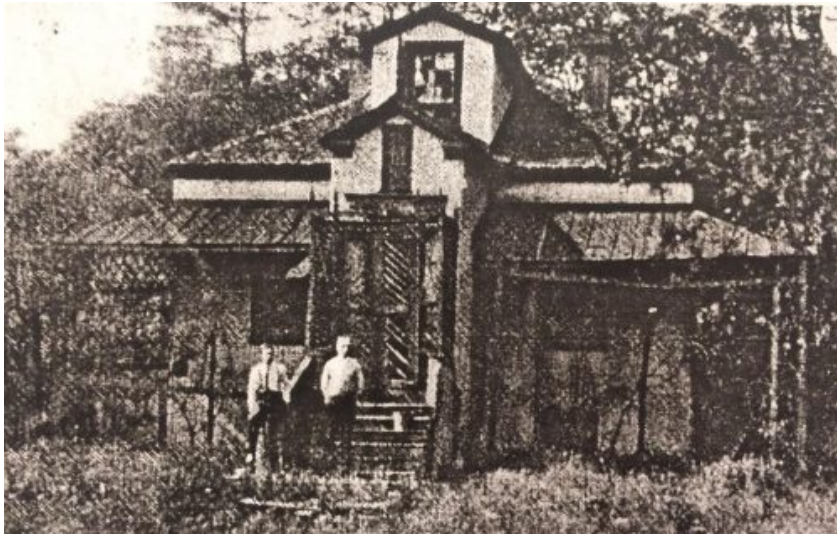
Figure 13. The Baby Point Estate 1885. Source: City of Toronto, Montgomery Inn Collection

The elder Bâby held 17 enslaved Africans in his household in Detroit, including a woman named

Thérèse. She was given in 1785 at age 24 to James's brother François, who eventually sold her

to James. Not much is known of Thérèse, except that she was emancipated in 1803, but

remained a servant in the Bâby household until her death in 1826. She had two children Léon

and Rose, both described as "mulatto" and of father unknown. Whereas Léon followed his

mother to James's household, Rose was gifted to James's sister Elizabeth-Anne upon her

marriage to Charles-Eusèbe Casgrain. James Bâby died in 1833 and bequeathed his property to

his sons Raymond and Frank.

Figure 14. The Baby Point Gates, 1912. Source: City of Toronto.

The land was purchased in 1909 by the Canadian government who had plans to build a garrison on the strategic point which were later aborted. In 1911, Robert Home Smith purchased and progressively developed the site as an exclusive residential area with the arts and craft homes which still grace the point today. It is a poorly kept secret that the houses sit on the remnants of the Teiaiaigon. Human remains and artefacts periodically resurface when renovations or maintenance are carried out. Notably in 2006, the intact remains of a Seneca woman along with a ceremonial comb were discovered during repairs to a gas line. (Wencer: 2016)

4.3.3 Ryerson University

Egerton Ryerson (1803–1882) was a member of the elite Family Compact that James Bâby belonged to. He was a major proponent of free public education and helped establish what is now known as Victoria College at the University of Toronto. His 1847 study of Indigenous education helped create the residential school system in Canada. He was against the education

of women and believed that "Indians should be schooled in separate, denominational, boarding, English only and agriculturally oriented (industrial) institutions." (Carney: 1995, 16)

What is now Ryerson University, began in 1948 as the Ryerson Institute of Technology to train skilled tradespeople in order to meet the needs of a growing economy in the post-war years. It has since moved beyond its technical focus to become a generalist university. Over the years, there have been numerous calls to change the name of the institution. Following the 2015 report by the Truth and Reconciliation Commission, which outlined the great harm that was brought to Indigenous communities by the residential school system and how its legacy is manifest through intergenerational trauma, the university erected a plaque acknowledging Ryerson's role in it and stating that "the aim of the Residential School System was cultural genocide." In July 2020, a group of Black Lives Matter protestors splattered pink paint on the statue, along with two others in the city, in an act of solidarity with First Nations people.

4.3.4   The Mohawk Institute

The Mohawk Institute in Brantford, Ontario was added as a complement to be in conversation with the statue of Egerton Ryerson. The institution was the first residential school in Canada and remains one of the few school buildings still standing. It is now the Woodland Cultural Centre, "an Indigenous education and cultural centre established to protect, promote, and preserve the history, language, intellect and cultural heritage of the Anishinaabe and Onkwehon:we peoples." (Six Nations Tourism: n.d.) When it first opened its doors in 1828 under the name Mechanics' Institute, it was a day school for Indigenous boys the from the nearby Six Nations Reserve. Run by the Anglican church, it soon became a boarding school, welcoming girls a few years later and officially closed its doors in 1972.

The residential school system is one of the darkest chapters in the mistreatment of Indigenous people by settlers. Under the guise of providing education to Indigenous children, it sought to convert them to Christianity and assimilate them into mainstream Canadian society. Numerous youths were forcibly taken from their families to institutions far from their homes. They were prevented from speaking their language and from manifesting any aspects of the heritage and culture. Abuse, corporal punishment, forced participation in medical experiments were common. Many children died in these institutions and the psychological harm they were subjected to continues to reverberate today.

5 Research for Technological Creation

In terms of technology, the overarching goal was an investigation into the nature and affordances of the three-dimensional space in terms of storytelling. I wanted to gain a deeper understanding of the workflow, tools and medium in order to advance my practice and effectively collaborate with other 3d artists in the future. In regards to aesthetics, I was searching for ways to create 3D assets that had texture and didn't carry that clean digital signature.

The technical exploration started with photogrammetry as a mode of capturing and rendering buildings and spaces around the city. During the processing of photogrammetry scans, I discovered it created point clouds (similar to what I had seen in *Notes on Blindness*) which I found visually enchanting. I have never been fond of either the hyper-realistic 3D graphics of video games and point clouds offered more texture and a more painterly rendering.

I then explored 3D modelling software and game engines as the final tools in the production pipeline. The full technological exploration and process are detailed in Appendix A. In this section, I give a brief overview of the different methods and techniques used to create the virtual environments to ensure the legibility of the "Creation-as-Research" process described in the next chapter.

5.1   Photogrammetry

Photogrammetry is a 3D scanning technique that can produce accurate photorealistic models of an object, person, building, or location. The process involves taking numerous high-resolution

photographs (in the dozens, hundreds or sometimes thousands) of the site or building from as many vantage points as possible. The photographs are then imported into a specialized software that uses the camera settings and algorithms to compare the way the item appears in different photographs and render its shape and depth.
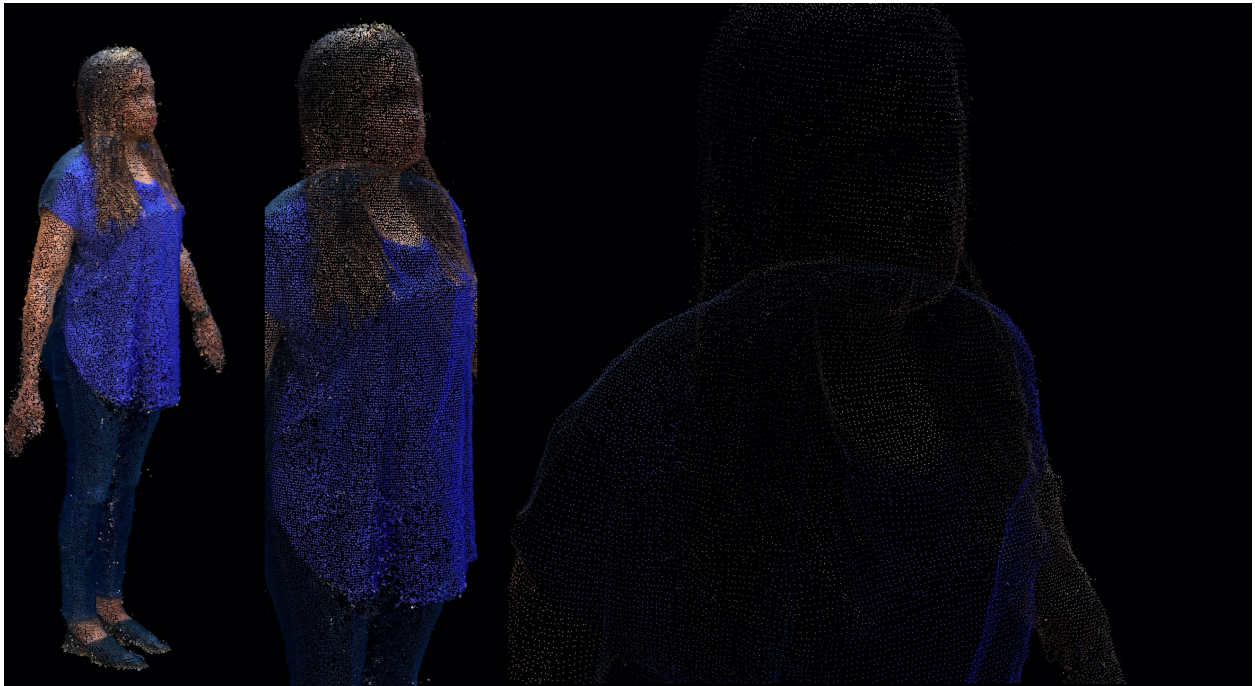
Figure 16. Photogrammetry self-portrait rendered as a point cloud in Agisoft Metashape.

5.2   Point clouds

As it processes the photographs, the software outputs point clouds (a data set of points in space) as an intermediate step before the final full 3D model. Each point is a set of X, Y, Z coordinates as well as a fourth number representing its colour. The texture of the point clouds was enchanting to me. Their main characteristic is their changing nature depending on the viewer's location long-standing (Figure 16). From far away, they look opaque, but they become progressively more transparent with proximity. They are the perfect metaphor for the history that haunts the city but remains invisible. The point clouds were also the answer to my quest

for a digital process that produced detailed yet imperfect textures. Small (and sometimes not so small) imperfections occur in the resulting 3D scans as digital glitches. Extraneous points can be removed, but additional ones cannot be added to repair holes. In searching for a way to get around the mainstream video game aesthetic and the cleanliness of its lines, I found the perfect imperfection of point clouds with its artefacts that remain, as a manifestation of what is lost in translation from the physical world to the virtual 3D model.

5.3   3D Modelling

Unreal Engine was chosen as the tool to bring all the elements together to create the virtual reality experience. It is where the photogrammetry scans rendered as point clouds were integrated to produce 3D environments in combination with directional sound, a 3D animated character and other animations. The platform enables the addition of lighting, fog and other atmospheric elements in the creation of scenes that can them be exported for display in a headset. Unfortunately, it should be noted that while the display of point clouds in Unreal is painterly (see figures 18 to 23), it lacks the finesse of the rendering in other software such as Agisoft Metashape (figure 16). This was one of the technological limitations that had to be accepted.

5.4   Technical Limitations

My original desire was to have a virtual reality experience with 6 degrees of freedom (6 dof) in which participant would be able to walk and explore the space. Given issues with the tremendous computational demands of point clouds, the decision was made create a project

with 3 degrees of freedom (3dof) which means that the participant can look all around them (a full 360 degrees) from a fixed position, but not independently roam. This allows for the point clouds to be precomputed and rendered for display in a headset, rather than rendered in real time which would cause significant lag. In order to give participants a more complete experience of the space, they are transported to different locations within each of the 3D scenes as part of the narrative.

6 Creation-as-Research

Stan Douglas believes in "art as theory" (2020) that is as the making of a model of the world as it might be. He also speaks of speculative writer Octavia Butler's method of "working through praxis" (Douglas: 2020) which encompasses sorting through and deriving theoretical knowledge from the creative act. Research leads to creation and creation embodies research in a constant and cyclical dance that manifests their complex entanglements.

Chapman and Sawchuk point out that, "in research-creation approaches, the theoretical, technical, and creative aspects of a research project are pursued in tandem" (2012, 6) In *Our Home and Haunted Land*, the process of making is deeply enmeshed with the content and technological research. The original concept for the project evolved as the historical research progressed, but also as I explored and learned to use the technological tools to produce 3D models and assembled them to create environments. While the crafting of elements moved forward and presented its own challenges, my greatest preoccupation was how to tell the story in terms of structure, voice, narrative and spatial devices. I had scanned the locations that I wanted to include in my project but had to find a way to weave them together both from a visual perspective, but also from a thematic and narrative one. The end result had to embody precise historical facts but also carry affect all while integrating decolonial methodologies and a deep respect for Indigeneity. This is the nexus of the creative process that confronts my own subjective voice and desire for expression with an obligation of clarity and legibility for the average participant.

The title of this chapter refers to one of Chapman and Sawchuk's four modalities of research-creation. "Creation-as-research" describes projects "where creation is required in order for research to emerge. It is about investigating the relationship between technology, gathering and revealing through creation." (2012, 19) This section discusses how the theoretical framework and the research were integrated into my artistic process to produce the virtual reality experience.

6.1   The Narrative Structure

The project has two axes, one dealing with the history of the enslavement of Africans and the other, with Indigenous history, which are both integrated from an afrofuturist perspective. This allowed me to use my positionality through a Black character to build the narrative and to speak to Indigenous issues from that very particular viewpoint that is rarely heard. It also enabled me to address the profound linkages between Black and Indigenous histories in the Americas. The narrative structure revolves around seven locations and eschews linearity in favour of a temporal fluidity while embracing a poetic tone that makes unexpected connections.

The first axis of the project, dealing with Black history, revolves around the Gladstone Hotel, which was the catalyst for the project, and delves into the history of the transatlantic trade in enslaved Africans that built John Gladstone's fortune. It takes the participant through the treacherous Middle Passage to an unidentified tropical location (possibly Jamaica or Guyana, where Gladstone had plantations) representing the so-called New World.

The second axis about the Indigenous colonial narrative revolves around Baby Point (named after James Bâby) an exclusive gated residential development in the west end of the city that sits on the remnants of a 17th century Seneca and Huron-Wendat settlement. It looks down upon the Humber River and the site of the Carrying Place Trail which was used by Indigenous people for millennia, and in 1615 by French Explorer Étienne-Brûlé (after which the park adjacent to the river is named). The Indigenous narrative continues in a space where two distinct sites are brought together: The Mohawk Institute (a residential school located in Brantford, Ontario, which closed its doors in 1970) and the statue of Egerton Ryerson, one of the main architects of the residential school system, which stands in front of the eponymous university. The Ryerson statue was the site of protest by Black Lives Matter Toronto in the summer of 2020. The combination of the two sites centres education as both a tool for oppression and liberation and serves as launching point into the future and questions of what to do with our problematic past and its representations.

The afrofuturist narrative, provides the frame and the grounding of the story through the character of Thérèse, a time traveler emerging simultaneously from the past and the future. She invites the participant on a historical tour of the city, but also incites them to incorporate the knowledge they glean into a deep questioning of their position on this land and how they can contribute to the construction of a better society.

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6.2 The Narrative Voice and the Black body

The choice of the voice or main point of view through which a story is told is often a fraught yet fundamental part of crafting a narrative. As part of that decolonial process and the afrofuturist narrative, it was important to give voice to someone systemically rendered voiceless, Black and based on a historical character that was linked to one of the sites that I was exploring, allowing for the confrontation of the common denial about enslavement on Canadian soil.

Thérèse fleetingly appears, as most of the enslaved do, in the historical records, and is mentioned in a few passages of the memoirs of Philippe Bâby Casgrain, one of James Bâby's grandsons. Casgrain notes that Thérèse was an excellent cook and that she maintained "the naïve disposition befitting her race." (1899, 95) He also mockingly describes an incident where Thérèse scared his mother by performing an African dance upon her arrival for a visit. (1899, 95) The paternalistic racism, packaged with a great deal of condescension, points to the way she would have been treated in the household. Those excerpts triggered a desire to give her a strong voice as a rebuke to the ridicule she must have experienced. Using Saidiya Hartman's method of "critical fabulations," I tried to conjure what her life was like in the Bâby house which at the time was the only structure on the large, isolated point by the Humber River.

In *Our Home and Haunted Land*, her solitary presence as a Black woman in spaces/places devoid of other visible human manifestations contests the default whiteness of the public realm. As Sara Ahmed states, "spaces are orientated 'around' whiteness, insofar as whiteness is not seen [...] The effect of this 'around whiteness' is the institutionalization of a certain

'likeness,' which makes non-white bodies feel uncomfortable, exposed, visible, different, when they take up this space." (2007, 157) In this case Blackness occupies the entire space from which whiteness is visually, if not structurally, absent. It calls obvious attention to itself, seemingly alien, yet radical in the unequivocal act of reclaiming the territory from which it has been excluded. Her presence also evokes a form of rebellion and fugitivity. Although Thérèse was emancipated in 1803, she stayed with the Bâby family until her death. As slavery wasn't officially abolished in Canada until 1833, one can imagine that she had nowhere to go and would have been restricted in her actions and movements by the established social order.

In the project, Thérèse isn't only a historical character, she is an agile time traveler, coming simultaneously from the past and the future to meet participants in the present. Her futurity fulfills many functions. It is a denial of the primitiveness that Casgrain projected on her in his writings and that is often falsely correlated with Blackness. Her centuries of survival attest to her strength and resilience, and the breadth of her knowledge is as impressive as her opinions are forceful. She also embodies the denial of linearity, the fluidity and simultaneity of time, that is often characteristic of afrofuturism.

Figure 17. Preliminary version of Thérèse.

Physically, Thérèse's is Black and carries traces of her speculative future. The electronic circuitry

applied to the surface of her skin allows her, via telepathy, to project her thoughts through

space for others to perceive. She wears impenetrable reflective eyeglasses, enabling her to

stare at the participant, while refusing their gaze in an act of resistance and fugitivity. It should

be noted that for the sake of efficiency, the character was created by modifying a purchased

asset which limited the amount of customisation that could be done. I hope to have a character

created from scratch for subsequent iterations of the project.

As the narrator, Thérèse speaks in a poetic register with a flowing rhythm and repetitive motifs

that allude to rather than detail historical facts, using forceful language emanating from a

robust point of view. She claims her place in the lineage of the strong and long-standing Black

oral tradition that encompasses the blues but extends to many other modalities. Thérèse's

voice, the cadence of her delivery, the repeating patterns are all expressions of that orality and

the deep knowledge it embodies.

Just as Thérèse is the only human seen in *Our Home and Haunted Land*, she is also the singular

voice that is distinctively heard. She appears in the opening and closing scenes to frame the

narrative, and also in the segment relating to her enslavement by the Bâby family, but is

invisible for the rest of the experience, forcing the participant to focus on the spaces and the

information that is being delivered. Her voice throughout the core of the piece although

disembodied, is spatialized, drawing the viewer's gaze and attention to very particular parts of

the scene. Much like Laurie Anderson does in *Chalkroom*, Thérèse welcomes the visitor to this

world, implicating them in the narrative and inviting them to follow her on a quest to reveal

some of the land's secrets. She also, in the conclusion, leads them to confront their place on

this land and their positionality in relation to all the historical wrongs that the land carries.

6.3   Countering the Erasure of History

The overarching goal of the project is to make visible the colonial history that is inscribed in the

names of prominent city spaces. This exercise is an acknowledgement of the power that official

histories hold and how they serve to silence those that are "othered." As much as the form of

the project through its use of point clouds alludes to what is absent and erased, its narration

reveals and illuminates what some of those absences are. The positionality of the narrator

makes the subjectivity of her voice clear and counters the object voice of the historian that

Achille Mbembe condemns. The 3D environments therefore become palimpsests from which

most of the history remains invisible. The sound carries the decolonial aspect of the work by

reinscribing the past in the present, giving the participant the information that is not readily visible in the space through the narration. The project contests the primacy of sight as a way to apprehend truth and foregrounds the orality that is central to Indigenous and Afro-diasporic cultures in the transmission of knowledge from generation to generation.

This use of virtual reality immerses the participant and invites them to look at spaces that they commonly see in a different manner, to question what has been omitted or erased from communal memory. It is a reminder that the historical past still lingers and shapes the contemporary present. As Christina Sharpe points out, "In the wake, the past that is not the past appears always to rupture the present." (2016, 9)

6.4   Ghosts and Haunting

The reference to haunting in the title of this project is meant as a manifestation of Eve Tuck' and C. Ree's notion of the repressed violent past. The initial concept integrated visual representations of spirits in a tangible yet vaporous or luminous state that would at times form the outline of a humanoid figure, but quickly dissipate into something amorphous and elusive. I also considered giving them a defined corporality, making them real figures in the virtual world, but the notion of having visible ghosts felt too literal and eventually lost its appeal. It became more pertinent to immerse the participant in the space, tell the story through sound and invite them to use their imagination in conjuring what those spaces must have felt like at different periods and the people who would have populated them. Using virtual reality to point to what is visually absent rather than present, seemed like an interesting way to stimulate the active

engagement of the participant, rather than presenting them with a narrative that is graphically laid out for them.

The rejection of the visual depiction of ghosts does not, however, refute the notion of haunting but rather exposes the way in which racialized histories, especially Black and Indigenous ones are rendered invisible in the city in particular and the country in general. In ways that echo Stan Douglas' augmented reality app *Circa 1948*, the ghosts in *Our Home and Haunted Land* are brought to life through a soundscape of footsteps, whispers and other sounds that are spatialized. They are however less overtly defined than in Douglas' piece as aside from the main character, they don't speak, hinting at what has been lost through erasure, at a presence that cannot be fully apprehended.

6.5   Representations of Space and Place

The spaces that form the basis of the virtual reality experience are mainly captured through photogrammetry and rendered as 3D point clouds. The point cloud models are then integrated into a larger 3D scene that creates context and atmosphere. The imperfect translation from physical form, to photograph to 3D model produces glitches that challenge the usually clean aesthetics of 3D game graphics. The imprint of my presence as the photographer, along with other artefacts that emerge from changes in sunlight, the passing of pedestrians and cars, the wind blowing leaves, lens distortions are etched in the resulting 3D scans. The large glitches that detract from the main subject are deleted, but in the smaller imperfections of the scan, many traces remain. They point to the distance between the real and the virtual. They are

witness to what is lost in digital translation, the impossibility of fully capturing the real, as we build worlds in a medium we chose to call "virtual reality."

The photogrammetry scans can also be seen as an expression of what Margaret Wickens Pearce describes as "place" that is a subjective rendering of space, imprinted with emotion and lived experience. My personal Black viewpoint, and by extension that of the Black community in general, are mapped onto the space through my act of 3D scanning. The photogrammetry models are representations of locations that I experienced and captured at very specific moments and that I rendered and edited to reflect my perception of them. These sites are then further transformed into something even more subjective by the 3D modelling process where they go through lighting and staging, positioning and juxtaposition with other elements to evoke and allude to what is beyond the physical form and create a narrative. The places that emerge from the process are between the real and the imagined. They are also a paradox. To the beauty and poetic nature of the point clouds and their liminal state between solid and void is juxtaposed a history of violence and dispossession. The places also become representative of the colonial history that is erased or hidden beneath the surface, a representation of the "chonophagy" of the archive, as coined Mbembe, which serves to destroy traces of the dark moments that the state would rather expunge. The locations are precious relics, signifiers in the edifice of the city as archive, tenacious traces in an urban palimpsest.

There was an original desire to provide layers of information and context through the inclusion of neighbouring buildings and streets, the superposition of maps and text. It was an intellectual

exercise in how to provide clarity, to do justice and appropriately honour the historical content

of the piece. At some point in the process, it started to feel rigid and scientific, focussed on

details rather than the more subjective affect of the overall narrative. I decided that the best

way to qualitatively investigate the nature of immersion in 3D, was to focus on creating an

atmosphere that was complementary to the 3D scans and was centred on the experience of

being in a "place", as defined by Wickens Pearce, rather to create exact replicas of the urban

spaces. It led me to simplify my approach and examine how to use the spaces complemented

by sound to tell the narrative, all leading me back to my original intent of exploring virtual space

and its ability to carry history and affect. In that respect, a great inspiration was Lisa Jackson's

virtual reality experience *Biidaaban* with its strong visuals of familiar yet foreign spaces that

manage to capture the participant's attention while provoking a strong affect. The experience is

powerful in large part because of its simplicity and slow pace which induce a more attentive

form of engagement from participants who must not only see, but actively look.

In *Biidaaban* as in *Our Home and Haunted Land*, virtual reality creates a tension between the

immersion of the participant in the virtual narrative space and their physical presence on the

very land that is implicitly referred to in the experience. For Torontonians and Canadians, *Our

Home and Haunted Land* reduces the distance between here and there, the physical and the

virtual, inviting them to reckon with the stolen land they live on. This double presence and

layering of space that can only be achieved through virtual reality are also explored in

Chalkroom. The tension between presence/absence, visible/invisible, heard/seen are

incorporated to test how they can promote or hinder participant engagement in narrative and the perception of space.

6.6   The Use of Virtual Reality

The use of virtual reality to tell the story is born of a desire to explore immersion and the nature of space. As a trained architect, I constantly think about the functionality of spaces, but also about the moods they create, the symbolism they may carry and their relation to the human body. We have all experienced the diverse affects that space can produce: the sense of wonder in a lofty cathedral, the serenity of a lake at sunrise, the comfort of a cozy bedroom. These affects are the result of a complex web of parameters and details that leave their imprint on the body. A memory of a space isn't just visual, it is generally embodied and correlated with a particular sensation. In the best virtual reality experiences, something similar happens. As Mel Slater (2009, 196) points out, it doesn't have to do with high-fidelity graphics, but rather with the fact that the world responds correctly to the movements of the body.

The donning of a virtual reality headset is an experience like no other. After all the adjustments, one is left alone in the environment to find their own way and determine what the rules of the world are. The direct address by an entity in the virtual space creates an intimacy, serves as a gentle transition and, especially for someone who hasn't worn a headset before, elucidates the rules of engagement.

The direct gaze of a character in the virtual space towards the participant is one of the most engaging interactions that I have experienced in VR. It is rendered even more powerful when someone is within what would be considered intimate or personal distance (0 to 4 feet), also breeching usual interaction space with strangers, giving it an insistent quality that oddly rarely occurs in the physical world, something that can be threatening or enticing, or even both, at once. In the experience, this happens in the initial and final scenes as Thérèse stands close to the participant, seemingly staring at them from behind her opaque futuristic glasses. It is not only the gaze, but the proximity that creates affect and possibly discomfort.

Sound serves to guide the participant's gaze to specific parts of the space. In addition to the narration and sounds alluding to ghosts and other creatures, the audio is utilized in various ways, playing on the proximity and distance. The sound of a bird flying by may startle and guide the participant's gaze in the direction of its upward trajectory. Audio can also be used to denote different eras. For example, in scene 3 at the Baby gates: the participant starts on Jane Street hearing contemporary noise – cars, buses – as the participant is transported close to the gates, they hear sounds from the period of the gates' construction at the beginning of the 20th century – horses, church bells. As they move past the gate to a model of the house Bâby inhabited in the early 19th century, the soundscape turns more peaceful and bucolic allowing the participant to hear the birds more clearly as well as the sound of the nearby Humber River.

Each scene has its own mood and tone, the result of an accumulation of parameters: colour, lighting, texture, sound... The narrative isn't only the words that are spoken or the places the

participant visits, it is the imprint that is left on the immersed body. As Oliver Grau describes,

the best virtual reality projects engage the full sensorium, and embodied contact with a virtual

world is the real power of VR.

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7 Results

The final project is comprised of seven scenes that integrate the seven locations captured through photogrammetry: Magwood Sanctuary, Étienne-Brûlé Park, Baby Point gates, the Gladstone Hotel, The Middle Passage (created with stock footage), The Mohawk Institute and Ryerson University. It should be noted that Magwood Sanctuary appears twice – at the beginning and the conclusion of the experience, while The Mohawk Institute and Ryerson University are assembled in one scene.

The order of the scenes and of the locations follow a logic that isn't necessarily chronological or linear but was rather organized thematically. It is a circular structure that starts with the Indigenous history, links to the Black history and then back to the Indigenous history. The loop is effective in breaking the linearity, especially in relation to temporalities and their simultaneity. Below is an outline of the script. The full text of the narration can be found in Appendix C.

Figure 18. Scene 1: Magwood Sanctuary capture from Unreal Engine

Scene 1

The first scene takes place in Magwood Sanctuary, a wooded area at Baby Point near the Carrying Place Trail at sunrise. The space around the participant gets progressively brighter and they get a chance to look around. A disembodied voice first addresses them, then Thérèse appears welcoming them to the experience and to the location. She reveals that the "haunted land holds many secrets" and invites the participant to follow her on a path to discovery.
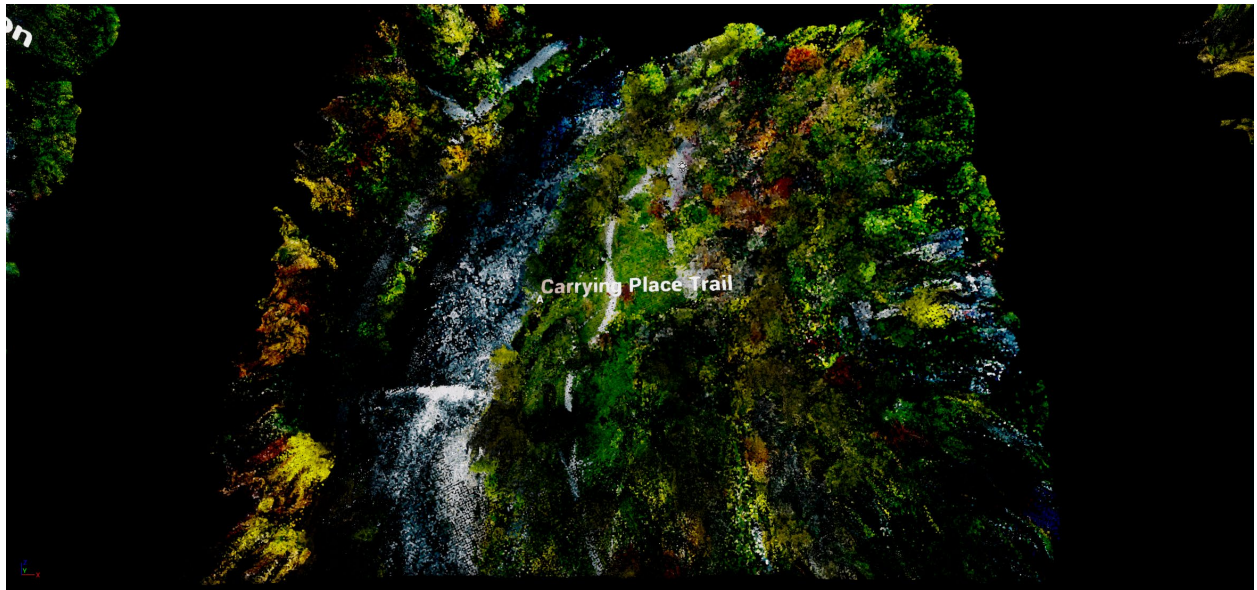
Figure 19. Scene 2: Baby Point, aerial view capture from Unreal Engine

Scene 2

In the second scene, the participant is presented with an aerial 3D scan of the whole area (shot by a drone) that reveals all the layers of names linked to the site: Magwood Sanctuary, Baby Point, the Teiaiagon, the Humber River, Étienne-Brûlé Park. Thérèse speaks to them about the practice of naming and renaming as well as the disappearance of the Teiaiagon.

Figure 20. Scene 3: Baby Point Gates capture from Unreal Engine

Scene 3

The third scene, still at Baby Point, but on its eastern edge where gates located off Jane Street lead to the exclusive residential area, alludes to Thérèse's enslavement in James Bâby's household, his acquisition of the land and the traces of the Teiaiaigon that are still not far under foot.

Figure 21. Scene 4: The Gladstone Hotel capture from Unreal Engine

Scene 4

Scene four transports the participant to a night scene where they encounter the Gladstone

Hotel and discover the Gladstone family's strong ties to the transatlantic trade in enslaved

Africans.
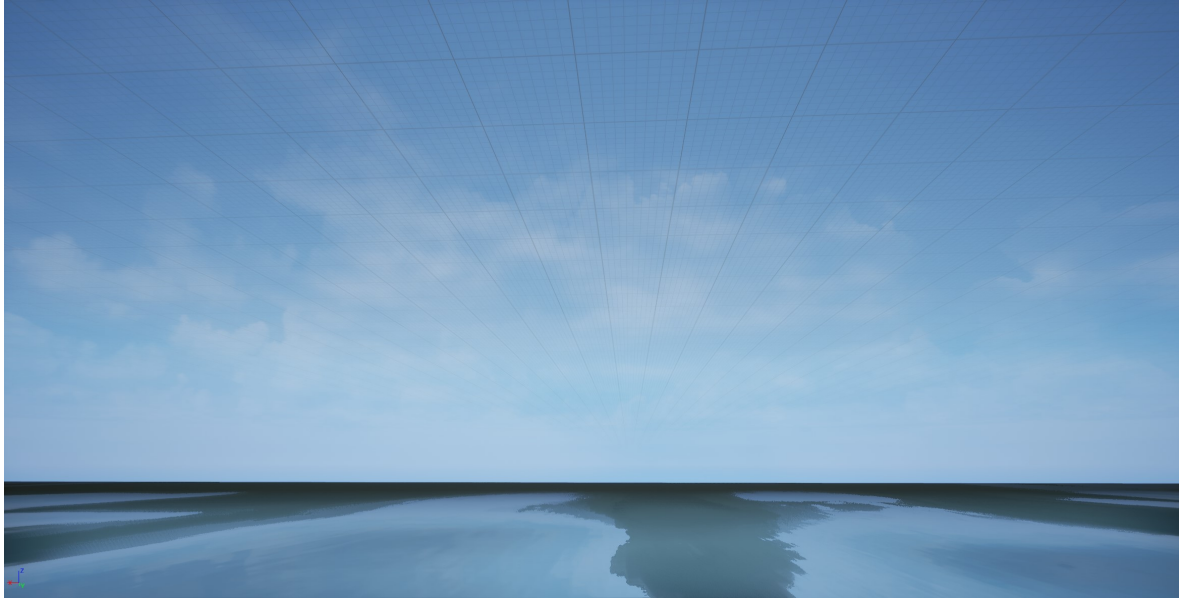
Figure 22. Scene 5: The Middle Passage capture from Unreal Engine

Scene 5

A wave engulfs the participant who emerges to find themselves in the ocean where Thérèse

decries the horrors of the Middle Passage that her ancestors experienced and the transatlantic

trade in enslaved Africans.

Figure 23. Scene 6: The Mohawk Institute (on the left) and Ryerson University capture from Unreal Engine

Scene 6

The statue of Egerton Ryerson that sits at the entrance of Ryerson University and the Mohawk

Institute, the first residential school in Canada, are brought together in a thematic collage

linking the different geographical locations. The scene discusses the trauma inflicted on

Indigenous people by the education system and its genocidal project.

Scene 7

The final scene takes the viewer back to Magwood Sanctuary at Baby Point where Thérèse

reappears and invites the participant to reflect on what they have seen and learnt about the

many historical wrongs that still haunt this land. After a moment, Thérèse disappears, leaving

the participant alone in the space to read a land acknowledgement adapted from a text by Dr.

Dolleen Tisawii'ashii Manning of Queen's University that concludes the piece.

8 Conclusion

This chapter presents a reflection on the overall research-creation and what emerged from the exploration of virtual reality as a tool for tackling forgotten histories.

8.1 Findings

The research questions at the root of this research-creation project were: how can immersive digital storytelling be used to decolonize space and embody history and memory? How can virtual space be used to visualize the cultural and historical relationship between physical spaces?

Somewhat counter-intuitively, my research reveals that the strength of virtual reality isn't necessarily its capacity to accurately reproduce physical spaces, but rather in the opportunities it provides to engage in a more fulsome manner with the full sensorium, creating an affect that is qualitatively different than 2D cinema. Spatialized sound was revealed as a powerful tool to conjure absence and erasure as well as carry historical narratives. It challenged the primacy of the visual and served as a reminder of the importance of orality in Black and Indigenous cultures.

Virtual reality's three-dimensionality is obviously a powerful medium for a decolonial project that deals with the literal and figurative reclaiming of space. Not only can it illustrate the metaphor, but it becomes the starting point for an examination of the Black presence that is so often seen to be foreign in the Canadian landscape.

Common wisdom would imply that virtual reality's strength lies in how faithfully it can reproduce a digital copy of the world we live in. Through my exploration, I believe it is in some ways, the opposite: virtual reality enables us to experience space in a way that differs from our daily lives. Just as travelling to another location can make our hometown seem different upon our return, make us question some of our habits, virtual reality opens the world of possibilities, especially because it involves a deeper engagement of the senses than two-dimensional media. More than creating empathy, VR might be a way of getting us to view and conceptualize things differently. Not in a seismic way, but in small increments.

Being in a VR environment is a paradox of being both in the physical and virtual world simultaneously. Mel Slater's term "place illusion" as a descriptor for the feeling of "being there" while knowing with certainty that you are not there encompasses the "doubling" that occurs. Slater has spent years creating various experiences in his neuroscience lab and is still trying to fully grasp how VR interacts with our brain and senses. Beyond the definitions and analogies is an affect that escapes easy description. In that way, virtual reality can partake in some of the preoccupations of cinema, by adding a spatial dimension and new modes of storytelling beyond linear narrativity. The layering of physical and virtual space, of presence and absence; the use of spatialized audio to evoke what is not shown, pushing back against the need for verisimilitude; the depiction of spaces that are "quiet" and need to be decoded are all strategies that challenge the usual conventions of VR and open up new avenues in storytelling.

VR is a wonderful tool for artists to explore although it ideally involves collaboration with other

creatives with particular skills. The software and computational power required puts it out of

reach for the average person except for the most basic applications. Those limitations are a

great barrier to entry.

8.2   Unanswered questions and outstanding issues

The Covid-19 pandemic unfortunately made testing the project in a headset with a great

number of people, impractical. The viewing experience in 360 video doesn't engage the body in

the same way and doesn't allow for the same level of immersion. It does, however, make the

project more accessible to a broader audience who can view the project on YouTube or Vimeo.

The decision to go with that format of delivery, as mentioned previously, is a result of working

with point clouds. As seductive as point clouds are, they pose a number of technical issues in

terms of the file size and the computational power they require. The exploration of point clouds

was really successful in providing the type of graphic representation I was after, but many

questions remain about the potential to use them in a fully immersive and interactive VR

project. This needs further testing with collaborators who are more familiar with the

technology to explore the possibility of reducing the complexity and the size of the files.

One of the questions that I hope will be answered later, when extended participant testing in a

VR headset becomes possible, is how different demographics will react to Thérèse. For me,

entering a space and encountering the presence of another Black woman is a reassuring

experience. The familiarity and the shared positionality break down certain barriers. A white cis-gendered male will likely not have the same reaction to a Black female body, especially one that isn't overtly sexualized. Will Thérèse have to bear the weight of the stereotypes that are generally projected on to Black women: aggressiveness, loudness, lack of femininity? Will the project be met with a similar anger expressed by the resident of Baby Point who destroyed the cardboard sign alluding the fact that James Bâby was a slaveholder?

The project speaks to very specific Toronto context and I question how legible it will be to a foreign audience. I have however had the opportunity of speaking about the project at international conferences and the response has been quite positive with people particularly embracing the intersection of toponymy, archive and history.

8.3   Next steps

This thesis is only phase one of *Our Home and Haunted Land*. The project was awarded a grant that will allow for the adaptation of the project for large-scale exterior projection in the fall of 2021. It will be a 2D rendering of the 3D exploration I will have done with the thesis and will require some thinking in terms of different possible approaches to telling the story. While it will use much of the same source material, the transition from 3D to 2D allows for different kinds of animations and movement through the scenes. There are limitations as we may not be able to have sound accompany the projection, which means that the narration would need to be subtitled, but also that the visuals might have to carry more of the story that in the VR rendering.

There is also the desire to do a full interactive virtual reality version of the project incorporating a broader variety of locations. This will necessitate securing additional funds and resolving some of the technical issues. The journey for *Our Home and Haunted Land* has been long, but it is only the beginning of a much larger project.

8.4   Final thoughts

The project is entitled *Our Home and Haunted Land*, but only speaks to it within a mainstream understanding of possession, naming and using the land from a human perspective informed by our capitalist society. The claiming of land as property for housing, resource extraction and financial investment is at the heart of climate change, ecological disasters, the depletion and disappearance of species as well as social inequalities.

Recently, the Muteshekau-shipu river in Quebec was the first body of water in the country to be granted legal personhood. Following Innu beliefs, the river was granted nine rights including the right to flow freely, to be protected and be free of pollution. (Stuart-Ulin: 2021) This is a mechanism to preserve the river from harmful development and will hopefully become more widespread.

The Land Back movement among Indigenous people seeks to reclaim their physical and spiritual relationship to the land along with stewardship that is informed by their knowledge and traditions. The rest of us need to acknowledge that we are all living on stolen land and

contribute to finding equitable way of restituting the land to its rightful owners while

cohabitating with the many different species that inhabit it.

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Appendix A - Technical process documentation

Production Workflow

The research for content creation and for technological creation went on simultaneously. The photogrammetry scans started in May and continued into late September. The content research, done in parallel, also started in the spring and carried on into late fall.

The challenge was funnelling all the different elements of research into a script that then became the blueprint for how all the visual and sound elements would come together to form a narrative 3D experience. The script was also important, as it would serve as a guide for collaboration with a sound designer, an animator and some other people providing technical support. The integration and lighting of all the 3D elements on Unreal followed, with the creation and animation of the main character along with the sound design and the final output.

Photogrammetry Tools and Software Tests

Professor Claire Brunet's Information Visualization class, 3-week intensive in the spring of 2020 and was crucial in terms of determining the technology and methodology for my photogrammetry scans. In that class, I learned the best techniques for capturing and processing the necessary photographs and, also became acquainted with the software to clean and repair the resulting meshes.

Figure 24. Photographs of the Gladstone Hotel seen in Agisoft Metashape

The process is time consuming and exacting requiring preferably consistent (and overcast) lighting, the avoidance of harsh shadows and reflective surfaces which can be difficult for the photogrammetry software to interpret. I found it practical to utilize the camera on my Iphone 11 Pro rather than a DSLR for the portability and ease of use. I perfected my technique of scanning large buildings by taking 3 photographs at different heights (above my head, eye level and abdomen level), moving laterally by about a foot and repeating. The scan of the Gladstone in the project was made with over 500 photographs. I also learned to use Adobe Lightroom to adjust the saturation, colour and contrast of the photographs in situations where the lighting conditions changed during the course of the scanning process.

During professor Brunet's class, I tested Metashape by Agisoft and Regard 3D on a Mac OS to process the scans. Meshroom is another popular (and free) software, but it is only available for Windows. Regard 3D seemed more powerful and specialized while Metashape was generally more user-friendly. The lack of an undo function in Regard 3D has been criticized by many and made the process of editing scans most uneasy.

Figure 25. Example of a deformed 3D mesh in Agisoft Metashape

Once fully rendered as a 3D mesh with a texture, photogrammetry scans generally necessitate cleaning as some areas may be distorted because of the way the software interpreted shadows or highlights, but also particularly when dealing with large objects such as buildings where photographs of upper floors may have been taken from street levels. Meshlab and Meshmixer are two apps that can be used to correct deformed 3D meshes. Mesh repair is an act much like sculpting that requires a good eye, exacting skills and much patience as it can take days or weeks to get all the different surfaces and details in the exact place.
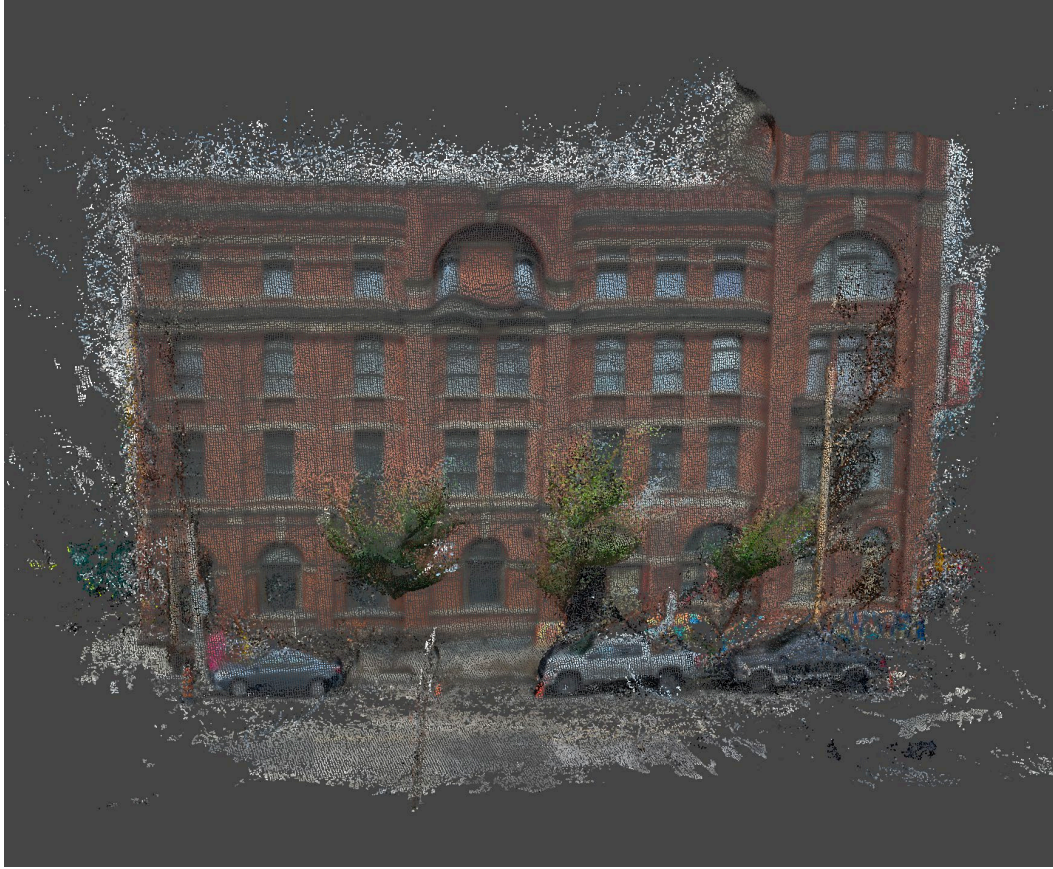
Figure 26. The same model as Figure 25 rendered as a point cloud

I discovered through the processing of the photographs for the Gladstone Hotel scan that

before the software produced the final rendering, it created a dense point cloud that was much

more appealing to me and in line with the aesthetic that I was searching for in my exploration,

but had yet to define.

As seductive as point clouds are, they presented numerous challenges. Unlike 3D meshes, they

are difficult to manipulate and edit. They cannot be animated with the traditional tools used to

manipulated objects in 3D software and therefore require advanced programming skills. The

file sizes generated from point clouds can be surprisingly large. Some of my files exceed 1 GB.

They are also counter-intuitively computationally heavy, as each point needs to be tracked as a separate entity requiring much processing power.

Developing workflows to manage the large number of files, hard drive and disk space was also a key challenge in terms of doing photogrammetry. Editing the files is difficult as it is often nearly impossible to visually distinguish where the points are in space. I was hoping to find tools to do some additive editing, that would allow me to repair some of the point clouds by adding pixels that were missing from a surface but was unable to locate any. I tested specialized engineering software Autodesk Recap Pro which can remove an object from a scene and isolate it in a separate file, but not do fine surface repair. I did have limited success with the Point Cloud Visualisation plugin for 3D modelling software Blender. It actually produces a mesh which allows for the easy removal of points beyond the edges of the main point cloud, but the lack of colour in the mesh makes finer editing difficult.

These limitations forced me to accept the small (and sometimes not so small) imperfections of the scan as digital glitches. In searching for a way to get around the mainstream video game aesthetic and the cleanliness of its lines, I found the perfect imperfection of point clouds with the artefacts that remain, as a manifestation of what is lost in translation from the physical world to the virtual 3D model.
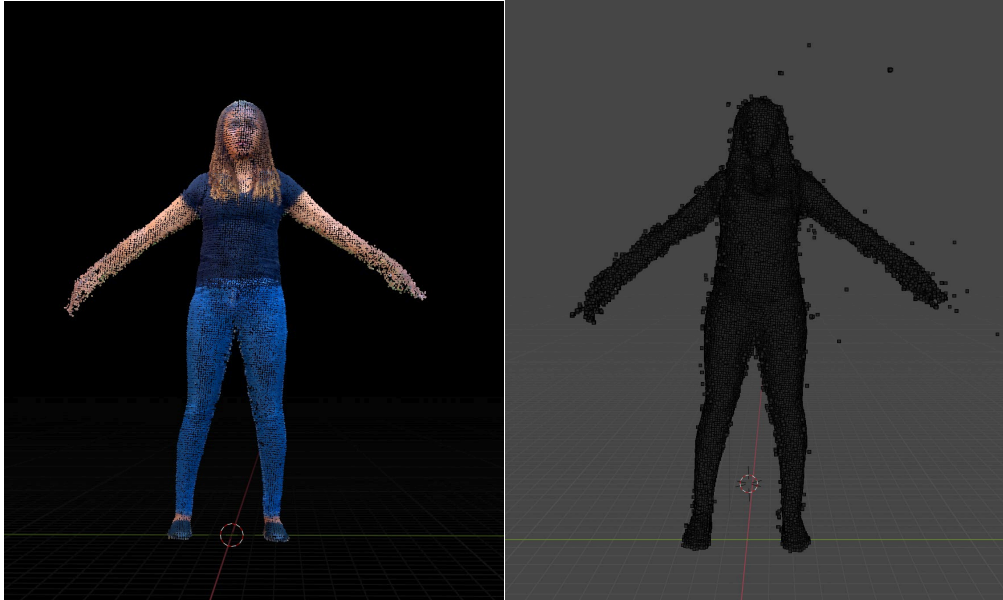
Figure 27. Point cloud self-portrait in Point Cloud Visualizer plugin for Blender

3D creation and integration software tests

Another level of technical research needed to be done in order to determine the 3D software

that would be used to build additional 3D assets and the virtual reality experience as well as

which headset it would be deployed on. I decided to go with Blender for the creation of

additional 3D assets. It has the advantage over Maya and ZBrush and others of being free and

widespread in the industry.

The most accessible platforms for 3D distribution are online as VR headsets have yet to become

common household items. During the Information Visualization class, I tested the 3D online

platform Aframe in order to share my work with my colleagues. It is accessible and relatively

simple to use, but the point clouds posed a problem. While someone had programmed code,

accessible on GitHub (https://github.com/daavoo/aframe-pointcloud-component) to allow the

integration of point clouds, that code was only compatible with Aframe version 0.6.0 whereas

the current widely used version of Aframe was 1.0.0. The upside was that it displayed the point

clouds nicely. The downside was that I couldn't integrate elements from any other commonly

used formats (notably FBX and OBJ) that I had for other elements, notably some characters.

And while I could integrate sound, I couldn't take advantage of the spatialized audio features of

Aframe's most recent release.

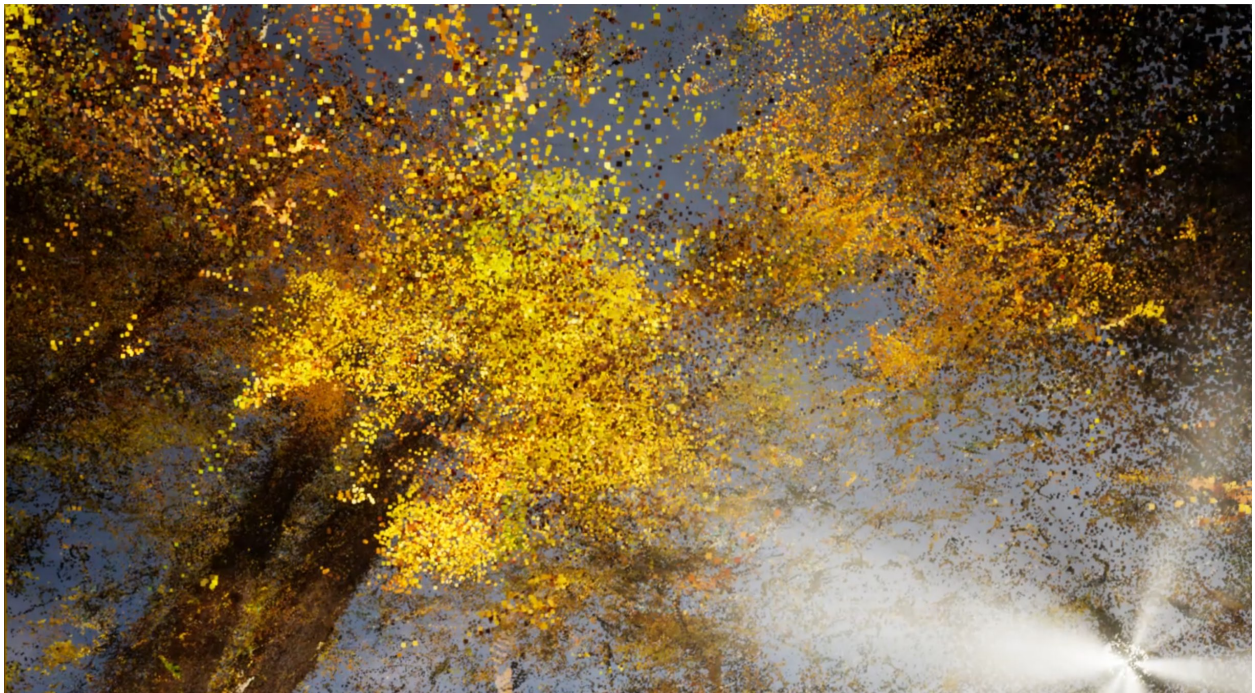*Figure 28. The Gladstone Hotel point cloud in AFrame*

Given these significant limitations in A-Frame and since I had access through OCAD to an Oculus

Quest headset, I decided I should make a build for that platform.

I then went on to test Unity and Unreal Engine, both for ease of use for a novice like me, but

also for their ability to handle point clouds. Unity doesn't have a native capacity to manipulate

and display point clouds but Japanese artist Keijiro Takahashi has the code for his Point Cloud

Importer/Renderer for Unity available for free on GitHub (https://github.com/keijiro/Pcx). I

managed to get the point clouds to display in Unity but found the interface unfriendly and

difficult to navigate.

I loaded the point cloud model in Unreal Engine with the Lidar Point Cloud Plugin compatible

with UE 4.24. With versions 4.25 and 4.26, Epic Games has developed its own native lidar add-

on, but it doesn't handle the point clouds as well as the external plugin. The plugin allows for

displaying the point clouds with different size points, in a circular or square shape. Although it is

possible to get a very fine texture of points in Unreal, if they are too small, they virtually

disappear. They therefore have to be displayed at a larger size that lacks the finesse and the

modulation that drew me to point clouds. They do, however, display a painterly texture that

distinguishes them from the flatter video game aesthetic.

Scripting and Integrating 3D Elements

As a filmmaker, scripts and storyboards are key elements in media project workflows. I created

a hybrid between the two that included the standard columns for a description of visuals and

the audio as well as screen captures of the 3D models and plans to indicate where the 3D

camera would be positioned (that is where the participant would be in the space within the

experience). The 3D elements were brought together in Unreal Engine following the script. The

lighting process was important in bringing the spaces to life and creating atmosphere.

Figure 30. Screen capture of project in Unreal 4.24

Output

The full process for the output for from Unreal Engine had to be done frame by frame to get the best possible resolution. The frames were then brought into Premiere Pro.

Appendix B - Project visual documentation

Figure 31. Magwood Sanctuary 360 capture from Unreal Engine

Figure 32. The Baby Point Gates capture from Unreal Engine

Figure 33.The Baby Point Gates 360 capture from Unreal Engine

Figure 34. The Gladstone Hotel capture from Unreal Engine

Appendix C - Narration

Scene 1 – Magwood Sanctuary (Baby Point)

It's beautiful here, isn't it?
I used to live nearby once upon a time....

My name is Thérèse. I'll be your guide for today's personalized tour of Tkaronto on Turtle Island
in what some people refer to as Canada.

Yes, it's me speaking. Telepathy is the most efficient form of communication these days.

And don't worry. I have my privacy shield on so while you can read my mind, I can't read yours.

This haunted land holds many secrets
and if you want to know,
Follow me and read my mind
I have some things to show.

Scene 2 – Étienne-Brûlé Park (Baby Point)

This haunted land holds many secrets
That you ought to know.
You claim it as your home
But it is not your own

For hundreds and thousands of years
The many peoples of this land
Travelled up and down this path,
the Carrying Place Trail

Long before French explorer
Étienne-Brûlé's name graced this park
In honour of his so-called discovery

Long before Sir John Simcoe
Inspired by his native England
named this body of water the Humber

The peoples of this land
settled places like the Teiaiagon
Right up there on that point
...and now barely anyone remembers its name.

Scene 3 – Baby Point gates

This city holds many secrets,
That many do not see
Often rewritten or erased
Are fragments of its history

Just beyond these gates
Not far below the surface
Lie traces of the Teiaiagon
And its old burial ground

This residential enclave
They now call Baby Point
after the French family
who once claimed to own me

Here I lived on stolen land
An uninvited guest
Enslaved on acres Baby purchased
from those who did not own them

Here I toiled on stolen land
Isolated and derided
Stealing moments when I could
To soothe my soul and spirit

Scene 4 – Gladstone Hotel

This city holds many secrets,
That many do not see
Everywhere the street signs
Reveal its mysteries

The Gladstone name
Refers to William
Prime Minister of Britain
Once upon a time

This grand hotel
also proudly bears the name
Of those who fought against abolition

and freedom for the enslaved

William's father John
Built his legendary fortune
On those he held in bondage
Way across the ocean

Scene 5 – Middle Passage

The ocean holds the secrets
of the triangular trade
At the expense of humans
Farming coffee, cotton and sugar cane

Stolen from their land
My people were stolen from their land
With violence and zeal
Without warning or appeal

Like aliens on an unknown journey
Crossing the portal of the Middle Passage
So many of them perished
Their bodies strewn about the sea

Like aliens they landed on the shores
Of places unfamiliar, of languages unknown
Transformed as less than human
In the eyes of those who held them

Scene 6 – Ryerson University/Mohawk Institute

This stolen land holds many secrets
Some only whispered and told
in tongues almost extinguished
through rules and regulations

The Ryerson name resonates
In the halls of higher learning
But it also weaponized education
With the goal of assimilation

the Mohawk Institute

like other Residential schools
Dutifully carried out its mission
Under the guise of what it called civilization

Generations of Indigenous children
Taken from their families
Excised from their culture
Generations of unspeakable trauma

Scene 7 – Magwood Sanctuary (Baby Point)

This haunted land holds many secrets
I've only revealed a few
But learn to look all around you
I'm sure you'll find a slew.

We, the ghosts that haunt this land
On the ruins of promises broken
Will never rest, will never leave
Until the facts are faced

How do we right the wrongs?
How do we undo the lies?
How do we build a future
On the ruins of violence and deceit?

Here between past and future
Is where we do our work
Forever growing in strength and numbers
Full of desires, hopes and dreams

Reverberating from the past
And echoing from the future
We conjure possibilities
Of a world made better
Of justice, solidarity and peace

Thank you for stopping by today
We hope you come back for another visit soon...

Land acknowledgement
The text appears at the end of the experience but is not read

Toronto, Tkaronto, is located on the ancestral homelands of the Anishinaabe, Haudenosaunee and Huron-Wendat peoples. To occupy means to seize the land, in the advancement of settler wealth at the expense of those who are withheld from the land.

Toronto is Treaty 13 territory, also known as the Toronto Purchase, signed in 1787 by representatives of the Crown and a band of Anishinaabeg known today as the Mississaugas of the Credit. The treaty was under dispute for over 200 years - the Mississaugas understood that they were renting the land, not extinguishing their rights to it.

A land claims dispute was settled in 2010. Today, Toronto is home to many First Nations, Inuit, and Metis as well as many other diverse communities. We are grateful to the Indigenous people here and across Turtle Island for their hospitality and are committed to working toward decolonial justice with them.

Appendix D - Trailer

A video trailer of the experience is available in the repository.

Our Home and Haunted Land, Trailer
April 12, 2021
Nadine_Valcin_OurHomeAndHauntedLandTrailer.mp4
Video trailer with stereo sound