

BIIDAABAN: FIRST LIGHT

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Abstract

Biidaaban: First Light is a short room-scale virtual reality (VR) experience that places the user in a future Toronto, set in and around Nathan Phillips Square. It projects a possible future where nature has begun to reclaim the city and where humans are living in keeping with the knowledge systems of the original people of the territory, the Wendat, Anishinaabe (Ojibway), and Kanyen'keha (Mohawk), as marked by their spoken languages which also appear as text, in their original form and as English or French translations.

The current structures of commerce, politics and technology/transport and the Euro-Western ideologies that underlie our society are replaced by sustainable ways of living and the cultural understandings and knowledge systems of the peoples Indigenous to this place.

The piece is concrete and poetic, using both practical imagery and metaphorical symbol to communicate a worldview that is rooted in Indigenous thought and accessible to any user, while offering added meaning to those who are familiar with the languages and thought systems of the original people of this land.

Acknowledgements

First and always, I raise my hands and send love and respect to Linda Muriel Maness and Geraldine Robertson. This work is in honour of how much you have given. Chi miigwetch. My sisters are also a part of this journey and all my journeys. They continue to be my best friends, advisors, and a source of deep learning and inspiration.

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Table of Contents

Abstract	ii
Acknowledgements	iii
Table of Contents	iv
List of Images	v
Chapter One: Introduction	1
My Work and Introduction to Virtual Reality	1
Overview of <i>Biidaaban: First Light</i>	2
Research Questions	4
Chapter Two: My Background	5
<i>Suckerfish</i> , My Family’s History and My Motivation	5
Language Research	6
My Subsequent Film Work	7
Chapter Three: Background on Theme/Topic	10
Languages	10
Worldviews Expanded and Explored.....	13
Chapter Four: Background on Form	22
Film (and Sound)	22
Virtual Reality.....	25
Chapter Five: Production	28
Pre-production	28
Production.....	34
Scene-by-Scene Breakdown	35
Audience Presentation and Reception	42
Ethics	45
Chapter Six: Conclusion	47
Bibliography	49
Media and Filmography	51
Appendices	53
Appendix A: Full Quotations	53
Appendix B: <i>Biidaaban: First Light</i> Booked Showings of to Date (January 2019)	54
Appendix C: <i>Biidaaban: First Light</i> Audience Reactions.....	56
Appendix D: <i>Biidaaban: First Light</i> Creative Sketch: Rooftop.....	57
Appendix E: <i>Biidaaban: First Light</i> Credits	58
Appendix F: <i>Biidaaban: First Light</i> Technical Specifications.....	61

List of Images

Image 1: <i>Biidaaban: First Light</i> . Outline, sample page.....	32
Image 2: <i>Biidaaban: First Light</i> . Scene One - Subway View A.....	36
Image 3: <i>Biidaaban: First Light</i> . Scene One - Subway View B.....	36
Image 4: <i>Biidaaban: First Light</i> . Scene Two - Nathan Phillips Square View A.....	38
Image 5: <i>Biidaaban: First Light</i> . Scene Two - Nathan Phillips Square View B.....	38
Image 6: <i>Biidaaban: First Light</i> : Scene Five – Dawn Rooftop	41
Image 7: Canadian Premiere of <i>Biidaaban: First Light</i> , Nathan Phillips Square View A	42
Image 8: Canadian Premiere of <i>Biidaaban: First Light</i> , Nathan Phillips Square View B	43

Chapter One: Introduction

My Work and Introduction to Virtual Reality

I've been filmmaking since 2004 and have worked in a variety of genres, including conventional documentary, historical drama, performance-based film, animation and have even made a musical. The range of forms reflects my efforts to effectively communicate about topics that labour under preconceived notions and stereotypes held by "mainstream" audiences and the media (which encompasses almost everything Indigenous). I will take a closer look at my film work later in this paper.

In 2016 I was introduced to virtual reality (VR) through three opportunities. First, Katerina Cizek, digital documentarian and consultant, invited me to participate as a Fellow at an MIT conference "Virtually There: Documentary Meets Virtual Reality." Second, the CBC radio show *The Current* asked me to direct a 360-degree short documentary on BC's Highway of Tears, focusing on the story of one woman's loss of her daughter. Third, I participated in the nine-day virtual reality intensive "Open Immersion Lab" (OIL) run by the National Film Board, the Canadian Film Centre and the Ford Foundation.

The MIT conference allowed me to experience a range of international projects, hear from many high level creators, and absorb conversations about the possibilities and challenges of the form. The *Highway of Tears* piece allowed me to experiment with how the user's perspective could be manipulated in VR, experiment with tone, and work to balance the power dynamic between the viewer and subject. OIL brought together six Indigenous Canadian artists and six American artists of colour from the southern US to gain training in and exposure to VR, create and work on prototype VR projects, and discuss our perspectives on the form.

All of these experiences informed my understanding of what VR was capable of, what it had to offer, and where it fell short, which was often in aesthetic execution as well as ethical considerations. On this second front, the conversations amongst the participants of OIL was generally more sophisticated, creative and thoughtful than what I'd heard from many of the titans of VR at the MIT conference.

In the wake of this experience, in 2017/2018 I was the creator of the virtual reality piece *Biidaaban: First Light*, working with the National Film Board's English Digital Studio, 3D artist Mathew Borrett, and Jam3 digital studio. The VR environment was made using to-scale architectural models of Toronto's Osgoode subway station, Nathan Phillips Square, and the buildings surrounding it. It is an imagined future that many would call "post-apocalyptic" but asks us to interrogate the idea of a future where current structures are no longer ascendant as being a disaster or collapse. Implicit in the piece is the question of whether the "apocalypse" may have already occurred, if you are Indigenous or of the tree nation, animal nations, etc.

Colonial policies have wreaked havoc on the original peoples of the territory now known as Canada as well as on the lands and waters and other living beings they have always existed in relationship with. The effects of these policies reverberate and affect Indigenous people, the environment, and all Canadians to this day. The policies include land appropriation, physical displacement of Indigenous peoples, abolishment of traditional governance structures, severe curtailment of traditional economic activities (hunting, trapping, fishing, etc.), cultural genocide (residential schools, outlawing of cultural and ceremonial activities, banning of Indigenous languages), as well as resource extraction activities. In light of this historical and still present context, *Biidaaban: First Light* gives us a place in which the other elements of creation, who are granted their own agency, are in a process of revival or reclamation of this urban place. This is not at the expense of humans, but in a balanced system and one in which gratitude for the other elements is expressed through the Mohawk Thanksgiving Address. *Biidaaban* endeavours to enliven the non-human elements of the world and puts us in relationship to them in a visceral way.

Overview of *Biidaaban: First Light*

The first words we hear in the piece are in Wendat, and translate as "Where did the Creator put your people?" This is an invitation or a provocation to position ourselves as beings who come from some *place*, who are connected both through our relations and attachment to a particular territory as well as a relationship with Creator. Both are challenges to the prevailing secular "mainstream" worldview.

Throughout the piece we encounter several environments and times of day as follows:

Daytime in the Osgoode Subway Station

The altered place announces large changes from the current day, but also organized human use. The feeling is eerie, and the *Toronto Star* newspaper at our feet connects us to this moment: it updates every day via the internet to show that particular day's front page. The paper detritus littering the station marks a culture based on the written word as we move into a world where the spoken word holds sway.

Dusk in Nathan Phillips Square

We see a Digging Woman and are able to take in the scope of change, and if we look carefully we see a turtle near the water body in the square, the ravens who inhabit the space, and a large full moon.

Nighttime on Skyscraper Rooftop

The majesty of a starry night sky draws our attention while around us is a utilized rooftop, with agriculture and a dome made of natural materials that glows invitingly.

Interior Dome

We are transported inside the dome and for the first time we see glowing dust motes surrounding us. After a brief time, the dome disappears and we are in the Skyworld.

Skyworld

We are amongst the stars, above and below, and a voice begins to speak in Anishinaabemowin, reciting a poem that references worry for the youth in the city and the comfort and assistance of connecting with nature to gain perspective before moving forward to greet a new day. The text emerges from the dust motes and turns back into them. The translations are triggered by the user's gaze.

Rooftop at Dawn

We return to the rooftop at the first light of day and can take in the urban garden there, and from this elevated perspective, see the scope of change throughout the city. A series of voices recite the Mohawk Thanksgiving Address, a sacred prayer that is

thousands of years old, the Kanyen'keha (Mohawk) text and its translation again emerging out of the glowing dust motes. The Address gives thanks to all elements of creation, none of which have been destroyed despite the radical changes in this new world. The title "Biidaaban: First Light" appears.

Meaning of Anishinaabemowin word "Biidaaban"

The title of the piece *Biidaaban* translates as dawn, or more specifically, the very first light before dawn. As explained by Anishinaabeg scholar, writer and author Leanne Betasamosake Simpson, who broke down the three parts of the word, philosophically the word references the past and the future collapsing in on the present. "Bii" means the future is coming at you with full force, "daa" means the present or home, and "ban" is a suffix that would be added to someone's name after they've passed on to the spirit world (Simpson).

The process of making *Biidaaban* as a VR work with artistic, philosophical and spiritual aims was informed by the following questions and concerns.

Research Questions

- Can VR create an embodied space where intellectual understandings exist alongside or secondary to felt experience, privileging being over knowing?
- Can the story arc of a VR piece work with a series of scenes meant to generate states of being in the user that build one on the other over the duration of the piece but are not based on a "storyline" per se?
- Can a VR work remain open to a variety of valid interpretations based on the user's own perceptions and life experience?
- Can this form provoke a sense of the longer curve of time and a greater perspective as well as a sense of being related to the world around us in an interconnected way?
- Can sacred understandings be incorporated into a media piece in partnership with community to convey the spiritual basis of a thought system, while respecting the protocols and limits of what can be shared publicly or in written form?

Chapter Two: My Background

***Suckerfish*, My Family's History and My Motivation**

I have been a filmmaker since 2004 when I released my short documentary *Suckerfish*, which was an in-depth look into my relationship with my Anishinaabe mother and my Indigenous identity. An examination of what would today be called “intergenerational trauma,” it was my attempt to reconcile what was a very difficult childhood, as my mother struggled with the challenges borne out of ten years of her childhood and youth spent at the Mohawk Residential School in Brantford, Ontario. Though she spoke very little of this time, she suffered myriad abuses and neglect and this brutal treatment led to her struggles with addiction and the mental health system she intersected with through most of her adult life, until she passed away at the young age of 53. I thought it would be the only native film I would make, the only Indigenous story I had a right to tell, though I was finishing my undergrad in film school with the intention to be a career filmmaker.

This personal film had two outcomes important to my subsequent work. Firstly, the response to the film was marked by many interactions with other Indigenous people who had been disconnected from their culture by similar colonial violence, including residential schools, the Sixties Scoop¹ and foster care. Their families hadn't been able to or had chosen not to share their culture and language with their children to keep them safe from the racism, disadvantage and violence it had engendered in their own lives. As in my mother's life, their trauma often went unaddressed, leaving their children to struggle with forging a connection to a culture that had been robbed from them through no fault of their own, and carrying a shame and confusion about their identity that kept them silent and isolated from their cultural birthright.

I realized I was one of these victims of a colonial system whose work had been accomplished so well that I too had remained isolated, confused and ashamed about my severed link to my culture, and that in keeping silent, the work of colonization was continuing its destructive path through me. I became determined to stand up for my own

¹ In Canada, Indigenous children were removed or “scooped” from their families and communities to be placed in foster homes or adopted out, mainly to non-Indigenous families, in Canada and in other countries, such as the United States and as far away as New Zealand. Despite the name, this practice began in the 1950s and persisted into the 1980s, affecting an estimated total of over 20,000 children.

right to belong as an Indigenous person, though one who was raised in the cities and without clear connections to my culture, and in so doing, to help forge a path of reconnection for those who shared my experience. In so doing I could also honour and vindicate my mother's and ancestors' suffering at the hands of a cruel system designed to annihilate our culture, and fight the ongoing racism and injustice in our society.

The second outcome was that I began to examine what it was to be Indigenous, Anishinaabe. I began to read, to connect with more Indigenous people and to ask my aunt, the only surviving sibling of three sisters who attended residential school, about our history and place.

Although the exact book is lost to my memory, at one point I came upon a description of the differences of North American Indigenous languages from European languages, and a light bulb went off for me. Through the linguistic structures of Indigenous languages, I could see the roots of our cultures: the underpinnings of the art, the dancing, the ceremony, even the humour and community responsibility. That watershed moment began a journey that continues to unfold, and in many ways my media work is a vehicle through which I follow this path of discovery.

Language Research

I began to read and research everything I could about the structures and ideologies of not just my mother's language, Anishinaabemowin, but other North American Indigenous languages, eventually going into development on an NFB feature documentary and research that brought me across the country talking to language speakers, learners, teachers, and linguists. I traveled to conferences in the United States that brought together linguists, scientists and Indigenous knowledge keepers to discuss different worldviews. I will explore language learning in more depth later in this paper. My point here is that I eventually realized that a conventional documentary was not the right form for capturing the radically different ways of understanding that these languages embody, as it would be an intellectual explanation when what I was looking for was a form that could convey a different way of being. So this "language project" sat on the backburner for many years, as I explored film formats in my developing career, experimenting with the myriad ways film could communicate.

My Subsequent Film Work

In my ten-plus years as a full-time filmmaker, I have travelled to remote communities in BC and the Yukon to teach youth to make films using their First Language through the “Our World” program, working with learners, speakers, elders. I have made numerous films incorporating Indigenous languages including: *Savage*, *Snare*, *Intemperance*, the TV series *1491: The Untold Stories of the Americas Before Columbus*, *Indictment: The Crimes of Shelly Chartier*, and several shorts for Knowledge Network’s *Our First Voices* series on Indigenous languages in BC (*Earl Smith*, *Songbringer*, *City Speaks*, *Typewriter*).

Another evolution of my work over time has been a move toward embodiment, as a reaction against the growing spectacle of much popular cinema and its fantastical escapism, and towards a visceral experience of film that is more akin to being at a live performance or art installation. This is evidenced in particular with my films *Savage* and *Snare*, both of which eschew dialogue in favour of felt experience. In *Savage* it is the palpable sense of loss and violence in the detailed shots with the mother and daughter (looking at the patterns out a moving car window, the sharp chop of hair being cut, the rote cleaning of a kitchen to stave off grief) as well as the expression of spirit and resistance in the children’s dance sequence. *Snare* is a performance-based piece that renders through women’s bodies, movement and faces the horror of violence against Indigenous women, conveying their objectification and their humanity in turn and ending with the singing of “Oh Canada” in Cree by a young woman, her stark performance a rebuke to Canada.

In both these films I also look at characters and surroundings as metaphor/symbol, standing in for the larger whole: The Mother and The Daughter in *Savage*, The Women in *Snare*, and the white dresses are an expression of the sanctity of lifegivers. The dirt the women walk on in *Snare* is both a connection to the earth and also harkens to the idea of being “down in the dirt” and disadvantaged, the feathers that fall from the sky represent a kind of grace as well as a reference to a West Coast tradition of visitors being welcomed to communities by the Chief’s headdress being filled with eagle down that he would shake down in honour. The inward-facing circle of women at the end of *Snare* shows the strength and healing of community that stands together. The

characters aren't individuated as they are in conventional cinematic storytelling though the tone and modulation of mood is specific, with the editing style, sound design and style of shots evolving to shift the tone over the course of each film.

Many of my films also use imagination and formal/genre ingenuity to elude stereotypes and up-end expectations, including *Savage* and *Snare* as well as *Suckerfish*, where playful animations allow us to connect to a difficult story through a child's eyes. *The Visit* shares a Cree family's telling of a UFO visit one snowy night and is made easier to digest without skepticism by illustrating the documentary audio with playful animation rendering this real-life story. And *Intemperance* is subversive in style, as the tragicomic "Heritage Minute" tone allows a wry examination of who tells our histories and why, the power dynamics and responsibility of storytelling, and a warning about how we can be manipulated by stories.

Throughout my work, the creation of tone and place has always been strongly tied to sound, and I've often utilized an approach that mixes music and sound design to create moods that are evocative but not prescriptive. My short film *Restoration*, made during the York MFA program, began with idea of sound being a primary driver of the edit. Having been struck by the profundity of the Kwakwaka'wakw Chief Beau Dick's copper breaking ceremony on the steps of the Victoria BC Parliament Buildings during Idle No More, what most affected me was the sound of the physical copper breaking action, its depth and power. A traditional copper looks like a shield, and is of the highest physical and symbolic value in many West Coast cultures. The act of breaking off a piece of one's own copper was considered a powerful form of shaming, carried out only in the case of egregious wrongdoing and indicating the necessity of an act of reconciliation to right the situation. In 2013, Chief Beau Dick and others performed the first copper breaking in generations, and many witnessed the profound and laborious act, in person and through video shared on the Internet. The breaking itself took many blows accompanied by vocalizations. It was sound as a form of embodiment and that audio rhythm guided the structure of the piece. The freedom from linear narrative opened up the possibility to follow a kind of "ceremonial" time, driven by this sacred action; collapsing past and present and a call to the future as well. *Restoration* ends with Joe David's deeply affecting performance of a song at the event, which I took as a reminder to remember

our place as learning humans in the web of life. His words capture it best: “That song, an eagle gave that song to me at Nitinat, when I was becoming... When I was becoming.”

Finally it is worth noting the Indigenous futurism of my music video *Pow.Wow.Wow*, featuring Cree cellist Cris Derksen in a steampunk space capsule wearing a stylish silver spacesuit and flight goggles and using a pedal array to play her cello, while in a starfield a fancy dancer spins rainbow ribbon loops through the universe. This fanciful connection of the power of the imagination and creativity—expressed by the playing of music—to fuel possible universes undreamed of in our current reality is not unrelated to the power of *Biidaaban*'s imagined future to open the doors of perception to include other possibilities.

Chapter Three: Background on Theme/Topic

The question of how radically different worldviews that live in Indigenous languages can be conveyed through media was the spark that led to *Biidaaban: First Light*. As mentioned above this journey began with my own research into the linguistics of Indigenous languages, from reading a range of literature to meeting many language champions, including linguists, learners, teachers and fluent speakers. Below are some of the key linguistic findings this research yielded.

Languages

Verb-based versus Noun-based

English uses many more nouns than verbs, whereas most Indigenous languages are far more verb-based. This results in a worldview where objects are less foregrounded than actions, and by extension, relationships between the subject and object of action. It creates a world where relationships and interconnections are highlighted. As Mi'kmaq speaker Marie Battiste told me, "It's understanding what things *do* as opposed to what things *are*. You have an awareness of a phenomenon, of being in relationship to it." (Battiste)

This could be related to a nomadic lifestyle of living in relationship to land and weather versus an agricultural/capitalist mode of taming the land to grow food and then accumulating it. In the nomadic lifestyle your survival depends on adaptability with surrounding conditions; in the agricultural lifestyle, it depends on subjugating the wilderness to attain a stockpile. These ideas were convincingly put forward in anthropologist Hugh Brody's *The Other Side of Eden: Hunters, Farmers and the Shaping of the World* (2000).

Evidentials

Many Indigenous languages are “evidential,” languages where it is mandatory to include within the structure of any verb how it is that the speaker knows the information.

For example, in the sentence “She put down the cup,” the speaker must indicate whether:

- they saw her put down the cup
- they were told she put down the cup by someone who saw it
- they saw evidence that the cup had been put down, but didn’t see the action itself
- they heard a rumour the cup had been put down, etc.
- they saw her put down the cup, but their judgment was unclear due to fever, sleepiness, etc.

The result is a way of speaking akin to being on the stand in a court of law where there is great specificity as to one’s direct experience. Speakers of these languages see “truth” as being about individual experience, rather than an overarching truth (as in encyclopedias, the Bible, the newspaper, the Platonic ideal of truth, a thesis). They say that in English, it feels like people are always gossiping, saying things they don’t know for themselves to be true. As Anishinaabe author and language teacher Basil Johnston told me, “When a person goes to court, they swear to tell the truth, the whole truth and nothing but the truth. Well nobody can know that. It’s damned impossible.” And author Robert Bringhurst pointed out to me, “In Haida if you speak you have to know whether you’re speaking of something first-hand or if you heard it otherwise. It’s possible to break these rules, to lie, but there’s a kind of relationship to the truth that’s built into the linguistic etiquette that we don’t have in English.” (Bringhurst)

Interestingly, English has an obligatory verbal requirement for tense, placing any action on a linear timeline in the past, present or future. This underscores the concept of time as a linear line moving like an arrow from the past into the future, and fits well with Enlightenment ideas of a steady progression towards complete knowledge, from primitive to sophisticated.

I-Based Versus You-Based Languages

English is a language that puts “I” first, both in its conjugation lists and many of its sentences. However, some aboriginal languages give this primary place to “you.” In these languages it is more common to say, for example: “You are seen by me” rather than “I see you.” Linguist Danielle Cyr discussed this quality based on her study of Algonquian languages.

If Aristotle had been Algonquian, we would see “you” at the top of the conjugation list. Instead of seeing “I” as an ego in the centre of the arena, “I” is the speaker, but he’s not a prominent speaker in the play. And all that he says is in relationship to “you” so that the “you” is well informed and will remain a good partner. It is not all altruism, it’s practical. I will not survive if you are not in my vision field, if you don’t understand me. (Cyr)

Polysynthetic languages: Lego versus Beads on a String

Sentences are based on verb “roots” that then have many possible prefixes and suffixes added on them to create complex concepts, so that what we might say in a full sentence in English is often expressed in a single lengthy word.

The construction of the polysynthetic language Inuktitut has been compared to a set of Lego pieces interlocking to create meaning, as opposed to a series of individual beads (words) on a string, as in English. (Alexina Kublu and Mick Mallon)

Polysynthetic languages are said to be more flexible than English in that speakers are creating vocabulary “on the fly” through their creative use of these interlocking pieces. Apparently the punning possibilities are endless.

Animacy

One of the most often-cited differences in many Indigenous languages is the agency “given” to objects that would be considered inanimate in English: a ceremonial pipe, a rock, mountain, drum, or tree. Even the idea in many Indigenous cultures that we come from and are related to the stars is a deep difference in worldviews where the universe is alive and owed respect beyond that of an object intended for use. Potawatomi author and professor of Environmental and Forest Biology Robin Wall Kimmerer addresses these differences in her writings.

This is the grammar of animacy. Imagine seeing your grandmother standing at the stove in her apron and then saying of her, “Look, it is making soup. It has gray hair.” We might snicker at such a mistake, but we also recoil from it. In English, we never refer to a member of our family, or indeed to any person, as *it*. That would be a profound act of disrespect. *It* robs a person of selfhood and kinship, reducing a person to a mere thing. So it is that in Potawatomi and most other indigenous languages, we use the same words to address the living world as we use for our family. Because they are our family.

To whom does our language extend the grammar of animacy? Naturally, plants and animals are animate, but as I learn, I am discovering that the Potawatomi understanding of what it means to be animate diverges from the list of attributes of living beings we all learned in Biology 101. In Potawatomi 101, rocks are animate, as are mountains and water and fire and places. Beings that are imbued with spirit, our sacred medicines, our songs, drums, and even stories, are all animate. The list of the inanimate seems to be smaller, filled with objects that are made by people. Of an inanimate being, like a table, we say “*What* is it?” And we answer *Dopwen yewe*. Table it is. But of apple, we must say, “*Who* is that being?” And reply *Mshimin yawe*. Apple that being is. (Kimmerer 56)

To summarize and (over)simplify, these various linguistic differences amount to a privileging of process or action over objects, of truth as lived experience over abstract ideals, of time as fluid or circular rather than linear, place as equal to or dominant over time, a self embedded in the environment rather than separate from it, and of alternate concepts of what is “alive” or animate, including Mother Earth and the universe itself.

Worldviews Expanded and Explored

My understanding of these linguistic differences and worldviews deepened over the years through my interaction with a variety of people and books over a wide range of areas. It has been a process of unpacking euro-centric worldviews as well as learning (re-remembering) traditional teachings and weighing them through my embodied experience in the world. It has brought me to a place of listening and humility about humans’ place in the nature of things, and a respect for Indigenous knowledge systems, which are connected to and informed by ancestral teachings and ceremony. I will review several of my influences, along with insights gained.

Keith Basso

Anthropologist Keith Basso's book *Wisdom Sits In Places: Landscape and Language Among the Western Apache* (1996) explores the worldview of the Western Apache and the primacy given to place in the language and culture, versus time's primacy in European-derived cultures. In this study, Basso shows how the Apache perceive time as abstract and place as concrete and a holder of history, which is seen as relevant, specific and personalized. Individuals can relate to specific places, learn from them and connect with the teachings of ancestors through place. Wisdom "stalks" you through features in the landscape; you live on the land and the land lives in you. By studying the naming of places in this culture, and how the elders pass down stories of specific places, Basso reveals a society's deeply embodied relationship to the land and how it can teach each generation about appropriate ways to live together in harmony.

David Abrams

David Abrams is an ecologist, anthropologist and philosopher whose book *The Spell of the Sensuous: Perception and Language in a More-Than-Human World* (1996) is informed by his travels amongst Indigenous peoples as well as by the phenomenologist Maurice Merleau-Ponty. In this book, Abrams unpacks the modern euro-western view that separates out humans as "above" nature, placed at the top of a pyramid by virtue of having souls, which were uniquely granted to them as children of God.

When the animate powers that surround us are suddenly construed as having less significance than ourselves, when the generative earth is abruptly defined as a determinate object devoid of its own sensations and feelings, then the sense of a wild and multiplicitous otherness (in relation to which human existence has always oriented itself) must migrate, either into a supersensory heaven beyond the natural world, or else into the human skull itself – the only allowable refuge, in this world, for what is ineffable and unfathomable. (Abrams 10)

Abrams thoroughly examines what it means to exist in relationship to a living world and identifies place as felt through the body as central to the process of remembering our embedded (in the world) selves. This up-ends some central notions of Western culture, which result from the dominance of the written word and the corresponding conceptualization that privileges our thoughts over the tangible reality that surrounds us. He experiments with how time might be experienced bodily to "ground" it in place and brilliantly conjectures that the future might be felt as the horizon, the past as the ground

beneath our feet, and the present as the air around us which we engage with in every moment through breath.

The conceptual separation of time and space—the literate distinction between a linear, progressive time and a homogeneous, featureless space—functions to eclipse the enveloping earth from human awareness. As long as we structure our lives according to assumed parameters of a static space and a rectilinear time, we will be able to ignore, or overlook, our thorough dependence upon the earth around us. (Abrams 216-17)

Abrams' ideas on knitting the world into a unified whole by shifting our understanding of time and place influenced my thinking of space/land and the rendering of the environments in *Biidaaban* as both literal and able to convey the broader perspectives held within the knowledge systems of Indigenous languages. It also informed my thinking on the value of oral cultures versus the conceptualization inherent in written cultures.

Robert Bringhurst

Polymath Robert Bringhurst's essays and books stitch together language, poetry, philosophy and ecology. In *A Story As Sharp As A Knife: The Classical Haida Mythtellers and Their World (1999)* he unpacks the rich culture of the Haida, essentially teaching himself classical Haida to be able to deeply access the stories transcribed at the turn of the last century. These stories reveal a worldview of literal relationships to animals, spirit woven through people and surroundings, and incredibly complex mythologies.

Western scientific tradition treats everything as if it were dead. It treats the human body like a machine: cut it open, splice the parts and sew it back up again. There's nothing like that in the Haida stories: trees and rocks are not only alive but they have intelligence, they have eyes, they see things happen, hear what's said about them. That sensibility isn't built into the language as such but it's built into the literature as a device that allows the storytellers to do what they do (Bringhurst, personal interview).

His essay collections such as *The Tree of Meaning (2006)* and *Everywhere Being is Dancing (2007)* contain sharp observations and critiques of societies that have forgotten their place in the nature of things and remind us that there are many stories in this world, and the ones from non-dominant cultures are no less valid than the dominant Euro-Western story.

The original book is, of course, the world itself. People in all cultures read that book. Especially people without writing. Especially hunter-gatherers, who study the great book day after day, night after night. People who have writing make their own books—little models of the world—and often study those instead, as if their little books were somehow more correct or more important than the book in whose immense, detailed pages we all live (Bringhurst *Tree of Meaning* 132).

Chimimanda Ngozi Adichie

In the TED Talk “The Danger of a Single Story,” Nigerian author Chimimanda Ngozi Adichie discusses how easy it can be to be pulled into the simplicity of the single story and how dangerous. She unpacks how cultural hegemony functions in its relegation of groups of people to simplified stereotypes.

It is impossible to talk about the single story without talking about power. There is a word, an Igbo word, that I think about whenever I think about the power structures of the world, and it is "nkali." It's a noun that loosely translates to "to be greater than another." Like our economic and political worlds, stories too are defined by the principle of nkali. How they are told, who tells them, when they're told, how many stories are told, are really dependent on power. Power is the ability not just to tell the story of another person, but to make it the definitive story of that person (Adichie “The Danger of a Single Story”).

Adichie’s novels such as *Americanah* (2013) and *Half of a Yellow Sun* (2006) put forth complex stories of Nigerians and Nigeria that stand in the face of the Western tendency to infantilize Africans and reduce them to impoverished victims. This narrowing of narrative worldview where a euro-western white perspective isn’t seen as a position but as the default is one of the central ways that difference is erased or pushed into the sphere of Other, which is always less useful, practical, intelligent, or needed. How storytelling can serve to re-position our cultures was central to the assertion of another perspective in *Biidaaban*, one that would challenge the mainstream status quo and centre Indigenous understandings without explanation or hand holding.

Michael Chandler

Michael Chandler, Professor Emeritus of Psychology at UBC, has an impressive body of research that includes an examination of suicidal tendencies versus depression as well as how we form our sense of personal identity. For the last twenty years he has focused on the “epidemic” of suicide in Indigenous BC communities, showing that the rate of suicides is negatively correlated with markers of community self-determination. The key

element of his work that has informed me is his research on identity formation, and the two different ways of forming our sense of self.

By available accounts, and in contrast to the dominant culture, Native communities, including those in western Canada, do reportedly hold a more distributed conception of knowledge and personhood (Battiste, 2002), and their claims about personal identity are widely understood to grow out of community and clan relationships in ways that are less evidently true of persons whose cultural roots grow most directly out of a Euro-American intellectual tradition. (Lalonde and Chandler 7).

Firstly, there is what is called an “essentialist” sense of self, which is the case for 95% of “mainstream” North Americans, and is marked by our personal identity being entirely within our selves: such as our values, birthmarks, sense of humour, etc. Relocate us anywhere, amongst any people, and our identity remains intact, safely held within us. A “narrativist” or “relational” sense of self is how the other 5% of “mainstream” North Americans identify, which is that their personal identity is bound up with connections outside themselves, whether that be territory, social and community relationships, cultural stories, etc. This is how 95% of Indigenous people locate their sense of self according to Chandler, and it means that disrupting connections to such anchoring elements as culture, land, community, or language literally destroys the individual sense of self. This idea of our identity being intimately connected with our contextual surroundings and the de-centering of the dominant culture’s view of how we locate our sense of self was important to the idea in *Biidaaban* that our lives exist in a continuum enmeshed with the world—physical, social and cultural—in which we live, and that functions as the foundation of a value system.

By accenting inwardness, both Autonomous and Expressivist variations on essentialism foster isolation from outer nature, and an estrangement and separation from the social world. By failing to locate a source of meaning outside the self, both promote a brand of narcissism that collapses morality into a crude form of self-interest, and undermine the worth of anything more grand than simple self-promotion. This is the *Malaise of Modernity* (1991) and the *Ethics of Authenticity* (1992) against which Taylor and others (e.g., Bruner, 1986; Cassirer, 1923; Dilthey, 1962; Habermas, 1985; Harré, 1979) have written so forcefully, and against which existential-phenomenological thinkers such as Heidegger, Merleau-Ponty, and Sartre worked in their efforts to promote a more outer-directed conception of human existence grounded in a larger, encompassing external world (Lalonde and Chandler 6).

It is not a far leap to see how a sense of self as separate from our surroundings and the attendant belief in self-interest as a kind of moral compass could lead to a society where we strip nature's resources, hoard wealth, and disregard those left behind by a capitalist system that mistakenly believes it is rooted solely in ability rather than privilege. These ideas find their expression in *Biidaaban*, as we see the return of the land's original languages and philosophical systems in tandem with the collapse of 21st century societal structures.

Onkwawenna Kentyohkwa (Our Language Society)

In 2005, I spent a week at Onkwawenna Kentyohkwa, the adult Kenyen'keha (Mohawk) immersion class at the Six Nations Reserve, started and run by Brian Maracle. I interviewed several speakers of the language, who told me how learning Mohawk shifted their worldview in fundamental ways. One person whose thinking stood out for me was language learner and fluent speaker Tehota'kerá:tonh (Jeremy Green). He is now the Principal of the Kawenní:io/Gawę̀:iyó immersion school for elementary and secondary students at Six Nations, completing a PhD in language revitalization, and has five children fluent in their language. He hunts, fishes and has plant knowledge, and was the main consultant for the Thanksgiving Address in *Biidaaban* as well as one of the voices speaking the Address.

When I first met Jeremy over ten years ago, he situated the differences between Mohawk and the English language within the larger context of society and brought the possibility of a modern-day shift based on Indigenous knowledge systems alive for me. Although he's speaking of Mohawk specifically, these ideas are echoed in many ways in other Indigenous languages and cultures.

English is very patriarchal. Whereas Kenyen'keha is very matriarchal, it's filled with a lot of expressions for respect. And the way you describe things it's all about respecting relationships.

I think to get the full understanding of the language you need to be out on the land, and you need to be interacting, doing activities because that language comes from centuries of human beings interacting with the earth, beings on the earth, the different forces in creation, and other human beings. And that philosophy, the way to relate all those things, is contained within that language. So it's a record of a historical progression of thought and relationship.

Did you ever hear “Every man for himself”? We don’t operate like that. It’s very inconsistent. And the goal of the school system is for each little individual atom in society to go their own way and to “succeed,” but success in this society is only measured inasmuch monetary wealth that you can acquire, which is the essence of liberalism right? Each individual has an ability to contribute to the body politic, has an ability to contribute to the economy. And then the government taxes it. Those exchanges: your labour for wages and the government’s dependency on that to survive, it keeps the whole country running, it keep the modern world economy running and it keeps the rich rich and the poor poor. And we’re the poor. Why would we want to stay there, and why would we want to change our language to suit that? I say no way.

So the biggest thing is the individualism. It’s not one of our principles. It is in a sense like each individual can contribute their mind to a task, but it’s understood that you’re not there to benefit yourself, you’re there to benefit people, but in Western society you’re there to benefit only yourself. That’s a big difference. That’s fundamental. (Jeremy Green)

New Mexico Gatherings

In 2008 and 2009, I attended two gatherings in America that deepened my thinking around these cultural differences. The first was the “Language of Spirit” conference in Albuquerque where a central circle of approximately 12 people engaged in dialogue for three days around a question posed by the emcee, Blackfoot Elder and professor Leroy Littlebear. The mode of discussion was based on principles of meaningful dialogue that drew both from Littlebear’s Blackfoot speaking circle traditions and concepts of dialogue that came from quantum physicist and thinker David Bohm. It is here where I first realized the importance of the idea that *how* we frame discussion is central to the way we come to understand. The process is integral to the outcome, or as I like to put it these days: “It’s not the *what*, it’s the *how*.” Some “ground rules” of this dialogue included: only one person speaks at a time, we temporarily agree to put aside our “tacit assumptions” in order to open up our minds to other perspectives, and there can be no set goal or outcome to the dialogue but rather an exploratory approach unbound by the need to produce any specific conclusion or finding.

In this conference, the central circle of people was made up of Indigenous knowledge keepers, linguists with a focus on Indigenous languages, and scientists, as well as a couple of thinkers including David Abrams. They would each offer their own thoughts and insights in an effort to pursue a kind of group thinking around a central question being investigated, which was known to no one before being posed by Leroy Littlebear

at the first session. In the year I attended, Littlebear questioned the nature of time and whether it truly existed, and asked whether we could “divorce time.” The level of thinking generated by the group revealed the power of this form of inquiry where we relax our needs to be right or achieve the “answer” and allow the knowledge of many to come together to uncover understandings. It is impossible to share the depth of this experience, but suffice it to say that discussion moved from the nature of the Big Bang to the Higgs-Boson particle to linguistics to star knowledge and beyond. The meetings were structured with a limited number of observers outside the central circle and took place in a conference room at a hotel. Outside the meeting times, there was ceremony, and throughout, the notion of “spirit” being part of reality was implicit and acknowledged. Over these three days, I was struck by the intimate connection of people to each other, to the living world around us, and to spirit. The importance of having many perspectives be acknowledged as valid and part of contributing to an expanded idea of “truth” was central to the idea that *Biidaaban* would allow for a range of interpretations as legitimate and suggest perspectives rather than preach alternatives.

The second gathering was near Abiquiu, New Mexico, and it was again led by Leroy Littlebear and was an invite-only retreat where Indigenous elders and knowledge keepers came together for three days with artists and scientists to explore the question of how to share the depth of Indigenous understandings with a broader public. Again, the *how* was as important as the *what*, and we were offered notebooks and pens to take notes as well as art supplies to record other kinds of responses to the proceedings. The feeling was that scientists as explorers of reality could offer a path to assisting Indigenous knowledge gain reach and help the broader society, but that artists were also messengers that could bring forward new ideas and my role there was as such. I had only made one short film and a TV documentary at the time and my skills were not very well honed, but I came away from these gatherings with the motivation to share the rich understandings I was witness to, but still without a sense of how I could do it.

***Attabala'nuxw* “We Are Travelling the Shoreline”**

A word which has guided me since learning it from Kwakwaka'wakw artist Marianne Nicolson is *Attabala'nuxw*, which translates to “we are travelling the shoreline.” Her people always lived on the beaches, at the boundary between the land and the sea, and this word captures the importance of being able to move easily in both. But beyond the

literal meaning, the word also refers to an ease navigating between physical and the spiritual realms of life, which are seen as entwined, parts of a whole. The sea otter is the symbol of this ability to move elegantly between the land and water, the practical and spiritual arenas of life. It speaks to a real mastery of life being one that doesn't privilege either the practical/literal or the spiritual realms of life but allows them to operate together in balance.

I understand that this array of influences is diverse and I have not always drawn clear lines between them, as in $A + B = C$, but in reality the creative process for me is a matter of absorbing insights from a variety of places, doing the research, having an intention and—for certain projects, like *Biidaaban: First Light*—I am suddenly struck with the coalescing of these concerns/interests in an elegant form. The creative muse is mysterious and I would offer that we are sometimes the tools of something larger than ourselves and the very act of attempting to document the creative process in an explicit linear way, as though all was generated in our brains through a conscious and rational process, is a product of euro-western colonial thought emerging from a disconnected relationship to our multivalent connections with the world around us, including our ancestors. What I am attempting to do here is plot some points, like stars, that helped chart my course and shape my perspective.

Chapter Four: Background on Form

As mentioned, I'd hoped to convey some of the above ideas in a film, but after two years of research I felt unable to properly represent these ideas in a conventional documentary. I put it aside, and in 2014, it returned to the fore when I realized that by putting the viewer in physical relationship to the work by necessitating their movement to interact with the environment, Indigenous languages' embedded values of relationship would be woven into the form of the piece. This sparked a large-scale installation—in process, called *Transmissions*—as well as my thesis project *Biidaaban: First Light*. They are sister pieces living in the same story/idea world, with the installation operating more on the abstract metaphorical level whereas *Biidaaban* is literal, almost photorealistic (as well as metaphorical), placing us in the “real” world.

As described above with the review of my work, I've developed my facility with using film in a variety of ways, playing with embodiment, mixing genres, the primacy of sound, use of symbols, etc. These experiments have led to *Biidaaban: First Light* as a next step in generating a unique experience via immersion, physicality, relationship, sound and the evocative nature of metaphor.

Film (and Sound)

I've been influenced by well-known artists as varied as Janet Cardiff, Andrei Tarkovsky, Hayao Miyazaki, and Steve McQueen. All have, in their way, sought to capture space and place itself in a tangible way and foreground the interconnected nature of human relationship with the world around us.

Cardiff's sound works, such as *FOREST (for a thousand years)* and *Motet for 40 Voices* spatialize sound and deepen our relationship to place and the present moment. They create a dimensionality to space linked with the requirement that the viewer be active in listening, offering the possibility to move through space to experience the living nature of sound in the environment.

Tarkovsky's environments, particularly in *Stalker* and *Mirror*, are vibrant and nature itself seems to have its own agency. The sense that there is a force greater than humanity

pervades his works and the world holds its characters in an embrace that can be by turns comforting and eerie, and beckons towards some greater understanding just beyond our five senses.

Hayao Miyazaki's films, and Studio Ghibli's films in general, revel in the wonder of the natural/spirit world. In *Spirited Away* and *My Neighbour Totoro*, one sees the influence of Japan's traditional Indigenous spirituality of Shinto-ism, with spirits to be found in nature, not as otherworldly but as an element of this world that is generally unseen, and more easily seen by children than adults. Even a dark film like Isao Takahata's *Grave of the Fireflies*, dealing with the atrocities of the Second World War, renders the natural world and its cycles as lovingly as its main characters, as a place of wonder and refuge.

Finally Steve McQueen's environments (*12 Years a Slave*, *Hunger*) are deeply textured and concrete such that a viewer feels they can smell the place, feel the cold, the humidity, pick up on a faint sound in the distance. Time opens up and we drop into the specificity and palpability of place.

Although the artists listed above have had an influence on my trajectory, the most profound impact on my creation process has come from the work of my fellow Indigenous artists. I've been lucky to be part of a flowering of Indigenous cinema that is worldwide and in which Canada has played a central part, not least because of the role of the imagineNATIVE Film and Media Festival in bringing us together in Toronto each year. In some ways this Indigenous wave of filmmaking started with Zacharias Kunuk's *Atanarjuat: The Fast Runner*, a masterpiece made entirely from within the Inuit worldview with its unique sense of time and place and our connections with the world around us, including the spirit world. It was an awakening for many Indigenous filmmakers of what was possible with film in contrast to the Hollywood model.

It is impossible to discuss all the Indigenous filmmakers and films that have influenced me but I will mention a few whose works struck a particular chord.

Tsilhqot'in filmmaker Helen Haig Brown's ability to affect an audience on a physical and emotional level was apparent with her first short film *Suu naa (My Big Brother)*, an experimental documentary that viscerally captures her grief in the face of a family

tragedy. Her short drama *?E?Anx (The Cave)* and feature-length personal documentary *My Legacy* also emerge from a deeply felt sense of place and the intimacy of human relationships as well as the reverberation of ancestral experience through time. Many find themselves overwhelmed by emotions watching her work, somehow re-routed past their rational brain to a deep well of feeling. She also works at a level that collapses time and honours ancestry, and a sense of ceremony often pervades her work.

Caroline Monnet's first short film *Ikwé* is an experimental documentary that condenses teachings from Grandmother Moon into an evocative, affective poem that is about ancestral learning, women's wisdom and the primacy of the land and our bodies. *Ikwé* emerged in part out of Monnet's desire to understand the wisdom of Grandmother Moon and she conducted extensive research into Moon teachings in order to create this distillation. This work is a revelation, its layers and allusions penetrating deeply without resorting to explicit explanation, cliché, or sentimentality.

Both Danis Goulet (Cree) and Jeff Barnaby (Mi'kmaq) have made futurist film works with an Indigenous lens. Jeff Barnaby's short drama *File Under Miscellaneous* puts us in a *Bladerunner*-esque world and with his characteristic edge, he shows us a grim and efficient operation where Indigenous people undergo skin transplants. Danis Goulet's short fiction *Wakening* is a more hopeful story, though set in a dystopian world. *Wakening* gives us a future where the repressive regime smacks of our history of colonization and where the original stories of this land and the "mythical" characters of Cree culture (Weesakeejak, Weetigo) are alive and offer the possibility of a different future.

I've always felt like oral storytelling traditions should be made to be dramatic in some way. I think sometimes these stories are thought of as folkloric kinds of things. To me, our stories are the classics of this land. In the same way that people consider Shakespeare to be classics. And I wanted to give our stories that type of gravity and power.

There's a loudspeaker in the very beginning of *Wakening* and the text for that is taken out of the Indian Act. And it changes the word 'Indian' (which was the legal term for Indigenous back then) and changed it to 'Citizen.' It was like, imagine if life under the Indian Act was just actually for all Canadians. There are some scholars that talk about Indigenous people as already having survived the apocalypse. All I was trying to do was bring the apocalypse to everyone so that hopefully they could empathize with that experience. (Goulet "Spotlight")

However, *Biidaaban: First Light* is not a film but a virtual reality piece and these works have their own grammar that continues to evolve as the art form is still nascent. Of course, virtual reality immerses us in environments to a greater degree than film can, and with the use of headphones, the immersion is practically complete, though the ability of the creator to direct the experienter of the piece disappears to a large degree. But the agency to explore the world expands, especially in the case of a room-scale work like *Biidaaban*, where a limited amount of physical movement is possible, heightening the sense of a felt reality.

Virtual Reality

Turning to the virtual reality/360 works that have informed *Biidaaban: First Light*, the first is *Notes on Blindness*, which brings us inside the experience of a blind man, John Hull, as he describes how he “pictures” his world using sound to shape the space around him. In tandem with his explanations, we experience an approximation of this, with sound slowly building up the surroundings out of the darkness into a fully realized space. The ability to alter the way we relate to the world around us by elevating the sense of hearing (which I feel is more interactive and embodied than sight) made me think about my senses and perception of the world differently, and gave me a different “lens” on how we can shift the way a user experiences the world through VR.

In the Eyes of the Animal by UK company Marshmallow Laser Feast uses a similar visual style to *Notes on Blindness: Into Darkness* to create a forest environment that feels a bit like an advanced lightbright set, blending hyper-realism (scanned datapoints are used to re-create a “real” forest scene) and the fantastical (coloration). Using scientific information on the nature of seeing for several animals, from a dragonfly to an owl to a frog, we experience a forest as though from their perspective. The conceit of this piece is fairly thin and quite literal (including a “sub pack” that created vibrations for the user to feel the sense of their wings “flapping” etc.) but it was well executed and an interesting experiment in simulating an other-than-human sense of the world.

Two Indigenous VR pieces worth mentioning are Danis Goulet’s *The Hunt* and Scott Benesiinaabandan’s *Blueberry Pie Under a Martian Sky*, both commissioned through the imagineNATIVE/TIFF project “2167,” which was a response to the Canada 150

celebrations and asked four Indigenous artists to create VR works set in a world 150 years into the future. *The Hunt* is similar to Goulet's previous film *Wakening* and puts a Mohawk family in a dystopian future where they are part of an underground resistance movement and speak only in their language. *Blueberry Pie Under A Martian Sky* is a playful and profound work that puts the user floating in an outer space-like void and moves them through a range of abstract environments, including a tunnel, while we hear a voice tell us (in Anishinaabemowin and English) of a journey and teachings. This piece was inspired by a story relayed to Benesiinaabandan by Cree elder Wilfred Buck about the origin of humans on earth, having travelled from the starworld down a spider thread, thought to be a metaphor for a wormhole. The piece also references a prophetic Anishinaabe legend about a young boy who travels through a wormhole back to his people's place of origin.

From an ethical perspective, there are many 360 video and virtual reality experiences that are troubling in terms of representation of the "Other." These well-intentioned pieces are re-treading the same questionable territory documentary film has covered over the last hundred years since early anthropological films like *Nanook of the North*. In these pieces the goal is to create an immersion into a foreign and exotic place far from European or North American experience, whether it be in a refugee camp (*Clouds Over Sidra*), an Ebola hospital (*Waves of Grace*), or a remote village where people live "traditionally" in elevated houses located in shallow ocean waters (*Nomads: Sea Gypsies*). Typically the view is an "omniscient" one and life goes on with us seemingly "invisible," safely behind the fourth wall. There are no translations or subtitles to let us know what the subjects are saying and little or no historical-political-social context to give us a broader sense of these communities. The primary effect of these pieces is to thrill us with intimate access to a people living in ways far different to us, and in some cases to elicit our sympathy (and potentially, as in the case of the UN, our donations).

Leap-frogging past these concerns into a realm far more thoughtful and profound is the work of VR artist Char Davies, in particular her piece *Osmose* (1995). It is radically different from other VR works before or since in that she incorporated a suit which used the in and out-breaths and bodily leaning of the "immersant" to create movement up, down and sideways within the twelve environments. The goal was nothing less than to

break down Cartesian duality between subject and object to create an experience of embodiment and embeddedness in the world.

In my own work, I have attempted to resist the cultural biases inherent to digital technology in order to communicate an alternative sensibility, one that is rooted in my own bodily experience and intuition, of an osmotic intermingling between interior and exterior, self and world, of a nature in whose flows we are inextricably webbed. My research is founded on the premise that VR technology and the medium of immersive virtual space can, if its conventions are effectively subverted, serve as a means of facilitating a renewed, refreshed, perception of our place in the world. (Davies 27)

Though I have not experienced Davies' pieces, and am in fact learning about them after the making of *Biidaaban: First Light*, I felt it important to include her work. Though more than twenty years old, it remains groundbreaking, not just in intent and execution but by all accounts the "immersant" responses to her work were nothing short of revelatory. There are similarities of approach in our works: privileging being over doing, nature as living partner, not being bound by mimetic concrete reality (Davies' work embraces abstraction much more than *Biidaaban* however); as well as differences: navigation modes, use of Indigenous languages/cultures to ground an alternate worldview, a futuristic and specific location (*Biidaaban*) versus an abstracted view of the natural world (*Osmose*).

Chapter Five: Production

Pre-production

The concept I brought to the National Film Board in 2016 was a virtual reality piece that put people in a future Toronto where current infrastructure had decayed, nature had taken over, current socio-techno-economic structures were no longer in operation, and the three Indigenous languages native to Toronto are present. It would be both eerie and beautiful and incorporate a tunnel, a digging woman, the moon and a dome; crossover pieces that exists in both the VR (*Biidaaban: First Light*) and my upcoming installation (*Transmissions*).

When the NFB came on board as producing partner in the summer of 2017, the next step was outlining the scenes of the piece, which I decided on quickly and instinctively: we would move from underground (a subway station) to the surface (Nathan Phillips Square) to a high up vantage point on a skyscraper rooftop, and the tone would shift from a bit creepy towards a sense of wholeness and beauty, while avoiding either clichéd apocalyptic tropes or sentimental Indigenous/nature-loving ones. The timing of the piece would progress from day to dusk to night to dawn, and the evocative nature of being right on the cusp of day and night was central to a sense of possibility or slipping between worlds. It would also make the piece feel like it metaphorically covered a greater stretch of time/experience. Also, seeing a night sky in a city devoid of electronic light would re-invest the city with a sense of wonder.

At this point I became aware of Mathew Borrett's Future City artworks, in particular the *Hypnagogic City* show which had recently opened. One look at an image of his future Toronto, bursting with life and decay, and I knew this was exactly right for *Biidaaban: First Light*. We connected with him, found out that he works in 3D as well as 2D and he came on to the project, adapting his environments and creating new ones (subway, roof, skyworld). The depth of what he brought to the piece is immense, artistically as well as the research he had amassed around how Toronto might be reclaimed by nature (which species would populate it first, etc.). Beyond making custom environments based on the trajectory of *Biidaaban*, the style of his future Toronto altered to adapt in a couple of ways: firstly, his own works are high overhead omniscient views of a landscape whereas

in *Biidaaban* we are at human scale in the midst of it, and secondly, his work has an element of whimsy or the fantastical which was pulled towards naturalism for *Biidaaban*. And of course, there is the addition of more Indigenous-oriented imagery: canoes, drying racks holding tobacco leaves, growing corn, a dome reminiscent of Indigenous living and ceremonial structures.

Once I had the broad outline of scenes, I turned to the question of how to incorporate Wendat, Anishinaabemowin and Mohawk, the original languages spoken for thousands of years in Toronto. In reading a book on Anishinaabe culture and thought I came across Margaret Noodin's (previously Margaret Noori) poem "Gidiskinaadaa Mitigwaaking" and I knew it was for *Biidaaban* and we would hear it on the rooftop/skyworld, especially as this is where we experience night, referenced in the poem. Additionally, the poem ends with the mention of dawn, a perfect cue to the final scene, first light on the rooftop.

Anishinaabemowin:

Apii dibikong gaashkendamyaaan miinawaa goshkoziyaan
endigwenh waa ezhichigewag bagoji Anishinaabensag odenang,
mitigwaakiing izhaayaan miinawaa anweshinyaan.
Nimawadishaag zhingwaakwag miinawaa okikaandagoog
Nibizindaawaag zhashagiwag miinawaa ajijjaakwag.
Nimaatookinaag zaagaa'igan ogaawag miinawaa apakweshkwayag.
Niwaabaandaanan wesiinhyag-miikanan miinawaa nakwejjinaanig
Miidash apii bidaaban niswi giosewag miinawaa
niizhwaaswi nimisenhyag dibiki-giizhigong gaazhad
baabimoseyaan nikeye naawakweg zoongide'eyaan.

When in the night I am weary and awake wondering
what the wild young Anishinaabeg of the cities will do,
into the woods I go and rest.
I visit with the white pines and the jack pines.
I listen to the herons and the cranes.
I share the lake waters with the walleye and the cattails.
I marvel at the complexity of wild paths and webs woven.
Then when the dawn hides the three hunters
and seven sisters of the night sky
I walk bravely toward the noonday. (Noori)

I was attracted to Noodin's poem for several reasons. Firstly, it wasn't historical but a contemporary woman composing a poem in her ancestral language. And as for the content, the piece takes us from a sleepless night with a very modern-day worry about the goings-on of youth in the city to a peaceful visit communing with nature in the forest

(in which individual species are named and granted agency/relationship) and a renewal that gives the author strength to go out and meet the next day. It also references the stars (“the three hunters and the seven sisters of the night sky”) which I knew would be very present in the night scenes.

Next, I asked a close friend, filmmaker and Mohawk language teacher Zoe Hopkins, what Mohawk language she thought would be appropriate for this piece and without hesitation she said Ohenton Kariwatehkwen (the Mohawk Thanksgiving Address). This is the central prayer of the Haudenosaunee people and the translation more literally means “The Words that Come Before All Else.” In it, thanks are given for every part of creation from the Sun and Waters to Insects, Trees and Plants. It is delivered at the beginning and end of any gathering of people. Bonnie Whitlow, one of the speakers in *Biidaaban* and someone I consulted with during development, told me that the Creator said that whenever more than three people are gathered it is an obligation to give thanks in this way, as humans benefit from the existence of every other part of creation, and that this giving thanks would bring people together in good mind (“Now our minds are one”). Again I felt its appropriateness, as in this future Toronto everything the Address is thanking is still there, and many elements of creation are even more abundant in this reconciled city.

Knowing the Address was sacred I embarked on a process of seeking guidance in whether or how this prayer could be used appropriately and respectfully and I will detail the collaborative process of using the Thanksgiving Address later in this paper. I will not share the Address in print in this thesis as there is a protocol held by many that the Address should be experienced orally and not in written form, and though we both hear and read the Address in *Biidaaban*, the team behind *Biidaaban* have chosen not to share the text, as it would then be divorced from its oral expression. I knew that the Address would be in the final scene, as we take in the scale of city’s change in wide view from the rooftop in the first morning light, a time that is innately full of hope, possibility and the sense of renewal.

Finally, the Wendat sentence was one I decided on and had translated.

Änen shayo'tron' Shonywää'tihchia'ih sentionkwa'?
Where did the Creator put your people?

I was once asked this question and it always stuck with me. In the context of *Biidaaban*, the aim was that it would connect the person experiencing the piece to their own “place” and connections at the outset of the experience, and also subtly introduce the idea of a Creator or more-than-human presence.

Finally, the other consideration in the placement of the languages was the order in which these Nations lived in Toronto, the Wendat being the first, then the Anishinaabe and finally the Mohawk.

With the general outline and language pieces in place, we moved into creating a very detailed document to guide production, complete with sample imagery, links to audio examples, etc. This was where I envisioned as much specific detail as possible to guide the visuals, sound and overall tone of the scenes. The audio was always an equal to the visual world, its design conceived in tandem with it, never as a secondary consideration. At the same time as this detailed outline was being written, Mathew created a test VR version of a couple of mockup environments and they were a success in terms of translating his large-scale image of Nathan Phillips Square to a ground-level experience on a VR headset.

Location #2: Nathan Phillips Square

The viewer is now at ground level. It's dusk in an urban landscape. Concrete in states of decay. Plants growing through the concrete, a pond nearby. They look and see the somewhat familiar sights of Nathan Phillips Square in the distance, but in a future where nature is reclaiming the cityscape. While there are no humans visible, there are signs of habitation visible in the skyscrapers above.

A gentle breeze blows through the long grass and sunflowers grow through the concrete. A spring flows up from the ground. Bird sounds including the varied sounds of ravens in the distance. A turtle is moving slowly nearby.



Image 1: *Biidaaban: First Light*. Outline, sample page.

The sounds of a woman's effortful breathing draw the viewer's attention to an area a few meters away. They see a woman on an area of dirt dressed in a white cotton gown digging with focused attention. Her dress is somewhat worn and dirty, and though she may be slightly unkempt and urgent, she doesn't appear feral or crazy. She has clearly been exerting herself for a while. A louder raven's call and she stops digging and looks outwards towards the sound. If we turn to look towards where she's looked, we see the full moon, low and luminous, rising in this late dusk light. She remains in repose, a respite. We hear the ravens again and from the direction of the sound a raven appears and flies past you, the distinctive "swoosh" of the raven's wings close in our ears. The view is engulfed in the blackness from the raven's feathers.

Total Time: 1m 30s

General Parameters

Before moving to Production, it's worthwhile to outline a few assumptions that guided the creation of *Biidaaban*.

First, this is the future, but there is no timeline given and also no clues as to what has occurred that provoked this state of change. It's likely more than fifty years in the future and less than 1000 years, and there are no signs of violence having occurred; the damaged infrastructure shows only the deterioration of decay occurring with the passing of time.

There is some evidence of technology (wind-mills on the buildings for example and glowing light seen in the distance from the rooftop), and there is organized use of space and resources. The subway has goods waiting to move on canoes in the waterways with subway tunnels still being used for transportation, wood is stacked in Nathan Phillips Square, and the rooftop is used for growing food and plants.

The sound design is largely natural, a soundscape heightening our sense of place and in particular the non-human life now abundant, from crickets to birdlife, though there is subtle sound design creating a sense of mood or tone, without resorting to heavy-handed emotional manipulation. The voices would not have the feel of narration but rather a one-on-one intimacy as though the speaker were sharing a bedtime story.

Finally, given the evolving nature of the VR medium and its limitations, the aesthetic quality of the piece was not to be compromised. Many VR works look rather like works-in-progress, with visual renderings at a much lower level than what we're used to in films. In *Biidaaban*, the veracity of the world was to be as high as we could manage. The main outcome of this decision is that we were unable to incorporate complex animation (animals) and the only human we see is the Digging Woman (performance artist Jeneen Frei Njootli) who was shot against green screen based on the exact parameters of the virtual environment she'd be placed into. Her 2D video was placed into the 3D Unity-designed environment and this necessitated she be a certain distance away so as to maintain the realism of the 3D world.

Production

While Mathew worked on creating and adapting environments, digital agency Jam3 was engaged to execute the overall VR work, such as lighting elements, incorporating sound, gaze-based triggers, timings, etc. As a director, this was a new production model for me as I worked directly and intensively with the NFB production team on a daily basis via skype meetings and shared documents and media, but only periodically met with Mathew and Jam3 in an iterative process where environments were made, tested out in headset, notes taken, and then the whole process would repeat. This process lasted from approximately October 2017 to April 2018.

On a side note, the technical setup for this feedback process involved me in a VR headset at Jam3 offices in Toronto, with my “view” of the piece displayed on a laptop screen on the computer running the experience. This screen was turned to face another laptop which was an active Skype call with the Vancouver-based NFB office, who were then able to see live where I was looking within the piece as I turned around. For sound, I lifted off one side of the headphones connected to the VR piece, and in the other ear I had a headphone connected to a phone call that linked me via conference with the Vancouver team. That way they could take notes on all my reactions as I looked around each scene, seeing live what I was seeing, then create spreadsheets of requested changes so they could track progress with the technical team.

As a result of this intermediary role of the NFB, a lot of the technical processes “behind the scenes” were not my concern and I was able to focus on the creative design without getting caught up in execution challenges.

Once into production, there were a number of decisions to be made about the overall experience, which I will outline briefly here.

Biidaaban would be room-scale, allowing the user to move around within about a ten-foot square space. This dramatically heightens the sense of realism and our feeling of embodiment or agency in the piece.

There would be little interactivity and therefore no need for hand controllers, which I believe helps immensely with the sense of being the piece evokes, and takes it firmly out of the realm of a videogame-like environment where we search for what we are meant to do or achieve.

The user would have no “body” within the piece, though they would experience it as though they are physically there.

There would be text on screen whenever language is spoken, both in the Indigenous language and then in English (with the Indigenous text up long enough to at least have a decent look at it before the transition to English). In each scene the language triggers and behavior was adapted for optimal user experience, which I will outline in the scene-by-scene breakdown. It sometimes involved gaze triggers, which in many cases the user isn't aware of as they operate quite seamlessly. The design, execution and timing of the text-based elements were one of the most challenging parts of making *Biidaaban* and necessitated a number of iterations to land on what worked.

Scene-by-Scene Breakdown

Scene One: The Tunnel/Subway

Before we come up on this scene we hear it, and see the title “Tkaronto” which morphs into the English word “Toronto.” Then the Wendat sentence as described above: “Where did the Creator put your people?” implicating the user in the piece and provoking them to consider their sense of connection/place in the world. The scene fades up and we are in a subway tunnel, Osgoode Station to be exact, which borders on Nathan Phillips Square just to the other side of the legal edifice of Osgoode Hall. Key features of this scene include a soundscape that includes an electricity-like sound, evoking the subways in action, which, along with the sound of dripping water, evokes an eerie, derelict feeling.



Image 2: *Biidaaban: First Light*. Scene One - Subway View A



Image 3: *Biidaaban: First Light*. Scene One - Subway View B

On the subway platform, the ground is littered with old newsprint sheets and paper detritus, including the front page of the *Toronto Star*, which live updates each day with that day's exact front page, another element that ties the user and *this day* to the experience they are in (also to our understanding, the first time live updating of a VR piece via the internet has been done). The paper detritus is also metaphorically about

moving from a written culture (and the bombardment of cheap words) back to an oral one. Natural light enters through two large cenote-like holes in the ceiling and greenery erupts where it falls. The space is semi-organized and obviously used for storage and transport on the canoes which sit loaded and ready to travel on the track area, which is now filled with water and used for a different type of transportation. A wind drags the papers along the track and we transition to...

Scene Two: Nathan Phillips Square/The Digging Woman

We come into the scene facing a large body of water that now takes up most of Nathan Phillips Square. This square is well known to Torontonians as the heart of downtown, bounded by City Hall, two courthouses and legal buildings as well as retail shopping. It is dusk. If we look closely there is a turtle near the water's edge a little ways in front of us. We get a greater view of the change that's overtaken the city, from the decay of the concrete and proliferation of greenery, to the signs of active use, chairs gathered by a small table close to a firepit, a pile of chopped wood, drying racks, a shelter. We hear and see the ravens which populate this space and when we turn there is a woman kneeling in a white dress, urgently digging into the dirt. She seems to have been at this for a while and it's not clear what she's up to. She is not freaking out nor does she seem at ease. At one point she hears an especially loud raven call, looks up and catches sight of a huge moon that is rising. She rests and looks to Grandmother Moon, at peace.

Her digging is open to interpretation but I believe she is looking for something she feels may have been lost, from the past, perhaps something ancestral. Or she may be looking for valuables buried there, in the process of planting or harvesting something... A raven swoops past, the sound of the wings swooshing in our ears.

Worth noting is the variability of the length of time a user spends in this scene, within a given range, based on the user's gaze interaction with the area where the digging woman is, so as to increase the chances they will see her.



Image 4: *Biidaaban: First Light*. Scene Two - Nathan Phillips Square View A



Image 5: *Biidaaban: First Light*. Scene Two - Nathan Phillips Square View B

As far as some of the elements being considered symbolic, depending on the user, the turtle is just a turtle. It may also provoke a connection to the idea of Turtle Island and a variety of Indigenous creation stories which hold that human life began on a turtle's back. The turtle may connect with our understanding of the turtle as the original calendar, the

scutes on its back matching the monthly moon cycles (28 around the outside, 13 in the middle: equivalent to the number of days in the lunar month and number of lunar months in a year). The moon is just the moon. But it may also make us think of the moon's relationship to the waters (tides), time cycles, women's cycles, and life giving. The raven is just a raven. But for some it is the trickster.

Scene Three: Nighttime Rooftop

We are on a rooftop with an epic blanket of stars surrounding us, the sound of crickets and owls lush in the air. A glowing dome is in the middle of the roof and seems almost magical in its illumination, as though alive, the cloud of dust just outside the open entranceway dancing in the light. This length of this scene is controlled by gaze, the speed of our movement to the next scene connected to our visual interaction with the dome. Note: the starfield is taken from NASA imagery.

Scene Four: Dome / Skyworld

Inside the dome, there are now glowing dust motes surrounding us, we can see a sliver of night sky through a hole in the structure, which is made of branches and skins. Suddenly the dome evaporates and we are surrounded on all sides by the stars and the glowing dust motes. After a few seconds we hear a voice speaking in Anishinaabemowin, telling us a poem in a soft voice. Stanza by stanza as we hear his voice, the dust motes transform into the Anishinaabemowin text in front of us, and we must look at each of the three stanzas to trigger their translation to English. The text is three-dimensional and has an intimacy about it, not layered over top of this world but a tangible part of it. As the words disappear they turn once again into dust motes and zip out towards us, seemingly alive themselves. Though it's so subtle no one catches it, we highlight the two constellations mentioned in the poem during the third stanza. The placement and size of the text in the skyworld was a particular challenge as the sense of scale was large and we had to work to avoid the text slipping into the "*Star Wars* intro text effect." During this scene I believe we open up our consciousness and thus when we return to the last scene, things feel different, as though we've brought back a different feeling from that place.

Scene Five: Dawn Rooftop

We return to the rooftop, now at the first light of dawn, the dust motes still surrounding us, and are close to the building's edge, facing out. It is somewhat alarming to be almost in a free-fall overlooking the city, which we can now see fully in the light of the coming day. It is scary and also beautiful. We can see that the rooftop is cultivated and growing corn and other plants, with racks of drying tobacco leaves. If we look closely we can see small spinning wind-driven devices on nearby buildings as well as what look like contained fires in the highrise nearby, evidence of human habitation.

After a little while we hear a man's voice speaking Mohawk and the text emerges once again from the motes, first in Mohawk and then translating into English (this time the translations are not gaze triggered). The location of this text is in the same direction we are faced when looking out over the edge of the building and this first address is thanking Mother Earth. After he finishes speaking, another voice begins speaking and then a third voice after that. Once the first voice has finished the user can, by turning around and shifting their gaze, trigger dust motes to "reveal" the texts of the

Thanksgiving Address at different points and distances around them, the motes shooting back towards the user as a helpful indicator of where to look should they have spun around too quickly to notice the emergence of the texts.



Image 6: *Biidaaban: First Light*: Scene Five – Dawn Rooftop

The texts themselves are intimate, you can go right up to the closer ones and move around them, and feel as though you could touch them. The voice recording is set, “on rails,” from the beginning of the Prayer. After the third voice and address, the voices begin to layer one over the other, a cascade of thanks to be given. Depending on the user they may read all of the texts or just a few and if they don’t trigger all of them with their gaze then the texts will self-trigger after a certain period of time. The final voice and its accompanying text is by itself again and thanks the Creator. When that final text fades out the title comes up in the same place. We dip to black and the following text comes up on a black screen:

The central prayer of the Haudenosaunee is “The Thanksgiving Address.” They are the words that come before all else.

Biidaaban is an Anishinaabe word. It refers to the past and the future collapsing in on the present. It is the moment of first light before dawn.

The languages of Wendat, Anishinaabemowin and Kanyen'keha have been here for thousands of years. They have things to tell us about this place—and our future.

Further Notes on Design

The move from the underground to a high vantage point was an intentional enlarging of perspective. The dissolving of the dome to an abstract skyworld is meant to shake us out of sense of normalcy and into a felt sense of expansiveness and possibility. It's also true that many Indigenous nations, including the Anishinaabe and Mohawk, trace our origins to First Woman who came down from the Skyworld. In these worldviews, we are related to the Star Nation and we both emerge from that world when we are born and return there when we die.

The sense of risk many feel being on the rooftop near the edge is useful for triggering the body into awareness, hopefully without shocking people too much, though my experience is that the reaction to this moment varies enormously from person to person. This sense of danger may also be worth experiencing as we take in the enormity of this radically altered landscape and consider our own moment now, and our responsibility.

Audience Presentation and Reception



Image 7: Canadian Premiere of *Biidaaban: First Light*, Nathan Phillips Square View A



Image 8: Canadian Premiere of *Biidaaban: First Light*, Nathan Phillips Square View B

Biidaaban: First Light premiered as part of the 2018 Tribeca Festival’s Storyscapes section and in Canada at a sold out week-long event in Toronto’s Nathan Phillips Square in September 2018, set on the exact spot we experience in the second scene of *Biidaaban*. For further confirmed showings as of January 2019, see Appendix B.

I will outline here some of the audience reactions to the piece to date, and further reactions can be found in articles online as well as in Appendix C. Unlike film projects, I have come to understand the effect of *Biidaaban: First Light* only after being able to witness many people go through it as well as hear their feedback after they’ve had a chance to process it. Generally in film I’ve had a pretty clear idea of how a film would land with people even before a premiere but with this VR work I knew only that I was engineering a number of scenes/experiences to create a cumulative effect that I hoped would add up to more than the sum of the parts. This is a poetic journey, not a literal one, guided by instinct rather than logic.

The range of reactions have been broad, and differed from New York City where it was more often seen as a piece commenting on climate change or environmental risk, to Canada where there is more awareness of Indigenous perspectives and therefore another layer of understanding, to Torontonians who additionally have a personal felt connection to these places. Without a doubt the strongest impact the piece had was during the outdoor setup of five headsets for a week in Nathan Phillips Square. The added impact was due to the outdoor environment (the feel of the wind, the sense of space heightened the realism of the experience) as well as the dramatic experience of removing the headset to find oneself in the same spot, now become strange by the VR's experience. Many have been without words on exiting. Many are moved to tears and wonder and perhaps one of the most used terms has been "transformative." Some feel in it the terror of what devastation humanity may be headed for, others experience it as a kind of homecoming to a balanced life and world, and others experience it as ceremony. I and the team who executed the piece are very proud.

The range of reactions speaks to the fact that different people are bringing their own understandings and sociocultural beliefs to the VR and seeing aspects of their own hopes, beliefs and fears reflected back to them, one of the most exciting aims we can reach for as artists, and one that I think VR is particularly well suited to, with its ability to create an embodied yet non-didactic/non-linear experience.

Some other reactions:

- Many people reach out in an attempt touch the elements of the world.
- For some the Digging Woman is deeply emotional.
- The Skyworld often provokes a sense of wonder and sometimes fear.
- Many feel quite afraid when on the edge of the building in the last scene, others are exhilarated.
- The layering of voices in the final scene makes a strong impact on people
- Surprisingly few people question "what happened here?"

Ethics

As mentioned earlier in the paper, I will expand on the consultation process for using the Thanksgiving Address. I observed the following process: first I spoke to several community members to discover which community would have the closest ties to downtown Toronto, so as to know where to centre my process. It was Six Nations. I spoke to four people there (two elders and two mid-aged people), describing the VR piece in plain language and with great detail, including how we would experience the Thanksgiving Address in the final scene, and crucially, the impact I hoped the overall VR piece would have, how it may make positive change they might like to see and also contribute to their community. All four said it would be worthwhile to have the Address included in *Biidaaban* and we moved ahead with production. This approval goes beyond them just saying okay to the request; they could see the value in it for their community and a larger good. No doubt this process was smoothed by the community's knowledge of my work over the past years and their trust in my intentions.

In terms of choosing a version to record, the Thanksgiving Address varies and can be short or very long, and each speaker delivers it the way they feel it at the time and depending on the event. It's malleable, like jazz. However, the shortest version might be at least five minutes and we were going to have to go even shorter than that. So working with Jeremy Green primarily, we began a process of choosing how we might tighten up the different thanks and which ones we would leave out of this version. We were able to fit more into the piece while heightening the experience by overlapping the voices, but both the first and last address were especially important and that guided the decision to single them out in audio and textual representation.

Further to that, the Address is most often, though not strictly, delivered by older men, but I wanted to include a variety of voices, female and young, and in speaking to a couple of our consultants about it, it was agreed that this might push the boundaries for some, but the futuristic/otherworldly nature of *Biidaaban* and the current and future evolution of the Thanksgiving Address custom made them feel comfortable with this portrayal.

Crucial to the overall process was a deep respect for the role of the consultants as knowledge keepers and members of a community and the sacred, complex cultural

inheritance they must represent and honour. By agreeing to work with me on this, they were putting their reputations and community goodwill on the line and that had to be always top of mind. This is not an art project to them, and the obligation to honour their contribution and take directions from their lead, as well as sometimes follow up with them repeatedly—sometimes more than was convenient in their busy lives! —to ensure all was fully explained and cleared, meant the process took the time it took (and all were fairly remunerated for this work and expertise.) All members of the NFB team I worked with to bring *Biidaaban* to life carried and showed genuine respect and appreciation for this work. I managed the creative choices as well as the sometimes pushy requests for more guidance and the NFB dealt with logistics and administrative elements as well as providing creative guidance to help choose best audio takes etc.

In the summer of 2018 we brought the VR piece to Six Nations to share with the consultants and speakers we recorded as well as a few other language-speakers. We also wanted to make sure they approved of how we'd represented the Address. They were very pleased by it, especially the effect of the overlapping voices, and had no concerns about the length of the address. I can assure you, when you experience the intelligence, drive and magnitude of what these folks are undertaking for their people, this approval is the best praise I could ask for.

Chapter Six: Conclusion

A quote that's been attributed to Orson Welles and has been lobbed back in response to interviewers' questions by filmmakers such as Mike Nichols and Steven Soderbergh among others is "I'm the bird; you're the ornithologist." It is a phrase I've made use of myself when asked to drill down into the whys and wherefores of my own films.

There is something deeply uncomfortable about analyzing one's own work as it seems to run at odds to the very mindset one works so hard to cultivate in order to create it. It also runs counter to Indigenous values of humility and community, as one outlines one's own thinking and tries to unpack it in a rational step by step fashion, as though we aren't all working within a network of influences and supports. And of course, in this case there were many I worked in tandem with, both as collaborators in the execution of this piece and throughout the years of relationships and learning that led me to want to create this work in the first place.

Nonetheless, with this thesis support paper I've aimed to shine a light on the various experiences, thinking and process that have gone into *Biidaaban: First Light* with the hopes that this brings value. In truth, I think it may strip away some of the power of experiencing it, but I've attempted to outline the "recipe" without compromising the integrity of the creative process.

As for the research questions I've set out to answer, in my view the experiences of people going through the work have led me to believe that *Biidaaban: First Light* has been successful to the full extent of our hopes, and perhaps even beyond. For the most part people experience the piece viscerally, and it communicates in a holistic way as a complete experience that takes them on a journey that is satisfying but not "story-driven." The range of responses tells me that people are experiencing the piece coloured by their own feelings and assumptions. Some people break down upon seeing the digging woman, others feel exhilarated by the Skyworld; some remark on the deep peacefulness of the work and others experience a kind of terror of where we're headed. Some see it as a warning against human-caused climate disruption, others feel the depth of history that the lands of Toronto hold. Many comment on the felt experience of "All Our Relations" brought to life. It has been called ceremony by some. The positive responses

from the Mohawk speakers tells me that we honourably represented their cultural heritage.

Making and sharing *Biidaaban: First Light* is a privilege and an honour. As it reaches more people the piece continues to unfold and I continue to learn by the reactions of those who engage with it.

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Stalker. Andrei Tarkovsky. Moscow: Mosfilm. 1979.

Suckerfish. Directed by Lisa Jackson. Vancouver: Lisa Jackson. 2004.

Suu naa (My Big Brother). Directed by Helen Haig-Brown. Vancouver: Helen Haig-Brown. 2005

The Visit. Directed by Lisa Jackson. Vancouver: National Film Board of Canada. 2009.

Wakening. Directed by Danis Goulet. Toronto: Danis Goulet. 2013.

Waves of Grace VR. Directed by Gabo Arora and Chris Milk. Los Angeles: Vrse, United Nations, VICE. 2015.

Appendices

Appendix A: Full Quotations

English has a name for everything. There's an obsession with objects that they must be named. In Mohawk you have to describe things because oftentimes there's no one way of saying something. You have to create your own descriptions, and this can be pretty comical. For example, the English are "The People Who Come From Where the Sun Comes Up." Scots are named after their hats with the pompom by a term meaning 'Piece of Shit Sitting Up on Top.' I love meeting Scots. (Brian Maracle, Mohawk Language Teacher, Personal Interview)

It is precisely the ground and the horizon that transform abstract space into space-time. And these characteristics—the ground and the horizon—are granted to us only by the earth. The conceptual separation of time and space—the literate distinction between a linear, progressive time and a homogeneous, featureless space—functions to eclipse the enveloping earth from human awareness. As long as we structure our lives according to assumed parameters of a static space and a rectilinear time, we will be able to ignore, or overlook, our thorough dependence upon the earth around us. Only when space and time are reconciled into a single, unified field of phenomena does the encompassing earth become evident, once again, in all its power and its depth, as the very ground and horizon of all our knowing. (Abrams pp.216-17)

One story is not enough. One history is not enough. One literature, in a country such as this, is not enough. Nor two. But the world I meet in the television set and in the store has evolved no system for dealing with multiple stories except to turn them into commodities. That divorces them from the land, and it divorces them from us. (Bringham, *Tree of Meaning* 132)

You might think of this cultural web of life as being an ethnosphere, a term perhaps best defined as the sum total of all thoughts and intuitions, myths and beliefs, ideas and inspirations brought into being by the human imagination since the dawn of consciousness. The ethnosphere is humanity's great legacy. It is the product of our dreams, the embodiment of our hopes, the symbol of all that we are and all that we have created as a wildly inquisitive and astonishingly adaptive species.

And just as the biosphere, the biological matrix of life, is being severely compromised with the destruction of habitat and the resulting loss of plant and animal species, so, too, is the ethnosphere, only at a far greater rate. No biologist, for example, would suggest that 50 percent of all species are moribund or on the brink of extinction. Yet this, the most apocalyptic scenario in the realm of biological diversity, scarcely approaches what we know to be the most optimistic scenario in the realm of cultural diversity.

The key indicator is language loss. A language, of course, is not merely a set of grammatical rules or a body of vocabulary. It is a flash of the human spirit, the vehicle by which the soul of each particular culture comes into the material realm. Every language is an old-growth forest of the mind, a watershed of thought, an ecosystem of spiritual possibilities. Of the nearly 7,000 languages spoken today, fully half are not being taught to children. Effectively, they are already dead. Every two weeks, on average, somewhere on Earth an elder dies and carries with him or her into the grave the last syllables of an ancient tongue. What this really means is that within a

generation or two, we may witness the disappearance of fully half of humanity's social, cultural, and intellectual legacy. This is the hidden backdrop of our age.” (Davis pp.8-9)

Appendix B: *Biidaaban: First Light* Booked Showings of to Date (January 2019)

Event / Festival / Venue	Location	Status	Start Date	End Date
Tribeca Storyscapes	NYC, USA	1. booked	April 10, 2018	April 18, 2018
Melbourne Film Festival	Melbourne, Australia	1. booked	August 2, 2018	August 19, 2018
Brisbane Power House - Australia	Brisbane, Australia	1. booked	August 22, 2018	August 26, 2018
NFB Nathan Phillips Square	Toronto, ON	1. booked	September 18, 2018	September 24, 2018
LA Film Festival	LA, USA	1. booked	September 20, 2018	September 28, 2018
VIFF	Vancouver, BC	1. booked	September 29, 2018	October 2, 2018
New Adventures in Sound Art in South River, Ontario	South River, ON	1. booked	October 4, 2018	November 25, 2018
Tacoma Film Festival	Tacoma, USA	1. booked	October 4, 2018	October 11, 2018
New Orleans Film Festival	New Orleans, USA	1. booked	October 17, 2018	October 25, 2018
ImagineNATIVE	Toronto, ON	1. booked	October 17, 2018	October 21, 2018
Margaret Mead Festival	NYC, USA	1. booked	October 18, 2018	October 21, 2018
McMaster University - The Socrates Project Hamilton, ON	Hamilton, ON	1. booked	October 19, 2018	October 21, 2018
DGC Awards Gala	Toronto, ON	1. booked	October 20, 2018	October 20, 2018
Regard Bleu - Symposium - Zurich	Zurich, Switzerland	1. booked	October 21, 2018	October 21, 2018
Planet in focus - Toronto	Toronto, ON	1. booked	October 25, 2018	October 28, 2018
New Media Gallery, Anvil Centre, New Westminster	New Westminster, BC	1. booked	November 2, 2018	January 20, 2018
The South Western International Film Festival - Sarnia, Ontario	Sarnia, ON	1. booked	November 3, 2018	November 6, 2018
RIDM Montreal - UXdoc room	Montreal, QC	1. booked	November 8, 2018	November 18, 2018
Regent Park Film Festival - Toronto	Toronto, ON	1. booked	November 14, 2018	November 17, 2018
Upswell	LA, USA	1. booked	November 14, 2018	November 16, 2018

Upper Canada College	Toronto, ON	1. booked	November 14, 2018	November 16, 2018
American Anthropological Association meeting - Wakanda University	San Jose, USA	1. booked	November 14, 2018	November 17, 2018
BESIDE magazine (Future urbanism mag launch)	Montreal, QC	1. booked	November 15, 2018	November 15, 2018
Reframe, Peterborough, ON	Peterborough, ON	1. booked	January 24, 2019	January 27, 2019
Walker Arts Centre - INDIgenesis	Minneapolis, USA	1. booked	February 1, 2019	March 1, 2019
Available Light Film Festival	Whitehorse, YK	1. booked	February 3, 2019	February 5, 2019
York University	Toronto, ON	1. booked	February 6, 2019	February 7, 2019
Australian International Documentary Conference (AIDC)	Melbourne, Australia	1. booked	March 3, 2019	March 6, 2019
WIFTV	Vancouver, BC	1. booked	March 5, 2019	March 10, 2019
Māoriland Film Festival 2019	NZ	1. booked	March 20, 2019	March 24, 2019
DIGITAL JOVE - Valencia Spain	Valencia, Spain	1. booked	May 9, 2019	May 11, 2019
Yorkton Film Festival	Yorkton, SK	1. booked	May 23, 2019	May 26, 2019
Arts House - Melbourne	Melbourne, Australia	1. booked	August 26, 2019	September 1, 2019
National Centre for Immersive Storytelling	UK	1. booked		
School District Orangeville	Orangeville, ON	1. booked		
WLU Brantford campus + Mohawk college in Hamilton	ON	1. booked	January 18, 2019	January 19, 2019

Appendix C: *Biidaaban: First Light* Audience Reactions

General reactions:

“So beautiful, haunting, tranquil, inspiring... choked me up, and I wanted to linger longer in that liminal space.”

“Speechless and so very moved.”

“I left feeling I witnessed something... not sure, spiritual (?)”

“It took my breath away.”

“Beautiful and sublime.”

“I went through your VR experience and it was transcendent, thank you.”

“I saw your piece yesterday morning and was moved to tears.”

Kevin McMahon, filmmaker:

I just had the chance to see this terrifying and extraordinary work by Lisa Jackson. It is a stunning and brilliant piece which, in a mere 8 minutes, manages to encapsulate what those of us who work on environmental films have spent decades trying to say and also graphically illustrates the importance of Indigenous cultures, and languages, to humanity's present and future. It's a cautionary tale eloquently told that will fill you with fear and hope, and show you why those emotional states must coexist if our children are to survive. Oh, and it has an incredibly sly and amazingly current dig at the supremely ignorant premier of Ontario, the likes of whom threaten our long term existence. This is worth lining up for and seeing it in Nathan Phillips square adds a dimension that makes the whole experience truly unforgettable.

Peter Lynch, filmmaker:

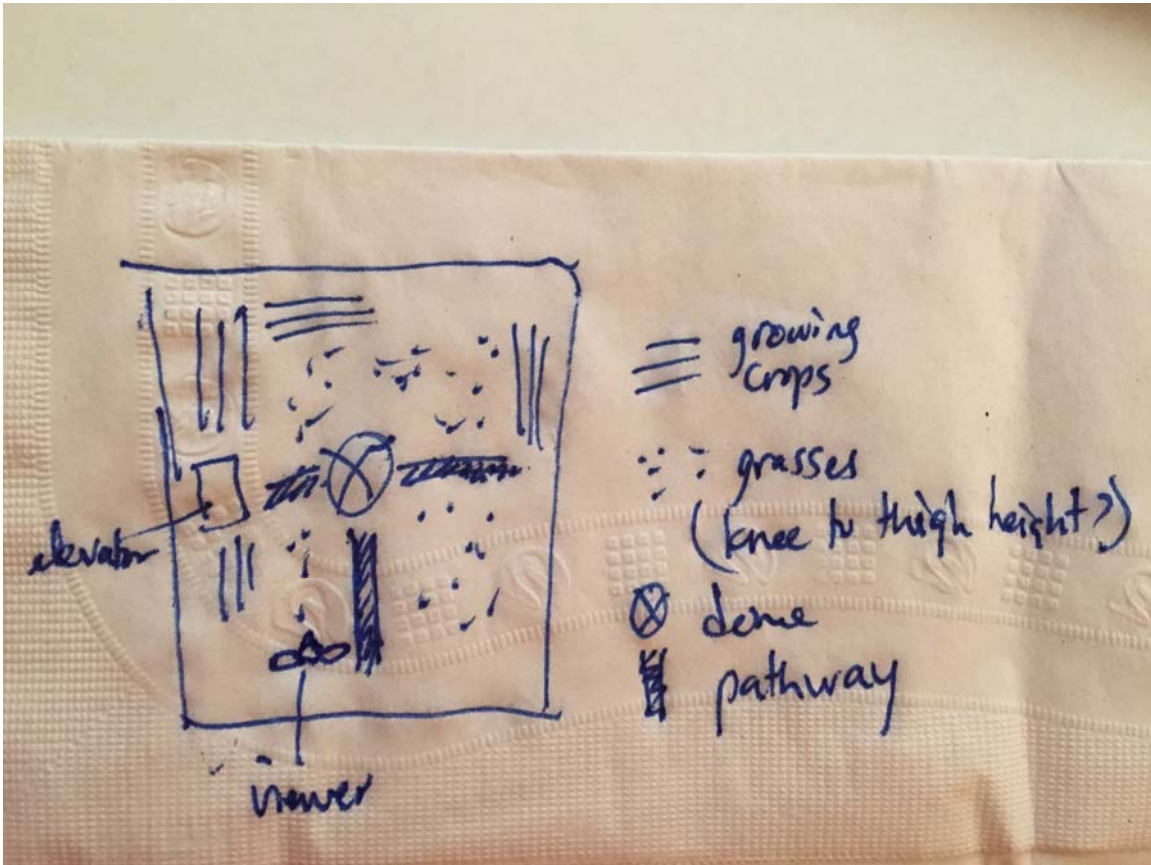
I just saw Lisa Jackson's searing *Biidaaban: First Light* down at City Hall today - and it is the first time VR really has made sense for me where it feels like there is a conceptual risk which allows for a deeper meaning where layers of space unfold as an immersive experience through a labyrinthine world blowing the focal point of the traditional frame wide open. What separates this piece from the usual VR experience is it communes with first nations cultural practices and oral traditions built up over millennia - before historical time. This is a must see experience I have lived in this city my entire life and it has indelibly changed the way I see Toronto.

The post apocalyptic city is an idea in the air right now but Jackson takes it further by creating a multivalent - mythic totemic overlay with a striking direction turning its on going Mathew Borrett's nature reclaimed Toronto images into a illuminating meditation into space itself. It also uses text in a particularly visceral fashion because of how it transmutes in the VR. It poses a vision contextualizing the first nations experience by reimagining the city as a ruin while recasting it in different spiritual plateau creating a cultural continuum unveiling layers of accretion where past and future collapse into the present before us.

This is an form of intervention on a city, it's history revealing a future where nature and its force of entropy has completely taken over the city like the jungle taking back ancient ruins. Time spatially mutates breaks down into many times. Time is a character it is time as decay unveiling our shame and the hubris of cities' grand designs.

It expresses the idea of the persistence of a culture and its ongoing resistance its survival while a moribund post-colonial society unravels towards its demise yet it still allows us the space if we look hard and feelingly enough where there might be a possibility for a new city to emerge.

Appendix D: *Biidaaban: First Light* Creative Sketch: Rooftop



Appendix E: *Biidaaban: First Light* Credits

By **Lisa Jackson, Mathew Borrett, Jam3** and the **National Film Board of Canada**

Produced by the **National Film Board of Canada**

Creative Director and Story by
Lisa Jackson

3D Artist and Environment Design
Mathew Borrett

VR Designer and Developer
Jam3

Soundscape Design by
Fader Master Sound Studios

Thanksgiving Address adapted by
Jeremy Green

Thanksgiving Address spoken by
Jeremy Green
Kawennakon Bonnie Whitlow
Tehanenhrakhas Green
Tehahenteh

“Nayendamowin Mitigwaaking” by
Margaret Ann Noodin

Spoken by
Gabe Desrosiers

Wendat spoken by
Andrée Levesque

Wendat Translation
Craig Kopriss

Digging Woman
Jeneen Frei Njootli

Digging Woman Shoot

Director of Photography
Vince Arvidson

AC/DIT
Paul Dombrovskis

Gaffer
Scot Proudfoot

Grip
Mike Southworth

Set Designer
Angelyne Martin

Assistants Set Decorator

Matthew Campbell
Cam Ziegler
Brett Lennan

Makeup/Hair/Wardrobe

Min-Jee Mowat

Colourist

David Tomiak

Online Editor

Ryan Mance

Jam3

Executive Creative Director

Pablo Vio

Creative Director

Dirk Van Ginkel

Associate Creative Director

Vinicius Araujo

Executive Producer

Media Ridha

Producer

Jason Legge

Technical Directors

Peter Altamirano

Production Coordinator

Erin Ray

Motion Artists

Cyrill Durigon

John Flores

Designer

Mike Lamont

Technical Artists

Shaun Larkin

Game Developers

Michael Phan

Luis Guajardo Diaz

Reuben Pereira

Animation

Juan Manuel Codó

National Film Board of Canada

Producers

Dana Dansereau & Rob McLaughlin

Executive Producer
Rob McLaughlin

Executive Director
Loc Dao

Creative Technologist
Vincent McCurley

Project Manager
Camille Fillion

Studio Administrator
Carla Jones

Production Coordinator
Jasmine Pullukatt

Director of Production and Operations
Janine Steele

Marketing Manager
Tammy Peddle

Marketing Coordinator
Stéphanie Quevillon

Thank you

**Zoe Hopkins Owennatekha Noel Habel Leanne Betasamosake Simpson Gordon Cobb
Jon Ritchie Michael Price Kat Cizek Anthony Wallace Shaun Nakatsuru
Linda Maness**

Biidaaban: First Light was created in Toronto, on the traditional territories of the Wendat, the Anishinaabeg, Haudenosaunee, Métis and the Mississaugas of the New Credit First Nation, as well as in Vancouver on the unceded territory of the Coast Salish peoples, including the territories of the xʷməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), Stó:lō and Səl̓ílwətaʔ/Selilwitulh (Tseil-Waututh) Nations.

“Nayendamowin Mitigwaaking/Woodland Liberty” adapted from *Weweni* by Margaret Noodin.

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Skymap provided by NASA/Goddard Space Flight Center Scientific Visualization Studio.

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Appendix F: *Biidaaban: First Light* Technical Specifications

Overview

Biidaaban: First Light is a room-scale Oculus Rift experience that requires a space of 10'x10' and 3 Oculus sensors that needs to be at a certain height (approx. 7 feet high). In terms of computer, it requires a high-end PC with i7 processor, 16GB RAM, 6GB of free HD space and a Nvidia GTX 1070 or better video card.

Biidaaban: First Light - VR & Computer Specs

Platform: Oculus Rift

Type of experience: Room Scale - This experience requires **three** Oculus sensors

Space required: 10'x10'

Hand Controllers: Not required for experience (but still required to setup guardian system)

Computer Specs

All configurations require testing in advance of exhibition.

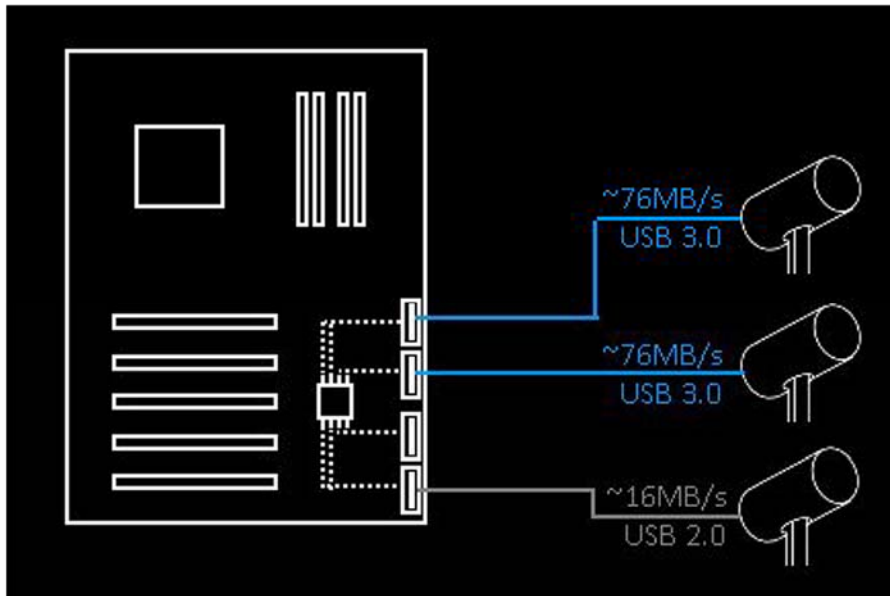
OS: Windows 10

RAM: 16GB RAM

HD Space: Minimum 6GB free

Processor: Recommended: Intel Core i7-8700 or similar processor,
Minimum: Intel i5-8600 - untested but should work.

Video Card: Recommended: Nvidia GTX 1080 or better video card.
Note: We have tested on GTX 980 with mixed results (GTX 970 failed). AMD video cards are completely untested and may or may not work.



Port Config:

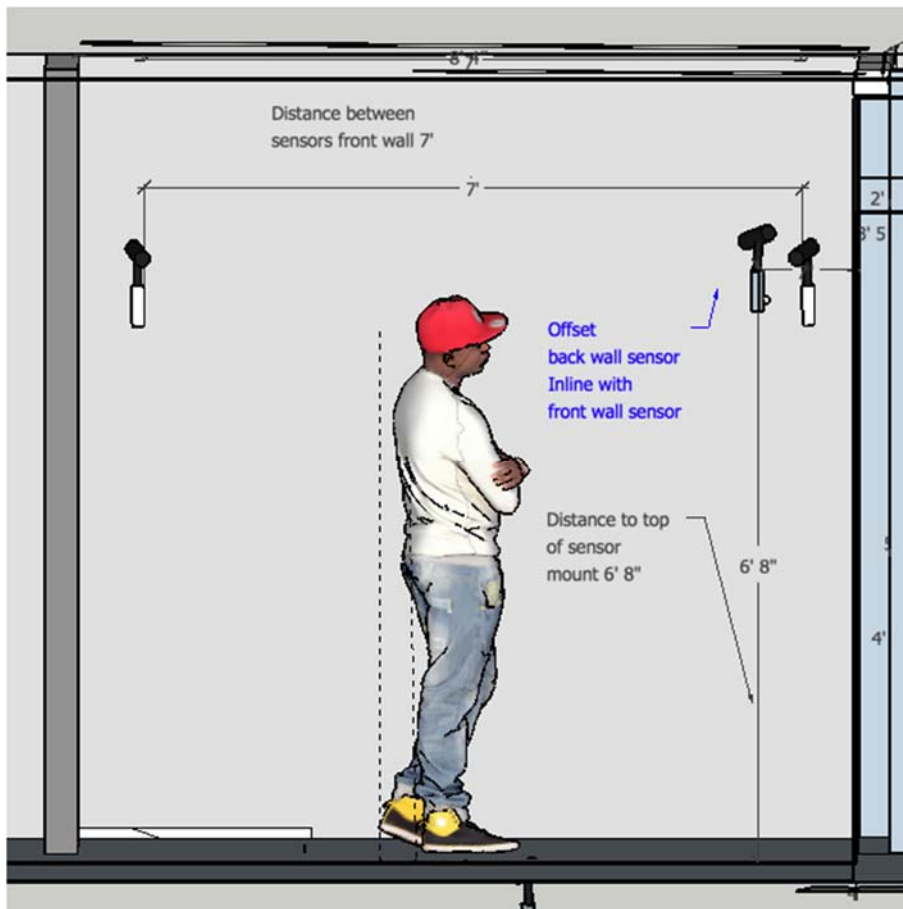
- 3 x USB 3.0 (2 sensors and 1 HMD)
- 1 x USB 2.0 (1 sensor)
- HDMI 1.3 (1 HMD)
- 2 x USB 2.0 (keyboard and mouse)

Note: Oculus room scale requires 2 x USB 3 ports and 1 x USB 2 port (or 3 x USB 3 ports). We have encountered issues with Oculus and USB port conflicts/bandwidth. Distributing the sensors across USB Buses will help but requires extensive testing. See this article: <https://www.oculus.com/blog/oculus-roomscale-tips-for-setting-up-a-killer-vr-room/>

Errors will require extensive testing. We have found solutions for setup errors to be varied. Running 3 x USB3 cables to 3 different buses has worked. Moving the keyboard and mouse to separate ports has also helped.

Room Scale Setup

The Oculus must be setup to use room scale. **It requires 3 sensors put at a certain height to enable the full room-scale experience.**



Put the rear sensor directly in line with one of the the front sensors (see image above). **Set sensors to same height - 6' 8" feet** (tripods, shelves, etc can be used). Turn / aim sensors directly at the center of the room. Tilt the sensors down to roughly point at the chest of a person standing at the centre of the room. (approximately 4 feet high)

You also must setup the roam-able space (the guardian system) to be a **10' x 10' square** (3m x 3m). Please make sure to configure your setup from scratch or you may notice breaks and performance issues with the experience.

Headphones - in noisy environment

In a noisy environment we require to remove default Oculus headphones from Rift and use **noise-cancelling headphones** (such as Bose QuietComfort 35/25). We have found that the wired connection is more reliable than the Bluetooth connection.

Cabling and accessories

USB Extension Cables: Depending on computer placement the project requires active USB 3 extended cables ([example](#)). We have used 2 USB 3 extenders per setup with the third sensor directly connected to the system.

Oculus Facepad: We highly recommend aftermarket, easy clean, face pads for oculus as they are leatherette and don't get wet after repeated cleanings (the stock foam pads get quite wet). <https://vrcover.com/product/oculus-rift-foam-replacements/>