Scale InSight:
Creating a Somatic Landscape of the Okanagan Valley

by

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Abstract

This paper provides theoretical context as support for my thesis exhibition entitled Scale InSight a participatory locative media art project in a public space. It documents the creative process of the thesis project. The art installation Scale InSight is the construction of a corposcape, an imaginative landscape created and experienced by the body as opposed to a mindscape created by the mind, and one that augments the existing corporeality/landscape. This particular corposcape consists of sound compositions, created from elevation data of nearby mountains and narrative descriptions from blind individuals, creating an acoustical representation of the environment. The thesis project consists of an interactive installation within a gallery space as well as an interactive smartphone application used in an outdoor site-specific installation.
Preface

Tim Smith collaborated in the composition of four sound pieces based on elevation data, the four directions and both clips from recorded interviews and found sound. These sound pieces were part of both the sound walk and the gallery exhibition during my thesis exhibition.

The UBCO Ethics Board (H11-02600) approved the interview process.
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Dedication

This paper is dedicated to the two Ruthies in my life, two women who could hardly be more opposite. To my sister Ruthie who has been my protector and my rock since I came out of the womb and to my new friend Ruthie who flies high and who dares me to fly by her example.
I. Introduction

This project began with a simple idea – what if I could express the physicality of mountains through sound? How can we experience the world around us in sensory manners in addition to sight? Can someone who is not sighted have increased access to the concept of the larger scale of mountains? This project and this supporting document explore these and other related ideas.
II. Starting

This written document tells the tale of my thesis project. Although my thesis involves scientific tools and subjects such as mountains and locative technology, a linear approach to writing seems inappropriate. It is a story, what James Joyce named a “monomyth” – the recounting of a journey of someone that starts in the everyday, who then experiences challenges in the supernatural and returns back to the beginning, home again but with new powers or insights to share with others (Joyce 581).

For me, art is not an analytic, rational process, though art in general can be approached that way as many successful science-based art and technology projects have demonstrated. But because I believe we live in mythic times we need mythic responses. Indeed, when we examine words associated with analytical practices, such as research and question, we find that their roots, search and quest, echo of the epic journeys recounted in the Odyssey or the tales of King Arthur. It speaks of ancient times and ancient spiritualities.

The contemporary journey began for us as a society a few decades ago when we began to uncover the magical powers of digital technology, powers that have been used to challenge our understanding and experience of linear time and space and take us into another understanding of reality. Vincent Mosco says “cyberspace is a mythic space, one that transcends the banal, day-to-day worlds of time, space, and politics to match the “naked truth” of reason with the “dancing truth” of ritual, song, and storytelling (Lozano 213). Indeed, cyberspace is a central force in the growth of three of the central myths of our time, each linked in the vision of an end point: the end of history, the end of geography, and the end of politics.” (Mosco 13). To put it in other words, it is a transformation of our concepts of time, space and power.

The heroes of contemporary myths are figures such as Neo from the film “The Matrix”. In the film, most humans are experiencing a dream-like simulated reality, like the prisoners in Plato’s Allegory of the Cave, except it is a pleasant, unthreatening simulation. In truth, they have been overtaken by machines that
use their bodies as sources of heat and electrical energy. Neo is awoken to this false reality and is challenged to help disrupt the system that is preventing people from experiencing reality. In the film, Neo is guided on his way by the figure of Morpheus, named after the leader of the Greek gods of dreams. For the Greeks, the name Morpheus meant one who moulds or fashions because of his powers to create dreams. In this sense, Morpheus is a creator, an artist. Morpheus is one of three triplets born to the goddess of sleep. While his brothers can shape shift into animals or inanimate objects, Morpheus the god can become only human.

Morpheus has lent his name to a number of things over time including a recent project by the American National Aeronautic and Space Administration (NASA). Project Morpheus is a lunar landing device that aims to have an android, a lab and a lunar rover on the moon’s surface within 1000 days of its July 2011 start date. One of the proposed uses for the lab is to convert collections of minerals from the lunar surface into oxygen by heating it from the inside out. Stated simply, NASA is making air by microwaving moon dust. On the moon, what is more precious to humans than oxygen? This project, undertaken by one of the world’s foremost scientific agencies, recalls the medieval practice of alchemy - using heat to change ordinary objects into precious elements. Project Morpheus seems as much part of science fiction as hard science. In truth, much of hard science has soft edges. As Einstein noted, “There is no scientific truth.” (qtd. in Virillo 103). It is often coloured by cultural biases, morals or assumptions. Just ask anyone researching climate change or genetics.

If we examine the word ‘matrix', used in the movie title to conjure up the networked digital system needed for the movie’s premise, it has multiple meanings in science - a mathematical alignment of rows and columns, a mass of rocks in which fossils are embedded, a mould in which something is cast, for example. But the original meaning of matrix was “womb” and speaks of weaving – an ancient craft associated with women, magic and creation (Plant 2000), spiders spinning World Wide Webs. For me, the artist is as much magician as scholar. Participants in the magic are better left with more questions than answers.
Within this matrix known as a written thesis, I will outline the research behind my project, which brings together ideas and examines visuality and multi-sensory experience of landscapes through the use of data sonification to translate aspects of physicality of adjacent mountains into sound. To emphasize the nature of non-linear time and space, ideas throughout the written thesis that resonate are connected by hyperlinks that will take you to a related concept by clicking on them and back again by clicking on the parallel link. At first, I was contemplating creating distinct sections – body, space/place and technology but this paper is also about hybridity, weaving together ideas. I thought about Beginning/Middle/End but this references time or space as a linear and static state. By using Starting, Journeying Inward, Journeying Outward and Returning, all gerunds, I want to invoke embodiment, action and circularity. It mimics the physical process of the art project itself where participants journey on a loop, returning where they started with a new experience and perhaps, a new awareness of the senses.
III. Journeying Inward

Once upon a time I lived in Ireland, where I pursued my undergraduate Fine Arts degree at the Limerick School of Art and Design. While studying there, I began making art related to the body. Anyone making art about the human body in this post-humanist age needs to consider the penetration of technology into the body, following the work of authors such as Donna Haraway (1990) who revealed to the academic community that we all are, in fact, cyborgs.

For my undergraduate thesis, I researched the commodification and exploitation of human bodies by companies in the rapidly expanding field of biotechnology. As part of that research, I attempted to sonify data from stock market charts of companies creating wealth through scientific research and medical products. Sonification is part of a growing field of art and science collaborations and is a partner to the process of data visualization. The basic principle behind the process is that one form information can be changed into any variety of sense information. As Roberto Simanowski states, “once digitized, once represented to the machine, all phenomena lose their bodies and live as numerical code that can easily be materialized in different forms.” (158) While a mechanical process, digitizing data is analogous to shape shifting.

A number of artists have sonified data, including environmental data. Andrea Polli, Mesa Del Sol Endowed Chair of Digital Media and Director of the Social Media Workgroup at the University of New Mexico. Illustration III. 1 shows a screenshot from the project Heat and Heartbeat of the City, wherein Polli projects the estimated number of days over 90 degrees Fahrenheit in New York up to 2080 as loud, unpleasant sound to give a sense to the uncomfortable heat that New Yorkers may experience more frequently in future.
Illustration III.1 Heat and Heartbeat of the City. “By the 2050’s, projections indicate a significant increase in consecutive hot days during the summer months. Listen for increases in pitch and intensity and view transforming color as the number of these uncomfortable days accumulate” Source: Heat and Heartbeat of the City, Andrea Polli http://turbulence.org/Works/heat/index2.html

Following my graduate show, I returned from Ireland to Canada in the fall of 2008. I had new impressions of Canada that differed from the understandings I had of my home prior to leaving the country. Shortly after my return, I accepted a job at the former Banff New Media Institute (1995 - 2010) within The Banff Centre. On arriving in the community, I was overwhelmed with the immensity of the landscape. The Irish landscape is stunningly beautiful but I couldn’t get over the scale of the Canadian landscape, the great distances between things and the way it, along with the weather, overpowers everything.

One day while gazing at the Rocky Mountains (Illustration III. 2), I realized that their outline against the sky was similar to the stock market information I had worked with prior. This was around the time when the international stock market fell in the autumn of 2008. That winter, I created art work that sonified both landscape elevation data and stock market data (Illustration III. 3), contrasting the mercurial nature of the markets with the longevity of geological time, even though the Rockies are rocky, ironically, due to their relative geological newness.
Working next to BNMI’s Mobile Technology Lab led me to wonder how I could bring the process of data visualization into public space and make it a participatory experience. This resulted in the idea of creating a location-based application. While the technology that I wanted to work with is relatively new, the concept of sonifying the skyline is ancient, going back to the Sami people of northern Scandinavia.
III a. Singing the Skyline

It can be acknowledged that many of the first site-specific landscape artists were aboriginal people throughout the world, although they may not have labeled or conceived of themselves as such. The idea of singing the skyline is a practice that has been documented among the Sami people of Lapland. This is part of a traditional song creation method known as “yoiks” or “joiks”. Harald Gaski describes a yoik as a way of remembering, of communicating between people, time and landscapes. (Gaski 1) Yoiks can be created for trees, people, animals or almost anything including the skyline. They can be used as a conduit to travel between worlds in shamanic practice. Any particular yoik can have lyrics or consist of a wordless melody. According to Ola Graff, “…[t]he melody is closely connected to the referential object in an indissoluble relationship.” (Gaski 16) The Sami understand that the yoiks are not “about” the object, they are the objects. The person who creates the yoik does not “own” the yoik; they are merely voicing it.

In trying to explain about the uniqueness of Sami culture and yoiks, Ánde Somby said,

“The regular concept of a western European song is that it has a start, a middle and an ending. In that sense, a song will have a linear structure. A yoik seems to start and stop suddenly. It hasn't a start or neither an ending. Yoik is definitively not a line, but it is perhaps a kind of circle. Yoik is not a circle that would have Euclidian symmetry although it has maybe a depthsymmetry. That emphasizes that if you were asking for the start or the ending of a yoik, your question would be wrong.” (Somby 1999)

Depthsymmetry (one word) is not found in the Oxford Dictionary on-line but is used, in the context of describing the dimensions of double kitchen sinks. It pleases me to think that Somby uses it to describe the yoik – it goes deep and surfaces and goes deep again, like a mythic journey or a landscape.

We have always used the sun, the stars and other natural markers in relation to the landscape and to help guide us on our way. Bruce Chatwin (1987) writes about the songlines in Australia that indigenous people say were created in the Dreamtime. When the creator-beings went Walkabout, they created a song
about the landscape they passed along the way. These songs were used as navigation tools. The people would sing a song that referenced geographical landmarks. In this way, they could travel to places far away with guidance from their ancestors passed down through song.

The Sami people face many of the same issues that Australia’s aboriginal people and Canada’s indigenous people face post-colonialism. The yoik was banned in Sami communities for generations as “anti-Christian” but fortunately, like many First Nations traditions here, the yoik was passed secretly along among families. Today it is experiencing a resurrection and is being integrated into the living contemporary culture.

This research of the knowledge and traditions of the yoiks of the Sami people sets the stage for my own exploration into the relationship between body, sound, technology and the land.

**III. b On Jameson’s Theories of Post-modern Space and Time**

One of the most influential works I encountered during my undergraduate degree was *Post-modernism or the Cultural Logic of Late Capitalism* by Fredric Jameson (1991) in which he describes the schizophrenic nature of postmodern society. Jameson proposes that our human bodies and senses have not kept up with the evolution of postmodern space. Modernist space was dominated by machines that moved linearly – trains, the assembly line and so on. In post-modern space, the body is in constant, non-linear motion, in otherwords, it is destabilised. Within the post-modern space, distance, including critical distance, no longer exists. Forces active in the globalised economy are colonising the remaining pre-capitalist territories of Nature and the Unconscious.

Jameson seems to imply that modernist space was preferential to post modernist space. Modernist space was defined by imperialism and occupation – state leaders carved up spaces into territories to control via military and para military power. In post-modernism, power has been seized by multinational corporations. According to Forbes (2012), Exxon Mobil is the world’s largest publically-traded company with over $407 billion in market value, just below the GDP of Austria.
and above countries such as the United Arab Emerates, Colombia and Denmark (IMF 2012). The rise in corporate power has been accompanied by the increase in free trade agreements (FTA’s) between state powers which “opens up” borders to trade and in some instances decreases or limits the states’ own power, in cases where FTA’s supercede local environmental, health or labour regulations. One of the outcomes of this trend is the increasing privatization of public space (Jameson’s reference to the territory of Nature, even in urban space). While post-modern powers are invasive, so to were modernist powers and the imposition of linearity on the pre-capitalist cyclical experience of nature and seasons.

In the closing section, Jameson calls for political artists to develop “(a)n aesthetic of cognitive mapping” in which to “begin to grasp our positioning as individual and collective subjects and regain a capacity to act and struggle which is at present neutralized by our spatial as well as our social confusion.” (92)

As an artist, I see myself as a cartographer/travel agent, helping people on their journey through the unfamiliarity of post-modern time and space by creating artworks that serve as maps, coordinates, signs or guidebooks. The time and space are not necessarily negative or frightening (although sometimes they are) but is unknown.

Dream…I am part of a collective of warriors who battle negative spirits. We travel through time and space to find these spirits. When we arrive in a new place, our minds are blank. We have no knowledge of our previous life or experience. We are walking about an unfamiliar environment, in a time past, present or future. Only when we spot the person chosen to lead this assignment and recognize something familiar about him or her do we remember our prior lives and our current purpose in the time and space we occupy at the moment. Sometimes we are attacked by negative spirits and have to battle them before we see our leader and remember. Sometimes our leader meets us first and gives us knowledge and information that guides us in our battle. Once we have this recollection of our life and
purpose, we can return to our existence after we have completed the battle.

One idea that is raised by Jameson and comes up in my dream written above is that of a duality of ‘us’ versus ‘them’. Jameson refers to a classic Marxist/modernist analysis where class struggle as the capacity to generate social change. Post-structuralist concepts of relativity, hybridity and the deconstruction of binaries seem more relevant to this era. As authors Judith Butler and Homi Bhabha have effectively argued, hegemonic binaries such as white/black or male/female are socially artificial and divisive constructions. The deconstruction of boundaries can be applied to many concepts, including as I have alluded to previously art and science, fact and fiction. One important area where this may be sliding backwards may be the concept of rich/poor or have/ have not. With the development of the middle class in western Europe and North America, the binary was disrupted with the rise of Industrial age capitalism and the development of the middle class. Like people in the film “The Matrix”, the majority of the population in the developed world lived a life of middle class contentment. However, as we are seeing with the rise of neo-liberal globalism, differences between the richest segment of society and the bottom “99%” are widening, despite trends of a burgeoning middle class in the rapidly-developing BRIC countries (Brazil, Russia, India and China). Throughout North America, Europe, most of South America, Asia and Africa the majority of middle and lower people are finding themselves living with less.

Jameson’s call for cognitive mapping is a powerful challenge to artists operating contemporarily. I create objects or projects that may be disorienting in their newness at first but ultimately end up orienting us to something familiar within ourselves by triggering a memory or a recognition within the body. From this point of recognition, we have an coordinate to locate ourselves within this time/space and hopefully, increase our individual and collective agency. In this way, we need not fight against destabilizing factors but gain tools and skills to learn to negotiate the terrain within the disorientation and perhaps even create a counterhegemony by destabilizing the forces that disorient.
With this realization and with the desire to make my art accessible to a wide variety of people, I decided that participatory art created in public spaces would be a cornerstone of my art-making philosophy and practice.

One artist who works with participatory art in public space is Mexican-Canadian Rafael Lozano-Hemmer. His work is of particular interest for his use of new media technology. For his project *Articulated Interest* he offered participants at the 2011 Triennale québécoise the opportunity to operate laser light beams over the Montréal night sky, visible for up to 15 kilometres (Illustration III b.1). Some public space projects create long-term, community-based work. Others, such as Lozano-Hemmer’s offer a spectacle, which is appropriate as part of an art festival.


**III c. Space, Time and Space/Time**

As indicated in the opening section, our concepts of time, space and power are transforming. In the past, we have considered space from a perspective of
Cartesian (two-dimensional) versus Euclidian (three-dimensional). We also think that space is the opposite of time but if we examine the fourth dimension, space and time come together (space/time).

We began to see a relationship between space/time and acceleration during the modern era, in the development of the Impressionist style of painting. Impressionism was partially influenced by the new sensation of traveling by train and watching the countryside pass by as a blur (Kennedy et al 2008) How does this reveal itself in contemporary times? The movement of the train has accelerated to space travel, to subatomic molecules smashing in particle accelerators, and to nanosecond stock trading. Post-modern acceleration is disorienting, indeed.

I believe that part of our disorientation comes in our moving from Cartesian notions of time and space and learning to occupy in this post-modern fourth dimension, known as “hyper”. We think of “hyper” as a prefix referring to “more than” or “extreme” but it is a mathematical term on its own that refers to something with more than three dimensions.

Computer space is “hyper” space - in more than three dimensions. Despite the idea that computers were born of “binary” code, the code is represented by the numbers zero and one and is in fact a switch that is either off or on. A switch is an object capable of movement and in that movement through time/space, it creates a third state in between that is neither off nor on and that is unstable.

Computer pioneer and theorist Ted Nelson coined the terms ‘hypertext” and “hyperlink” as ways to describe how he saw his concept of what would eventually become the World Wide Web. (Myers 1996) Today, the development of GPS positioning creates the “hyperlocal” where any amount of digital information can be tagged onto a specific geo location (Venetis et al. 2011). This has both possibly positive and negative implications. While we can deepen our knowledge and experience of a location, it speaks to Jameson’s concept of colonization of Nature and the Unconscious.
Paul Virilio (1991) wrote about “hyperreality” and “hyperspace”, concepts which are related to Jameson’s concept that dislocation is caused by post-modernism. Virilio writes of contemporary culture that

“acceleration and deceleration, or the movement of movement, are the only true dimensions of space, of speed-space, of dromospheric space….it is not measured according to the portion, proportion, dimension, or cutting of some morphological, Euclidean or non-Euclidean continuum. Its intensity is measured instead by change of speed, a change that instantaneously produces a change of light and of representation.” (102)

Luce Irigaray states that in ancient theology and mythology, space is a mode of exteriority and time is a mode of interiority (1993). She builds a relationship between this concept and gender. Because time is interior, it is masculine and because space is exterior (exterior to men, that is) it becomes feminine. As part of the argument for the subjectification of the feminine, Irigaray argues that “the relation between space and time must remain dialectic: space must be turned into time and time into space, and thus the interchange expands the scope elaborated by Western culture’s reductionist model of consistently turning space into time.” (7-9). This argument is ironic, given Irigaray’s essentialist position within feminist philosophy. However, this allows us to develop a strategy for claiming power within post-modernism. As Susan Stanford Friedman explains (2006), time and space are not absolutes but are rather cognitive categories of human thinking. To our ancestors, time and space were not static, they were circular and multidimensional, like a spiral. There was continual movement but there was familiarity within the dimensions they occupied. Perhaps this is a strategy we can adapt in this contemporary age.

III d. Locating Ourselves

According to Bill Buxton, Canadian musician, composer and Principal Researcher at Microsoft Laboratories, the first question the portable clock was designed to answer was not “What time is it?” but “Where are we?”. Early in the 18th century, the British navy required a way to track their location at sea, as they sailed on their missions of trade, exploration and colonization. They knew that with an accurate time piece set to Greenwich Mean Time, they could
calculate their location in the midst of the ocean relative to England. They had brought pendulum clocks with them but because of the unstable conditions, the clocks lost accuracy. As a result, the British government offered a reward to the person who could create the most accurate time piece. A self-taught Yorkshire carpenter, John Harrison responded by creating five revolutionary pieces, including the first precision watches (Betts 2006). Illustration III d. 1 shows H4, Harrison’s first watch, dubbed “the most important watch in the world”.

Illustration III d. 1 H4 ‘the most important watch in the world’. Source: John Betts 2006

The most typical location device is a map. We usually think of two-dimensional maps illustrating three-dimensional data on space. However, as discussed previously, there are cultural and political assumptions embedded into even the most neutral of renderings, including the cultural assumption of how to measure and depict elevation data. Mapping is used to claim territory. Mapping is about power (Gregory 1989).

Deleuze and Guattarri choose to deconstruct the concept of map:

“The map is open, connectable in all its dimensions, and capable of being dismantled; it is reversible, and susceptible to constant modification. It can be
torn, reversed, adapted to montages of every kind, taken in hand by an individual, a group or a social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation... Contrary to a tracing, which always returns to the ‘same’, a map has multiple entrances” (25-26)

When a map is constructed as a work of art is it constructed differently than a non-artistic one? As alluded to before, mapping is essentially data visualization or sonification, whatever form that map takes, whatever data it shows.

Roberto Simanowski proposes that currently there are two streams of data art maps using visualization (and sonification). These streams diverge in their use of form versus content. One relies on a direct translation of data, without any aesthetic decisions made by the artist. This, he states, comes from the naturalist school of art theory and relies solely on the content of the information to create viewer interest. With the other stream he refers to as poetic, the artist makes aesthetic decisions regarding the form that the information is presented and “transcends” the direct interpretation of data (161). Simanowski argues that unless the artist makes aesthetic decisions about the form of the presentation, there is little difference between scientific mapping and artistic mapping. While anti-art was a successful aesthetic strategy for the Dadaists, at the current moment, presenting data without considering the aesthetic form disregards the poetic nature of art.

Richard Wright (2008) affirms this when he notes that visualization (and other sensory mapping work) succeeds as an artistic practice when sensory perception creates tension with data structures and with each other. These writings would serve to influence my decision-making process, discussed in a later section.

Lev Manovich adds to the discussion. He states “data visualization artists should also not forget that art has the unique license to portray human subjectivity – including its fundamental new dimension of being “immersed in data.” (n.d.). He also notes the symbolic significance of the database not merely as a collection of information but as a partner in dialogue with narrative (1999).

The above idea is evident in Romanian artist Alex Dragulescu’s work.
Dragulescu uses “ugly” information such as e-mail spam and computer viruses and transforms it with an algorithm architectural or plant shapes (Illustration III d. 2), which are more aesthetically interesting than the data from which they came.

![Plant created from computer virus data by Alex Dragulescu. Source: http://corvusart.com/blog/?tag=spam-architecture](image)

Part of the allure of data visualization and sonification is the concept of changing an existing material into a new form, as did the alchemists, the witches and the shamans. In my case, it is playing with sensory information and our assumption of the privilege of sight.

III. e. The Body and The Senses

The ideas of philosopher Rene de Cartes have fallen out of favour with current thinking for a number of reasons, such as the previously discussed Cartesian dualities as well as his notion that ration and the mind are supreme over the body and the non-rational. When thinking about the senses from a Cartesian perspective, industrial cultures privileged sight and hearing as senses that related to logic and reason, whereas the remaining senses were of the body (Falk 1994). The senses of sight and hearing allow one to dominate and become subject whereas, the “contact” senses of taste, smell and touch exist within our animal selves.
For a long time, we have believed de Cartes and some still do. We focus consciousness on our thoughts and in the moment, we miss the subtle firmness of the chair beneath us, the ubiquitous hum of electricity and technology in the surrounding air or the tautness in our shoulders that is telling us to stretch.

The senses are key parts of creating our embodied experience. It is how we process information about the world around us and within us. The senses give us pleasure, help us avoid danger and to communicate with others. The senses are our interface between us and what is beyond us.

In 1985, Michel Serres wrote *The Five Senses – A Philosophy of Mingled Bodies* (I). Serres lyrical account talks of the interdependency of the senses.

Serres describes the process of hearing as hard meeting soft – sound becomes data. The hard enters into what he describes as a “black box” due to its invisibility and comes out as information. In the following section, he compares touch to hearing:

“ Whereas touch involves local patches activated or created by contact and brought together into an ocellated (sic) fragment, and skates about in the flattened out dimensions of irregularly shaped patches and imprecise tacking, sound, on the other hand, occupies volume and expands into the global, requiring of listening yet another dimension. Just as the abstract receiver, with its boxes within boxes, projects multiple networks or labyrinths on to the flat, uneven surface of the skin, like a model, so the same projection into the auditory spatial trap requires folds and sculptures in space, exquisitely chiseled contours. From touch to hearing, from map to landscape. The labyrinth raises its walls, digs its tunnels, lays down its corridors. Like the black box, hearing, by its very nature, is the multiplication of boxes.” (141)

From touch to hearing, from map to landscape. One is a representation of the body, the other is the multi-dimensional body. And yet, while this gives a sense of groundedness and location to hearing, Serres describes hearing as a process that is “unlocalisable”, partly because of the mystery of the black box and partly because he describes listening as a process that involves our whole body of skin, taut like an eardrum. This is how Serres erases the distinction between touch and hearing.

For Serres, sight is a different proposition. Unlike the symbiotic relationship
between smell and taste or touch and hearing, sight is somewhat detached from the other senses. He draws a line between “seeing” as an intellectual process and “visiting” as a corporeal process that encompasses the other senses.

“The mind sees, language sees, the body visits. It always goes beyond its site, by shifting position. The subject sees, the body visits, goes beyond its place, and quits its role and speech. In other terms: no body has ever smelt and smelt only the unique perfume of a rose. The intellect, perhaps, and language most certainly, carry out this performance of isolation and selection. The body smells a rose and a thousand surrounding odours at the same time as it touches wool, sees a complex landscape and quivers beneath waves of sound; at the same time as it refuses the gaudy sensible to imagine at will, meditate abstractly or fall into ecstasy, to work actively or interpret its state in ten different ways without ceasing to experience it." (306)

Our mind isolates elements of experiences, particularly sight but bodies cannot – they experience the totality, the whole. As discussed with Falk, we sometimes value sight over other senses. It is the process of abstraction that creates the divide between the senses. But as developers of Virtual Reality know, it is the total sense experience that creates authenticity.

In the concluding chapter of his book, Serres takes a non-typical position on technology in relation to the body. Many philosophers have lamented technology as a creator of and contributor to non-reality through reproductions such as the simulacrum. Contemporary French theorist, Jean Baudrillard in his work *Simulacra and Simulations*, described that a reproduction could be made as a reflection of reality; a perversion of reality; a pretence of reality; and finally, a simulacrum, which is an entity unto itself and has no relation to reality. To Baudrillard, simulacra reduced the postmodern world to a meaningless nothing. As Fredric Jameson points out, Jean Paul Sartre described a simulacrum as “derealization of the whole surrounding world of everyday reality.” (Jameson 76) These concepts of simulacra and derealization have cast a negative perception of technology’s affect on our society.

Serres comes to a more optimistic realization about technology’s relationship to the senses. He says that a social construction moves from a state of ‘object’ to ‘subject’ when we begin to forget about it. In his example, he discusses language
as a representation of abstraction. We forget about language when we use it, unless we are speaking a language that is not fluent for us. In a similar way, science has become a subject. It has replaced language with algorithms. Language retains a vague aesthetic function and computers become storers of knowledge and liberators of human memory. In the past, liberating part of the brain and body may have led to new innovations. For example, once people had language to store abstractions, geometry developed. With print (written language), experimental science followed. Now with the advent of computers and digitalized information, who knows what we will create? Our senses and organs are free to do new things.

So what happens when we lose the function of a sense? This is a situation that has become one of the prominent metaphors in mythology. There is a Norse myth in Mosco’s book, *Digital Sublime*. One time, the Norse god Thor was on earth, wrestling with a strong mortal who had Thor in a headlock. Thor offered the man a deal in order to be released from this hold. He said he would tell the man the secret of life in exchange for the man’s left eye. The man thought about it and eventually, he agreed and plucked out his eye and passed it to Thor. The god offered up his part of the bargain, “Now for the secret of life. It is painfully simple: See vigilantly, with both eyes.” (9-10)

In contemporary pop culture, Marvel Comics created a super hero, Daredevil, who made his first appearance in 1964. His human alter ego, Matt Murdock lives in New York City and is blinded when a piece of radioactive material falls off a truck. Although Murdock loses his vision, his other senses become hyper-developed and his new superhero character, Daredevil emerges. He develops a type of echolocation that enables him to navigate his environment. He has a highly sensitive inner ear that allows him to complete somersaults and other acrobatic tricks that would disorient others. With his new powers, he is able to defeat villains, many of whom are unaware that he is without sight.

These two myths seem to imply different outcomes to the occasion of someone losing sight – either one is lost and unable to understand life or one becomes
gifted with super abilities that enable them to rise above the lose of sight.

But one problem with metaphorical language is that it can misshape our assumptions of reality. Those without sight are neither ignorant nor superheroes. Daniel Kish and other blind individuals have taught themselves to navigate using a type of echolocation but it requires training, not powers bestowed by a bizarre accident. And certainly, we do not require our physical vision to gain insight into the meaning of life. Non-sightedness is another way to create “otherness” between individuals, that they are “other” rather than they experience the world in a different way. Marshall McLuhan referred to sighted people as “We, who live in the world of reflected light” (2006 68). There’s something equalizing in this turn of phrase. It speaks neither of abilities nor disabilities but of how we experience the world.

Many studies that involve blindness and space focus on the ability of blind people to navigate the immediate environment and their sense of their local communities. (Jacobson 1999, Englen and Van den Breede 2006) What of the further horizon? Yi –Fu Tuan asserts that:

"Blind men (sic) are able to know the meaning of a distant horizon. They can extrapolate from their experience of auditory space and of freedom in movement to envisage in their minds’ eyes panoramic views and boundless space. “ (1977 16)

In another work, Tuan states that we need the mind’s eye to recognize the larger neighbourhood or region because they go beyond one’s direct experience. (1975) How do blind people experience visual imagery?

Contrary to what sighted people often assume, many blind people have an active and vivid visual life, some aspects physically and other aspects through creative imagination and memory. While it is a controversial topic, Diego Kaski concludes that even congenitally blind people (blind from birth) “are able to generate images as damage to early stages of visual processing may have little effect upon imagery.” (Kaski 727) He reports that for congenitally blind people, visual imagery may be developed through other sensory information.

Oliver Sacks (2003) talks of the role that visual imagery (the mind’s eye) can play
in people who lost their vision after birth. He gives the example of one man who is able to recreate imagery in his mind so accurately that he can climb up on his roof and repair it, much to the consternation of his neighbours particularly when he works at night. He also talks of a woman who has an especially creative imagination and uses it to manufacture elaborate scenarios in her mind. In discussion with local visual artist Ruth Beiber, she stated, “Sometimes I forget I’m blind. I can see the back parking lot so vividly in my mind that it surprises me when I get out there and I can’t see it.”

Beiber describes a type of vision she sees, that Sacks also describes in his article, given the title Charles Bonnet Syndrome. Beiber often sees geometric patterns and shapes of light that shift and move. This syndrome, while prevalent in elderly blind people, is not solely their domain. Sometimes in the state between sleeping and consciousness, I see kaleidoscopes of light, constantly in motion, constantly dancing. This show can last for several minutes until I think consciously about it more and more until it disappears. It feels as if I am witnessing energy and how it moves on a very minute level, that the universe is composed of this constant dance of energy. That we were created in space/time, in motion and have always existed here.

When I first saw artist Gary James Joynes (aka Clinker) working with sound wave visualization, it was very reminiscent of this phenomenon (Illustration III d. 3). Joynes creates images by pouring sand onto a surface that is connected to a sound speaker. A geometric pattern develops as the grains of sand sort themselves into the pattern of the current frequency wave. As the frequency of tone changes, the wave changes. This process is known as cymatics and creates a very visual representation of the relationship between sound waves and physical matter.
If we return back to Virilio's work, he talks of **acceleration and deceleration**, that geographical space is being replaced by hyperspace. (1991) The topic of acceleration makes me think of motion sickness.

Motion sickness occurs when the body experiences motion that the senses can’t detect. There are three causes of motion sickness: when we feel but do not see motion, when we see but do no feel motion or when both sight and feeling sense motion but they don’t correspond to each other. The source of motion sickness is in the vestibular system in our middle ears (Illustration III d 4.). They contain sensors that tell us where we are in space. If we are moving, they can become confused, particularly if we are reading a motionless book, for example. (Benson, 2002)

According to **NASA** space sickness is an intensified experience of motion sickness, as one might imagine. As acceleration intensifies, we feel more out of balance.

When we feel motion sickness, we feel “out of place” and ungrounded. To me, this is another analogy for what Jameson termed “schizophrenia” due to the nature of the post-modern condition. In creating my locative art piece, I wanted to create something that includes an aural element as well as a visual element. To create a balance between the senses. To engage the whole body with the environment it exists in.

Irish performance artist, Aideen Barry played with notions of futurity, ungroundedness and the domestic when she playfully performed “Vacuuming in a Vacuum” (Illustration III d. 5) in simulated weightless space after experiencing weightlessness at NASA.
While Barry looked beyond earth in this artwork, we are still earth-bound beings, for the most part. In fact, Jeanette Armstrong, the Executive Director of En’owkin Centre, an indigenous post-secondary institution of traditional knowledge and art based in Penticton explains an even deeper relationship:

“Okanagans teach that the body is Earth itself. Our flesh, blood and bones are Earth-body; in all cycles in which Earth moves, so does our body. As Okanagans we say the body is sacred. It is the core of our being, which permits the rest of the self to be. Our word for body literally means ‘the land-dreaming capacity’” (quoted in Walla 2011 241)

As a person of European descent, I am conscious of not wanting to misappropriate indigenous culture or ideas. However, it would be a major oversight to work on a project about the Okanagan landscape and the people who live here without acknowledging the people who lived here first and continue to be an important and active part of the community here. Armstrong offers us a way into becoming respectful allies through the concept of “re-indigenization”, a re-claiming of traditional knowledge and research methodologies that help us make sense of contemporary life while acknowledging the wisdom of the people who have lived here for thousands of years and have accumulated an extensive understanding of the locality.
Armstrong is quoted in an article by Nala Walla, who introduces the concept of “ecosomatics”, which she says “heals the separation between mind, body and Earth by encouraging direct sensory perception of one’s body both in the natural environment, and as the natural environment.” (240) She states that we can re-indigenize by coming home to our own bodies, which she talks about as the somatic body or the inner, sensed body. I think this concept touches on the core of my project, that we can use contemporary digital technology to make us aware of the land beyond the built environment, take us back to the sensual body in a new way and hopefully find a deeper understanding of the world we are a part of.

III. f. Mountains

Mountains are objects of both reality and metaphor. They wrap gentle arms around us; they throw challenges in our way, walls to block our way. Mountains seem to disappear in what Murdoch and Pratt term “the post-rural landscape” (1992) except as capital objects – a place, perhaps, with strong real estate, recreational or resource development potential, or alternately no development potential due to terrain and therefore a non-place. In the past, people saw mountains as sources of shelter, food, spiritual symbolism, or barriers. They were a metaphor for spiritual enlightenment; humans were physically closer to the deity(ies) in the sky. Climbing up to the top was a symbol for the struggle of life and ending in a magnificent paradise.

Mountains were an important example of the aesthetic “sublime” in Edmund Burke’s classic work in which he argued that the sublime and the beautiful are not the same (1998). Both states can bring pleasure but the sublime can also produce a sense of horror. At the time Burke was writing, the Grand Tour on the continent was a popular rite of passage for young rich Englishmen. At that time, the sight of the Alps was enough to invoke a sense of sublime among people more accustomed to the rolling English countryside.

Today, people tend not to have a sublime experience from looking at mountains unless they are up in them, performing extreme sports or they witness a natural
disaster such as an avalanche. Mountains have become almost banal - they slow us down on our journey to somewhere.

For my own self, they are both the sublime and the banal. I confess I don’t always consciously notice the presence of the local Okanagan Mountains in the same way I do the Selkirks near Nelson or the Rockies. But I do appreciate their subtler beauty and unique formation.

And I have had my own sublime moments in mountains, seeing and hearing rushes of rock and snow tumbling down a mountain. I experienced one of the most sublime (and spiritually powerful) moments in my life while in Mount Zion National Park in Utah twelve years ago. While camping there, I hiked many of the local mountains (many named after Mormon heroes, although it was an area of significance to the local Indigenous people too). One day, I hiked Angels Landing, a relatively steep but easy walk up to the top. The sublime moment came when I reached the top and proceeded to walk along the ridge. At one point, the path is less than one metre wide with a vertical drop straight down on both sides of the path (see Illustration III f 1). It was not a difficult climb physically but made me face a psychological fear of falling and death.

Illustration III f 1. Hike on Angel’s Landing, Mount Zion Source: Chris Butler, Photolibrary

After I returned to my camp, I spent the afternoon in my tent while it felt as if my soul was “soaring” around the surrounding mountains and canyons.

Cosgrove and della Dorra describe our relationship with mountains as a “two way physical and imaginative dialogue” (2008 4). The human body is the place where
nature and culture come together. In this instance, the dialogue was focused on the imaginative! But that dialogue or experience came about from the physical climb up the mountain and along the ridge.

Simanowski believes that data mapping transforms the sublime into an anti-sublime. Perhaps by using data mapping in an aesthetic way, we can bring attention to the banal and give it a focus that may even induce the sublime, especially for non-sighted participants who may not have been able to experience the scale or physicality of the mountains.

Mountains have long been a subject of artists, including Canada’s own Group of Seven. The place of mountains in contemporary art is perhaps best demonstrated by a project by Francis Alýs entitled “When Faith Moves Mountains” (Illustration III f. 2) The art piece consisted of around 500 volunteers shoveling the end of a long sand dune about four inches from it’s original location. This piece speaks of the sense of meaninglessness and futility that post modern art explores.


Alýs is one of a group of land artists which includes Richard Long. Long’s practices focusses on his lengthy walks through the landscape. He combines this practice with gallery shows of objects from natural materials such as stone, driftwood and mud.
III g. Some Notes on Technology and Reality

In 1909, seventy-five years before William Gibson published *Neuromancer*, EM Forester wrote a short story entitled “The Machine Stops”. In it, Forester presciently sees a future where people live in a virtual world with what we know as remote controls, video and Skype. On a larger scale, he sees a population alienated from the natural environment who are only reacquainted with the blue sky for example, when The Machine Stops.

This theme has been common in science fiction and futurist literature. It is based on dualism – nature versus technology. With the development of immersive technology, it seemed as if some would head us in that direction. In an example of one of the first immersive artistic experiments with new media, Morton Helig created a Sensorama machine to play what he described as “cinema of the future” (see Illustration III g. 1). His machine, which he patented in the 1950’s offered an immersive environment, geared toward stimulating all senses while the participant was engaged with it with stereoscopic wide-angle 3-D film, and wafts of smells and breezes.

Creating virtual technology that recreates reality has been a popular quest for digital engineers and developers. But despite the amazing progress, we do not yet mistake virtual reality for “the meat world” as reality was referred to by some technophiles in the mid-nineties. The digital world remains a undeniable mimic of the real but there is a lack of depth or sensuality in virtual imagery that exists in the real. While the virtual will
not be confused with the real at this point in our development, that is not to say that it will not be preferred.

BC artist Lawrence Paul Yuxweluptun used virtual reality to explore technology old and new. *Inherent Rights, Vision Rights* (Illustration III g. 2) was a pioneering piece in the field of virtual reality technology art and was the first VR art shown in the National Gallery. It offered participants the right to enter a traditional Coast Salish longhouse, created as a virtual reality space.


In a thesis on Yuxweluptun’s work, Szawlowski (1997) compares virtual reality with mindscapes. Mindscapes are described as geographies of imagination (Slusser 1989), which call to mind the visual imagery talked about previously.

There has generally been a dualism built into the the concept of virtual versus the real world. As with other binaries, this too is false, as the idea of mixed reality bears out. Illustration III g. 3 shows the continuum of reality to virtual reality (Milgram 2002).
In the digital world, virtual reality exists, for the most part, with little relationship to the real world although the physical body remains in the real world. But once the digital world is accessed, users may occupy a space, such as World of Warcraft or Second Life with other users who are across the globe from them, physically. Mixed reality depends on interaction with the physical world and physical location. It doesn’t separate the mind from the body.

By introducing technology into physical place, we create what I term digital riparian zones, where the two systems meet and create a third system. Unlike a biological riparian zone where the two systems are interdependent, the physical place can exist without the virtual system. The virtual system, while not necessarily required for the physical to exist, can inform or enhance the human experience of the physical location, adding to the depth of knowledge of the physical space. The term augmented reality implies that reality becomes more … more what? More real? In a way it does as inscribing a space with cultural history or biological information or artistic insight can inscribe a space with meaning and turning it into a place, as described by Tuan (1977). A connection with or understanding of a place can have an influence on how that space is used, whether to develop or preserve a site, as an obvious example. So in this way, perhaps in this digital age, the physical environment is sometimes dependent on the virtual world.

Similarly, if we think about the mindscape and mind’s eye talked of previously, both term’s privilege the mind as the place of imagination and thinking. Perhaps
there is another way to talk of creating and expressing space and landscape between the mind and corporeality. A space where the body can imagine a new sensuous landscape or embellish the existing space. I see that this concept relates to Walla’s ecosoma I propose to phrase corposcapes to articulate the place where we imagine new space through touch, smell, feeling, taste, sensing and movement.

What happens to virtual space when it becomes located in physical space? Virtual Reality developer Jarod Lanier (2011) states that this has enormous implications for the digital world. In the virtual world, an original piece of information exists but can be replicated endlessly. It is difficult to limit its reproduction and because it has little scarcity, information is difficult to commodify. Capitalists have long had a dilemma of how to make a profit from the internet. Once information is connected to a person, place or thing in the physical world, it becomes scarce and therefore has economic value.

Howard Rheingold (2004) talked of possible systems for Augmented Reality – an open system where we all create and exchange ideas and information about a location or the other a closed system controlled and determined by a few mega companies. In 2004, it was a theory, in 2012, the availability of open platforms for development are determining the direction of that system. Depending on how many people begin to use the available platforms we may have a new public space to play and work in.

Artists have been using locative media technology for over fifteen years now, beginning with artists such as Steve Wilson and his project *The Telepresent*. In the late 1990’s, Wilson created a home-styled mobile platform, consisting of a laptop, a GPS, a wireless modem and a webcam (Illustration III g. 4). Individuals would walk around with the device, giving on-line watchers an insight into their lives. At some point, they could gift the device to other participants.
Another early project were the GPS drawings created by Jeremy Wood in which the artist would create imagery by walking certain patterns with a GPS device tracing his way. What began as whimsical figures such as the Elephant (Illustration III g. 5 and g. 6) grew into more elaborate designs and participatory experiments.
Illustration III g. 6 *Elephant*, GPS Drawing by Jeremy Wood. Source:

One of the more poignant and pertinent examples of locative media art in the age of Globalism is a project, Transborder Immigrant Tool, undertaken by the Electronic Disturbance Theatre. Based in southern California, the group distributed mobile devices to Mexican citizens wanting to cross the border into the US illegally. The devices were outfitted with GPS information that indicated where sources of water were located for the long and dangerous walk across the desert to reach urban areas. This project is a good example of using tools created by the industrial military complex to disrupt aspects of that same system. Illustration III g. 8 shows a billboard advertising the resulting exhibition.
The number of locative media projects is growing yearly, as the technology becomes more accessible, programmable and ubiquitous. They offer artists the tools to provide people with active, creative ways to explore their environments in new ways, sometimes serving as entertainment or education, or as in the case of the Transborder Immigrant Tool, providing potentially life-saving information.

At this point, it feels as if I have reached a centre, a point in the discussion that has taken me from Ireland to the Okanagan, from the moon to the soma. In the next section, I will take the knowledge I learned here and apply it to my art practice as I turn and head back again.
IV Journeying Outward

Canadian anthropologist, Edmund Carpenter stated that time and space became a duality principally in the Renaissance. This duality grew within the arts as music was written down as symbols in time and graphic art was created as symbols in space. Art forms that combined the two, such as dance, became less popular, according to Carpenter. Writing in the 1950’s he noted how television (electronic media) brought the two dimensions back together in ways that film and stage hadn’t (Carpenter, 1960).

Marshall McLuhan, who collaborated with Carpenter at times, saw the creation of linear space and time following the collapse of the oral tradition in ancient Greece. He states “Such is the power of Euclidean or visual space that we can’t live with a circle without squaring it.” (McLuhan 68)

Beginning in the 1970’s R. Murray Schafer (2007) built on McLuhan and Carpenter’s concept of acoustic space to develop the idea of acoustic ecology – that the surrounding sound environment can be listened to as a musical composition (Wright 1977). In his commentary “I Have Never Seen a Sound” (2005), Schafer laments the dominance of the visual over the aural. Schafer’s work seeks to rectify this.

I wanted to work with Schafer’s idea of soundscape, but not to reflect the sound in the landscape but to use sound to articulate the landscape. I was inspired by Softday, Chris Chafe and others who create new material through sonifying scientific data.

I began the process of exploring my own work by creating an interactive installation, using the principles explored by David Rokeby in his classic work on interactivity, Very Nervous System (1990).

IV a. Prototyping

As part of an Electronic Art class with Dr. Aleksandra Dulic, I created an interactive prototype for the project as one of the first steps on the journey outward. For the project, entitled Kelowna Scale, I used a panoramic photograph
of Knox Mountain (Illustration IV a. 1), a popular and familiar mountain near downtown Kelowna.

Illustration IV a. 1 Panoramic photograph of Knox Mountain used in prototype

I set up a three by three matrix using the programming platform Max MSP. The matrix consisted of a database of sounds that would change in relationship to where the participant was standing before the photo. The sounds consisted of notes sung by a classically trained singer, Claire Leger. She sang over 64 words on a C Minor scale so that the database consisted of over 500 individual notes. The words were selected from an essay by UBC Okanagan professor John Wagner (2008) and reflected the various streams of occupation and colonization of the Okanagan valley.

The matrix consisted of three dimensions and the sound would change as the participant walked before the photo. (Illustration IV a. 2). As they moved from left to right, the words reflected first the natural environment, then the rural/farming landscape and thirdly the urban environment, as roughly reflected in the photograph. When they stood farther out from the photograph, the words reflected pre-contact civilization of the local Syilx people, which changed to reflect the second wave of occupation, the orchardists and farmers and closest to the photograph, words related to the current situation in which local land prices have risen and the apple orchards are becoming vineyards. The third dimension brought the participant back to the mountainous landscape that has been present throughout the time and spatial changes. The pitch of the notes changed according to the elevation of the mountains in the photograph.
<table>
<thead>
<tr>
<th>Natural, contemporary</th>
<th>Rural Landscape</th>
<th>Urban</th>
</tr>
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<tbody>
<tr>
<td>Medium pitches</td>
<td>Contemporary</td>
<td>Contemporary</td>
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<tr>
<td>(quiet)</td>
<td>Highest Pitches</td>
<td>High Pitches</td>
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<tr>
<td>Natural, Second Wave</td>
<td>Rural Landscape</td>
<td>Urban</td>
</tr>
<tr>
<td>Lower Pitches</td>
<td>Second Wave</td>
<td>Second Wave</td>
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<tr>
<td>Natural, First Nation</td>
<td>Rural Landscape</td>
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<tr>
<td>Lower Pitches</td>
<td>First Nation</td>
<td>Abstract sounds</td>
</tr>
<tr>
<td></td>
<td>Medium Pitches</td>
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</tbody>
</table>

Illustration IV a. 2 Map of database for interactive installation Kelowna Scale. Source: M. Shirley

The installation was exhibited at Fina Art Gallery (UBCO) as part of a group show in March, 2011 and was included in the final thesis exhibition.

**IV b. Experimenting with AR Technology**

In 2011, I looked into how I could create my app that would read the location and translate the elevation data into sound. I had decided to work with a Google Android mobile phone platform. From personal conversations with developers and through research (Speckman, Goadrich et al), I selected the Android over iOS, Windows or Symbian due to its flexibility in adapting applications to Windows, Mac and Linux OS, its use of Java programming language and the openness of Google Android programming systems.

I met with David Kadish, a computer engineer and he identified a way I could create the app as I envisioned using the phone as a locator device. He suggested that I explore App Inventor developed by Google to accompany
Android phones. He also saw a way of undertaking the project that I hadn’t considered – using landscape recognition software to trigger location and create a real-time overlay of sound using an application such as Layar.

**IV b i. Real-Time Overlay**

Layar is one of the first and one of the largest augmented reality browsers in the world. It works by combining GPS, compass and camera technology to add real time digital information on to the “real world” through the screen on a mobile phone. It was first released in June 2009 by a company based in the Netherlands. They later opened Layar up to other developers in July 2010. I signed up to become a developer in early 2011 (Illustration IV b i. 1). As a ‘non-programmer developer’ I found the interface somewhat confusing to use. There were also some problems with bugs that I wasn’t able to solve that programmers may have been able.

![Screen shot of Layar development page](image)

**Illustration IV b i. 1** Screen shot of Layar development page. Source: M. Shirley

Some of these issues were resolved when I came across a second program called “Hoppala”. Hoppala (Illustration IV b i. 2) provides an environment that allows non-programmers to build their content and then provides a platform to host the content that can then be added to the Layar browser (and therefore
eliminating the need for API endpoints, for example). Using Hoppala and Layar, I attempted to upload a photo of the peacock that had inhabited campus for a while and to upload a poem entitled “Dr. Peacock” that a friend had written for the occasion.

While I was working with Hoppala, I began to question whether I wanted to use this technology for the project or not. One of my issues was related to how Layar is used. Generally for most Layar applications, users hold the mobile phone up and look through the screen to see the AR image applied over top of the real. This aspect of AR reminds me of Boorstin’s (26) concepts of the pseudo-event and that we need to see something on a screen in order for it to be real. How does looking through a phone screen onto a location affect our experience? At what point does the augmentation become primary to the experience of the place over the actual place. At what point does it become a ‘spectacle’ of which Debord talks?

**IV b ii. App Inventor**

The App Inventor platform was developed at Google Labs as a visually-based platform to allow non-programmers an opportunity to create smart phone
applications for Android phones (Illustration IV b ii. 1). In App Inventor, the creator uses first the App Inventor Designer to select components for the app, such as in this case, the image, the sound files and the labels. In the second phase, the user “codes” the app using the Block Editor to program how the components should behave – for example, play sound 2 when button 2 is touched.

I ran into bugs while using the program which apparently was due to the relatively new nature of the development software. I was able to develop a small app that would play a sound (a sung word created for Kelowna Scale) that would vary depending on the relative height of the mountains where you touched the screen. In the final step, downloading it to my Android, I had difficulty connecting my phone to the development site and never successfully put it on my mobile phone. In December 2011, Google announced that they were shutting down App Inventor, along with several other features of their Google Labs site. The site is now available through MIT Labs.

One of the conclusions I came to with this exercise is that I needed someone with more technological background to take over this section of the project. In September, I received a grant from the EcoArt Incubator and hired Kadish to
program the application and work with me on the technical components of the project. Originally, we had planned to create an application that a person would be able to stand in one spot in downtown Kelowna and turn 360 degrees and hear the elevation changes. As we worked, we conceded this may not be possible. This led to the idea of walking in a large circle, which eventually resulted in the plan to use the loop in Waterfront Park. This change enriched the idea, in my opinion, making the experience a more embodied one.

IV c. Choosing Mountains

With the new idea of walking a loop, rather than a simple turn on one spot, I had to view the site and the surrounding mountains in a new way. Looking at the mountains on the westside from the perspective of the boardwalk skyline is relatively flat (Illustration IV c. 1), as opposed to the Banff skyline. Using this for a composition would not make for a variable (nor perhaps an interesting) musical line.

Illustration IV c. 1 Mountains on the west shore of Okanagan Lake, opposite Waterfront Park, Kelowna. Source: Maggie Shirley
At the same time that I was thinking of this, I had been working with making physical representations of some of the selected mountains in the area to include as a visual element of the application and as a component of the gallery exhibition that I wanted to include as part of the project.

At first, I had experimented with tissue paper. I had been fascinated with paper cutting and experimental origami. Paper, as a product of trees and local industry was appropriate. Other local materials I had experimented with (but rejected) in the beginning included dried apples and wine corks. The tissue paper had strong aesthetic possibilities (Illustration IV c. 2), however, one of the aspects of the physicality of the local mountains is that by the nature of their shapes, they appeal to a sense of touch with their smooth, rolling, rounded bodies. Indeed, as opposed to the hard composition of the Rockies, the Okanagan mountains speak of bodily shapes.

Illustration IV c. 2. Experiments with Tissue Paper. Source: Maggie Shirley

I began experimenting with the primary school tactic of cutting layers of cardboard together and glueing them. After this, I added some layers of paper mache. In my unfinished experiment of Black Knight Mountain (Illustration III c. 3), I covered the paper with gouache, acrylic paint and a combination of encaustic
wax and bees’ wax (also a local product). I approached it as a three-dimensional painting.

![Illustration](image)

Illustration IV c. 3 Experiements with cardboard, paper mache and wax (unfinished). Source: M. Shirley

While this had possibility, I felt that it still wasn’t the right material. The scale that I was working with was too small. Also, I wanted an object that people could touch and wasn’t sure about the ability of the materials to stand up to multiple pairs of hands rubbing them.

In the end, I decided to work with wood, a local product found on the very mountains I am focusing on, a material that is durable and that I can work with on a larger scale. I like the idea of including a “traditional” craft in a project that is about exploring contemporary technology. Because I am attempting to be inclusive with my art, I like to think of my family of origin when I create a show and what would appeal to them (and many other older and working class people). To them, art is craft. I also think that traditional craft, such as woodwork is underappreciated today.

Following visual research I decided to use plywood (Illustration IV c. 4) for its size and shape, its softness and, especially, for its striated nature. It speaks of the topographical maps that I am working with to extract the data. It also speaks
of layers - layers of meaning, history and memory that the landscape holds. It echoes something of the visual landscape of the desert hills.

Illustration IV c. 4: Work in progress using plywood (overhead shot). Source: M. Shirley

Originally I wanted to create models with a base of four feet or smaller of some of the local mountains, including Knox and Black Knight.

As I was thinking of which mountains to work with, I realized that I would have to change the concept of how the application works (see above). I decided I could create representations of distinguishing mountains that rest roughly in the four directions of the boardwalk loop – Knox Mountain (North), Black Knight Mountain (east), Okanagan Mountain, (south) and Mount Boucherie (WSW). The four directions speak both of the traditional navigational aid of the compass and also to earth-based spirituality, practiced by people including First Nations and the ancient people of Ireland who appealed to the four directions as a source “grounding”, of centring themselves spiritually, each direction providing a source of energy and wisdom.
In the end, I was only able to complete two of the mountains, Okanagan and Mount Boucherie. Knox was represented in the prototype exhibit, described above and the elevation data of Black Knight mountain was used for one of the sound pieces.

Illustration IV c. 5  Map showing locations of mountains viz a viz Waterfront Park. All locations approximate. Scale 1:200,000. Source: M. Shirley and http://atlas.nrcan.gc.ca/auth/english/maps/topo/index.html

IV d. Composing Mountains

My original project in Banff used elevation data from a photograph that was plotted on a graph with 12 units on the y axis and units of time on the x axis. The y axis was then translated into notes on a scale. Illustration IV d. 1 shows a
graph of Mount Rundle.

However, as stated previously, using data from local mountains in this way would result in a relatively unchanging pitch. In addition, while reading about yoiks, I found this quote by Ursula Länsman (2003).

“A yoik is not merely a description; it attempts to capture its subject in its entirety: it’s like a holographic, multi-dimensional living image, a replica, not just a flat photograph or simple visual memory.”

Like Länsman’s explanation of yoiks, I wanted to create sound that was not two dimensional but that gave more of a sense of the depth and complexity of a mountain. Although we physically experience one place on a mountain at any moment, visually we can see the rise and fall of not only the skyline but the sides of the slope. Any glance at a topographical map or viewing a mountain from a plane gives us a wider sense of the concept of “mountain”.

In the spring of 2012, I began to work with musician/artist Tim Smith. Because I am not a musician, my discussions with Tim were interesting and thought-provoking as Tim approached the project from an aesthetic understanding of what makes sound “listenable”. His perspective helped me to transform the sound component from a strict data translation to a combination of data.
interpretation and aesthetic comprehension, as discussed previously. (Simanowski, Wright).

In deciding how to interpret the data, I attempted several methods of collecting it first. With this project, I referred to topographical maps as my data source. One method I tried, dubbed the String Method, was to measure the various topographical lines with string and then measure the total line length. This proved to be not useful because although I had assumed that the resulting sound would give a sense of climbing an elevation, some of the higher elevation lines wound significantly and were actually longer than lower elevation lines. This method created a similar problem to another attempt, the Bar Method. I drew lines at ten equal intervals from top to bottom of the map. I measured the length of each topographical section along these points and mapped them onto paper, similar to a cross-section at equidistant points on the map (see Illustration IV d. 2 showing 7 sets of data for Knox Mountain). If either of these methods were interpreted literally, the result would be a barrage of sounds, as neither set would provide any space or silence.
Because I wanted a sense of climbing upwards, I decided to dissect the map along compass directions and mapped the points where the topography lines intersected these compass lines (named the Pie Method). In doing this, it gave me series of numbers along axes (north/south, west/east, northwest/southeast, southwest/northeast, and so on). Illustration IV d. 3 shows the working copy of data sets for Knox Mountain.
We also considered other characteristics about the mountains themselves – such as the fact that Mount Boucherie is an extinct volcano or Knox Mountain’s history with both Indigenous and settler people. We also talked of characteristics associated with each of the four directions. For example, many earth-based spiritual practices pair the element of air with east, fire with south, water with west and earth with north. Tim composed four sound pieces, keeping in mind these considerations. In the end, he created two musical pieces (for east and north) based on elevation data and two sound pieces (for south and west) based on the elements of fire and water, respectively.

IV. e. Voicing the Sensual – Interviews with Blind and Visually Impaired People

The heart of the project came about when I conducted interviews with several people about their experiences hiking and skiing in the mountains. I interviewed six people who were blind or visually impaired as well as two sighted people. One of the interviews with one blind participant was conducted too late to be included in the exhibition. One of the interviews with a sighted person was not
useable. As a result of having useable material from only one sighted person, I chose to use material from visually challenged people only. Aesthetically, this may have been an appropriate decision as it gave a collective voice to those not often heard or considered. The transcripts of the interview clips selected have been included in Appendix A.

Rather than analyze their content, I will suggest that you read the interviews themselves for their interesting, poetic nature. They speak of the senses, of concepts such as feet intelligence and of beauty.

The sound and wood sculptures were part of an exhibition that took place between August 10 and August 18 2012 in the Alternator Centre for the Arts and Waterfront Park. At Waterfront Park, participants were able to walk a short loop (see Illustration IV e. 1) and hear sound compositions based either on elevation data from local mountains or soundscapes composed of sounds and phrases from interviews conducted with blind individuals.

Illustration  IV e. 1 Aerial view of Kelowna Waterfront Park. Source: GoogleMaps
The gallery exhibition consisted of several pieces: the prototype titled Kelowna Scale, selected clips of the interviews, the sound walk and wooden models of two local mountains that I named Touchscapes. The gallery served as both an information point for the Waterfront loop walk and place to borrow phones from as well as an exhibition site.

The following images were taken during the exhibition.

Illustration IV e. 2 Okanagan Mountain Touchscape with Listening Station in background
Illustration IV e. 3 Blind visitors exploring one of the touchscapes
The overall exhibition was a success, with many visitors expressing interest in the concept and appreciation especially for the soundwalk and the touchscapes.
V. Conclusion

The questions indicated in the introduction were a starting point. For me, the artistic process, unlike the scientific process does not look for answers to specific questions but uses these questions as way to begin a personal artistic journey. Each individual involved in the process by interacting with the artwork takes away their own experience, whether it is related to the artist’s original intention or not. Through their interaction with the artwork they create their own journey of discovery. The open structure of this support paper and its relationship to my artwork provide another opportunity for individual discovery as well. It is not the intent of this paper or the artwork to answer these questions but instead to give insight in to my personal artistic process and to provide an intellectual space to consider the issues my artistic projects raise.
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Appendix A
Transcripts of Audio Clips selected to be played in the gallery
MS is the author. Interviewees identified by their initials.

Interview 1 – RE - Middle-aged male, legally blind since young adulthood, grew up approximately 20 miles from where the author grew up, near the Cypress Hills in south-western Saskatchewan

...on hiking
RE: I love, love hiking. I love, love walking. I love doing all those things. Especially up in Banff and area. And I can’t remember the name of that one trail but there’s a trail just outside the Banff where you can go up and around and you find this cave and this water flows over the cave. Nice long hike but man that’s a … that’s a really nice to go. Just don’t go when it’s really icy and wintery cause it’s pretty scary. Ha ha ha

...on what he likes about hiking and what he senses
RE: I just like outdoors. And, I like, I like to experience things and you know, if you will the smell of the air in areas where there’s lots of forest, lots of trees. For example, in the Cypress Hills area in Saskatchewan you don’t know it but all of a sudden you go over this hill and then you go down and then you’re in this huge forested area and the smell of the air is just really sweet. It’s …um.. it’s hard to describe. I’ve not even experienced that here in British Columbia anywhere but when you go into this valley of Cypress Hills there’s just a…. I don’t know what the scent is. It’s hard to put your finger on it but there’s a sweet um aroma from the trees and area and you probably recognize it from that area yourself I suspect. It’s a really hard one to put your finger on. But I haven’t experienced that even in Banff or Jasper or anywhere else but in Cypress it’s certainly there.

RE: And the other thing is when you’re walking you also know the ground is interesting because sometimes it sounds hollow and sometimes, you know depending on where you’re at and how many roots are underneath it might sound even more hollower and other times more firm. So you can sort of tell what kind of ground you’re on and how close trees are depending on how, how, the
sound of the trail if you will. Not even just the terrain but the sound of it, which is kind of interesting.

RE: The sounds, always the sounds and the echoes, if you will. The feel on your feet, um, especially depending on the type of ground and terrain you’re on. If you’re off a paved path or a gravelled path, if you will, and you’re on just a regular type trail um then you get into how that path works and all the different, how can I put it, the terrain of the path, there’s always ups and downs, um, there’s always roots going across your path. Um, there’s always trees or plants and shrubbery that either gets you in your head or you feel it on your sides or on your ankles if you’re wearing shorts, those kinds of things so all of those become an experience. Um, but I think more importantly is is just the sounds, especially if you come up to an underground spring where it’s starting to bubble um and you start listening to the bubbling water and that kind of thing. Um, I hate to go back to Cypress but, ha ha, they have many trails in Cypress and one of the trails that they have there is the Valley of the Rippling Waters. And that’s my favourite one because as you’re walking through there it’s all quiet but you’re hearing all of these sounds of these underground springs that suddenly pop up and you’re hearing these little waterfalls and these waters rippling and bubbling as you’re walking through there and it’s just, to me it’s just so peaceful. Well, it’s just amazing. The sound is.. well I don’t know, I think that’s the part I like the most. It’s quiet and it’s peaceful. And you don’t..you tune out any traffic noises and all that other stuff and you’re hearing the richness of nature, I guess.

…and on what he experiences at the summit of a mountain
RE: Yes, there’s a sense of openness, ..um.. and it’s hard to explain, it seems like there’s a big expansion suddenly, um..and it’s almost like you’re almost on the edge of a preface (sic) and if you take another step, you’re just going to go FROOM ha, ha. You know but it's like but it's hard to explain but you’re suddenly, you suddenly have a feeling of wide openness which is kind of interesting so..cause when you’re walking amongst trees and stuff you sort of feel enclosed. It’s sort of similar to when you’re walking down a sidewalk you can sort of sense when there’s a parking metre or a person or a car and it’s similar when you’re on
a trail. You can sort of sense how close a tree is on the path uh...and I don't know if it's because of the echoes the smells and the sounds all entwined and the brain just suddenly alerts you and you move a little to the left or a little to the right you know. So it's just all of those sort of things entwined together.

...on fear and hiking

RE: Where were we? We were on some mountain slope up in ..ho...well it was up in the Jasper area and um, um, oh it was in the glaciers I think that's where it was. And we went up there and we were going up this hill and there was this real slope. And it was like, it seemed to me like it was a 45 degree slope. But all of a sudden, I don't know what came over me I just had this fear that if I started to slide I was just going to go down, down, down, down, down. And I was just, the fear just took me and it never did that to me ever before and I just couldn't go any further. I just had to stop. And I never had had that happen to me before. Um it was just the um ....you know, just, just the way the terrain was, the slopeness, a bit of a breeze and I was just totally insecure suddenly and it seemed like I was in a wide open rock face and if I started to slide, I just wasn't going to be able to stop. I didn't know if I could hang on and I was just totally frightened.

MS: Ya, ha, ha, I would be too!

RE: Ha, ha, ha. But my wife and my kids, they, no problem, you know. It was like, "Here, hold on to me, blah, blah." But finally I said "I just have to sit, you go on and enjoy this experience but I need to sit and get ahold of myself on this" but uh, it was interesting. And when I got to the glacier part, I sat down on this really nice rock and I started feeling this rock and it was just awesome. It was nice and smooth and so on and there was some uh little stones at my feet and so on and I was checking out these stones and I picked up this one that felt light as a feather but solid and so on. It's sort of like a soap stone if you will but it was all nice and smooth and had some weird shapes and so on but it was perfect for putting your thumb on and just rubbing so I now have that um .. at home and that's one of the stones that I always take out and I uh .. just rub it and it puts me at peace and I have fond memories of um ..where I'm at and uh.. the feel of the cold from the
glacier and all that kind of stuff just comes back when you have that ..that tactile feeling with you. You know, it's really quite interesting.

MS: Like a worry stone.

RE: It's like a worry stone. Ya. But it sort of brings back the whole memories of, of going up there and feeling the cool air as you're walking, and getting closer and closer to, to where all the ice is and stuff. You're feeling the gravel path and then as you're getting closer to the ice it's getting cooler and cooler and cooler. You know it's really..that in itself is quite an experience.

…on his visuality

RE: As, as my years of not being able to see go on, it, it, that visual sense is no longer as important to me as to more of the colour description and so on. I, I like to..I guess it's like do you see the tree or do you see just the forest? I've always been a micro kind of a person and I would like to see the forest and I would like to focus on down, down, down, down, down until you get to maybe a single tree. And I like to feel..whether the bark on the tree is smooth or rippling, you know. The difference between a poplar and a you know, maybe a willow tree, those kind of things. And just the kinds of textures you get when you're feeling those types of trees. So the images are slowly um leaving me but the tactile pieces of those are sort of taking over if you will illustrate. So it's sort of weird if you will illustrate I still like to have a description of what it is visually cause it gives me a sense of the largeness and the beauty of it that way but I now seem to be focussing more on the beauty of the texture aspect of it. And again we're getting back into what can I feel, what can I hear and even sometimes what can I taste? You know, depending on if you dare to try a berry or you know this kind of thing. Like, a lot of people maybe never tried to eat a little flower off a carrigana tree but they're sweet ha ha, you know!

MS: When we were kids we used to suck the ends off them.

RE: Ya. Yes, but you know those things come back to you when you're blind. And those are the things that now you sort of appreciate those sorts of things because that's a different kind of experience now. And I can't even remember now if it's yellow or white, those flowers. There sort of a pale yellow but it really
doesn’t matter anymore because it’s more of the texture and feel of them and that kind of thing. The softness of the petals and you know that.

…on listening and walking

RE: I like the audio part of some hikes so some places you can get .. um sort of like a little machine and you put the headphones on like an MP3 player and then as you’re walking along, it will tell you about different points and then you can listen but I don’t like, I like to listen when I’ve stopped and I’m there. Then I can listen to the piece and then I can take the headphone off and just listen to the surrounding – to the birds, how the trees are blowing sort of with the wind and you know all those kinds of things..um and listening for any kind of rippling of water or noises. I like to know if there are any frogs about cause that always tells me there’s water nearby. You know, just those little types of things. Um it’s just experiencing it in a different way. Before it was just sight and not so much the sound and feel. When you take the visual part away which is probably what about 80 to 90% of where, what most people take in for there..um..how can I put it? Most people when they see, 90%, 80 – 90% of what they take in is what they see and they seem to dismiss the rest. I take in that other – my 90% is just hearing, feeling, touching, you know, just sort of sensing other than sight. It’s just a different way to do it.

…on sensing mountains in the far distance

I notice that when you’re sort of in town, um, the air is not as breezy but as soon as you get close to the lake for example, all of a sudden, it’s very windy. And I don’t know if it’s all the time but it’s been like that for the whole time that I’ve been here just this last week. You know you go outside, think it’s nice, just this slight breeze but by the time you get down to the lake area and maybe it’s because of the open area, like in Saskatchewan, it never seems to stop blowing and I don’t know if that’s the case, you know. Similar to when I’m in Banff or Jasper or even Cypress, once you get in to the treed area, ah, all of a sudden you don’t feel the wind per se. You might hear it above in the trees and stuff whistling through but you don’t, you don’t really feel a whole lot of breeze once you’re in amongst the camping areas or the trails.
Interview 2 – Young woman, CN, Master’s student, low vision since birth

…introduction
CN: So I grew up in the Kamloops area, and I grew up right in the mountains, right near the river so I did a lot of hiking, camping in the area.

… on what she loves about hiking
CN: for me I guess I love the tranquility. For me I guess I grew up in Kamloops and so I knew the trails inside out. I felt really comfortable even though I’m, you know, visually impaired, I felt really comfortable just hiking around, I knew the trails, I knew where I was going.

CN: I guess for me I like the silence because I really pay a lot of attention to the sounds – the birds, the animals. Um, especially the areas that I hiked I always used the creeks and rivers as a guide to where I was so that was a big part of my hiking experience.

…on skiing
CN: My dad was a skier, he was from Austria so he just said “You’re going to learn how to ski.” So, ha ha, ha ..

MS: Ha, ha. Great. You had no choice.
CN: Yep, he threw me on a pair of skis and I loved it. So I was the one who wouldn’t come back in at the end of the day. I just wanted to keep going for more and more.

…on fear and hiking as a child
MS: So there was no sense of fear when you were..?
CN: No, not at all. Plus it was familiarity for me. I mean these were trails I hiked on pretty much since I was two years old so I knew what they were. I knew where I was going, I knew what was safe and what wasn’t.

…on fear and hiking as an adult
CN: (I got scared) A couple of times a little bit in the coast area because I’m not used to the really, really steep going up and down. And so that can be a little bit..cause I can’t quite tell how close I am to the edge and so that’s a little bit
freaky. Um, I’ve just gotten hiking poles so I think that’s going to make a big difference. I haven’t had a chance to test it out yet.

…on the differences between the coast and the interior

CN: I recognize..I guess that’s one of the big differences between the interior and the coast too is that I recognize more the foliage and just like I can recognize by the bark what something is or a certain smell whereas in the interior, er the coast I’m still getting used to what everything is.

CN: On the coast, it’s much more green but then in the interior, it’s much more drier which I kind of like in a, it’s, it’s nicer looking on the coast but I don’t know, it’s hard to explain. Um, it’s more majestic I guess in the interior. Because of the Rocky mountains, the trees are bigger, ha ha. And I just like the scenery but then again it’s familiarity to me. Coming to Kelowna for the weekend, I was telling my friend the whole way to the airport or to the hotel “Oh, these are the mountains I grew up in. It all looks so familiar.”

…on what she misses about the interior

CN: And I just miss being able to take off you know. I was an early riser, 6 a.m., go for a nice long hike in the morning, then go to school so I miss that kind of freedom. But then there’s that certain freedom that comes with living in the city that you don’t get in the country. It’s give and take.

…on accessibility and fine art

CN: Ok, this is a bit of a controversial thing because I am one of those believers that going in to a museum or something, I don’t believe in touching all the exhibits cause I think that’s dangerous. But I just love them having something, even like a tactile..uh.. replica. Something like that. It can be ..it’s hard because when I was in London, England, I went to the museum there and everything was tactile there and that was one of the most amazing things in the world to me, to be able to touch everything! But then you go to other museums, like I went to, I was in Shanghai, China and nothing was tactile. You do not touch anything. But like this stuff is so old and brittle, I don’t want to be responsible for touching it. So I would have liked replicas. Audio guides are one of the best things. I just came
from Toronto and I went to the art gallery there and I was dying to go look at the Picasso exhibit and even though they had an audio guide, all the numbers on the wall were too small for me to be able to read. So I couldn’t tell when to push the button and get the description and all the plaques were too small. So I got basically nothing out of it. I was so disappointed I even asked for my money back and they were like “Well, we can comp you for an extra ticket.” And I’m like “Well I’m not even from here, it’s not going to do anything.” So that was really disappointing and for all their other exhibits there was no audio guide so it was completely discouraging.

MS: They have some work to do.

CN: Yes. And you know, I’m thinking the Louvre in Paris, that one - great audio guide. The problem was it was all touch screen and I couldn’t actually see the touch screen. Ha ha ha. So it was like (gestures) argh. So it was like describing this painting and I’m standing in front of a sculpture and I’m like, “no, that’s not good”.

**Interview 3 KA, Middle-aged woman, legally blind since young adulthood**

...on hiking

KA: I picture where I am. I like fresh air. You know I just like getting out. I like the sounds and the lack of noise. You know when you get out of the city, um, I like all the layers between the air flow whether it’s, you know, bird sounds or people.

... on what she experiences at the summit of a mountain

KA: I guess, ya, when you get up there, there is a difference only because it’s quieter and there is a different feel to the air. And the openness at the top versus down in the valley.

...on her life

KA: My life actually feels fairly normal, most of the time. You know I don’t really think about it in terms of being blind or not.

KA: I love doing yoga. I’ve done yoga for about 25 years or 30 years. And you know, it feels like a pretty cool part of my life. But, uh, then again, I don’t think it’s that different than anybody who could see, I guess.
KA: I walk the area here. I’m lucky where I live because it is a kind of area where a lot of people are out walking. But, you know..uh.. living along the lake and along Abbott here, it’s such a nice area to walk in. This time of year (spring), there are so many smells and all the flowers being out. This is kind of my favourite time of year because it feels so much like after winter everything is so alive.

**Interview 4: Middle-aged woman, RB, legally blind since a young child**

.. on art and visuality

RB: The great misnomer, I believe, is that art is visual. Howard Gardner who is the founder and author of the Theory of Multiple Intelligence reminds us that art is cognitive in nature. So to enjoy a painting, well, sure. Of course, superficially the first thing we think of is looking at it. And any artist will tell you that the bane of their existence is the fact that they spend hours painting something and then people who can see look at it for seconds and then move on to the next painting. And there’s so much more to it than looking at the art and I think that’s why, I think that’s why there is so little time spent looking at the painting because really the bigger picture story is about what does the piece of art mean, what medium is used, what kind of art is it, is it abstract, is it impressionistic, is it, um, is it representational. And then we start to think about the artist, you know, we’re fascinated by artists themselves, that’s why we go to the openings, right? To meet the artist and um, you know how old is the artist, what’s the artist’s story, why did they become a visual artist, um, what’s their political statement, what’s the economic environment within which..was there a war going on, what are they painting? So these are all the stories and the context that surround the quote/unquote “visual piece” itself. And you don’t need eyes for any of that. You just need to think and you need to feel and you need have an opinion and I think we all have all of those.

RB: Well, that’s one of the by-products of the work that I do, because, you know I’ve dated artists, right? And they love the fact that when they’re with me, there’s this opportunity to explain the art and to describe the art because of course that’s what goes on too. With people who are blind, you begin with the art piece as you
do with sighted people but sighted people can do it in a few seconds because sight is very efficient. It’s also very seductive, right? So it’s like “Oh, done that one, now let’s go to the next one” because that’s what the eyes like to do, right? Um..but when you have to describe a piece of art verbally it takes much more time and there’s actually an art to it, to describe enough detail so that the person who is sight-impaired gets a good mental image but not so much detail that the person who is listening gets lost. Because if there’s too much detail it’s like the brain just starts to wander after awhile. So just by sheer virtue of the fact that vision-impaired people are attending art galleries gives that impression that well, yes, we can spend more time with the art piece. Yes, it is important to really take a look and to experience the art and to think about how I feel.

… on her career and creativity
RB: Ok, well I’m interested ostensibly in creativity, so I would say, my life since the mid eighties has been all about making creativity accessible to all people, especially people who believe they don’t have the right to creativity. And we all have the right to creativity. We’re inherently creative. We’re born creative. And then we get that educated out of us, with people telling us we can’t draw or we can’t sing, we have terrible voices, we can’t act or whatever. So, there’s that, and then there’s just sub groups like people who are blind are often told they can’t enjoy visual arts. So since moving to Kelowna, that’s been my big passion, has been getting the visual arts accessible to blind people both from the perspective of gallery tours as well as, um, promoting blind artists. As you know, there’s going to be an exhibit of blind artists in 2013 at the Kelowna Art Gallery. Before I was passionate about the visual arts, I founded and operated a theatre company in Calgary for seventeen years called Inside Out Theatre. I was the artistic director and um, that was a theatre company for people with disabilities.

…on experiencing fear while hiking
RB: You know what scares me? Things like ticks. And you know, things that just can get you. And, and sometimes, you can’t get away…bears and uh..some of the things of nature. Am I afraid of heights? No. There was one time, as I’m saying that, when I was quite young and a bunch of us started climbing what
turned out to be a very, very sheer cliff with no ropes. We were just being young and foolish. And I got to the point where I was plastered against this cliff and I couldn’t go up and I couldn’t go down. And I was just stuck, right. And that was very scary. And because, you know, people often say (mocking tone of voice) “Well, you’re not scared because you can’t see how far down it is” Well, I was very scared and it was because I couldn’t see how far down it was. I mean I could have been ten miles. I mean I had no control whatsoever. And so that was very scary. Whereas I think most of the time..um..my climbs have been very controlled and there’s been lots of safety, safeguards and that sort of thing. Now there was…ohh..Mount Sinai, that was interesting… in the desert because the first two thirds of the climb, there was a group of us and we were on camels. And .. there again, these camels apparently, were walking along this very narrow cliff, you know, piece of ...of... path. That was, you know, on one side it was straight down and they would go up and before we went on that hike our tour guides said those camels don’t fall off the mountain, right. Like, I mean they reassured us and so I just believed them. And now, I was aware of what they were saying and what I was imagining might have been worse. I mean maybe the camels weren’t even as close to the edge as I was imaging. And maybe it was further down but I trusted what the people said. I didn’t think they’d put us on a camel if there was any risk of the camel falling off, right. But apparently, I was one of the very few people who really did enjoy that trip up the mountain on the camels. Other people were really kind of freaked out. So, was that because I couldn’t see, even though I think my imagination is often, you know, greater, more dramatic than what’s actually there, um, or was it just because I was very trusting. And as a blind person, you have to develop a sense of trust or you just don’t go out, you stay home.

…on what she experiences in the environment/ while hiking

RB: Well, first of all, there’s nothing like stepping outside, even just from my condo here on to the street or back door, and taking that first deep fresh breath of outdoor air. Even if it’s…you know, somewhat polluted or whatever from traffic, it still is energetically so different than indoor air. And so…to go into the
mountains where we actually know the ozone is naturally rich and the air is cleaner and you can smell the trees and the grass and whatnot. It’s just magic to me. And so that sense just right off the bat of just (breathes deeply) taking the breath and breathing in the lovely nature air is magic for me. And then to be able to hear the sounds of nature...uh...is very rich in my world. And I know I’m often walking with people outside and again as a sighted guide people will be very focussed on what they see. And I’m often going “Oh, did you hear that?” and then they’re kind of like “What?” but then bring it to their attention and they hear it. And, so it’s delicious for my ears. Absolutely.

RB: But I really enjoy feeling trees and feeling the grass and feeling the flowers and smelling the flowers...um...and being able to use all of my senses, generally, I would say I very, very much enjoy about nature. Just as long as I don’t get a tick or eaten by a bear.

RB: So, you’re already getting the sense that it’s a real body experience for me. So it gets me out of my head where I am a lot of the time...um...into my body and I really, really love that a lot and I think it’s really important for my mental health. So you can feel the out of doors on your skin in a different way than inside. So once I’m outside, there’s the breeze and there’s the wind, there’s the warmth of the sun. I mean the skin just goes (slurping noise) “thank you, thank you, thank you, thank you” (high pitched voice and laughter). Right? And um, there is also the feet intellegence which I have really grown to appreciate more and more as I age and as I participate in more hikes. Um, the whole idea of climbing Mount Sinai or the Sacred...uh...Mountains of Peru, Sacred Valley, um or the...uh...Mayan Temples, you know. I really realize by doing, by everytime I do another hike how much information I actually get from my feet. And so it’s very grounding for me as well. As I said, it gets me out of my head and really, really into my body in more of a way, I think, than even for people who are sighted. I’m sure that for sighted people that works as well, but for me it just seems to be totally profound.

...on “feet intellegence”
RB: I mean, yesterday, I was telling you I was sitting out having a picnic with a friend and just the feel of green grass under my feet is just amazing and you can just feel the earth taking all the negativity out of you through your feet, um, and then even with shoes on that’s going to feel different if I’m on pebbles or if I’m on flat grass, I mean, flat…surface. But most importantly is…uh..the type of terrain and if it’s going up a bit or if it’s kind of curved a bit. If you pay attention to your feet, your feet will really respond to that quickly. And that’s what I need because otherwise, I would be losing my balance all the time, right? So, as much as it’s easier for me to always be on a flat terrain, or an even terrain, my feet really help maintain balance because they are always giving me these messages (higher pitched voice) “A little to the left, a little to the right” because it’s impossible for a guide to verbalize every little piece of terrain on a hike without the assistance of the smart feet.

… on independence and the outdoors
RB: And this is not to underestimate the importance of a good sighted guide. During..I mean last summer I did rock climbing out near Penticton. What’s the name of those…..
MS: The Naramata Bluffs or?
RB: Not, not quite that far. And that was spear-headed by very capable people who knew all about how to do it. Put your hand here and put your…but even there, they were more interested in me feeling the rock myself and finding and I know I wrote to my friend who is a rock climber and he said “Oh, absolutely!” You know, one of the best things to do is just hug that rock and even close your eyes and feel it, right with your feet and your hands. But, I would never have gone by myself, right. Ha, ha.
MS: Ha Ha, you’re adventurous but in a smart way.
RB: Well, most of the time, not always!

RB: Well and speaking of rock climbing, um, that was a different kind of experience for me in that I didn’t have anybody’s elbow, right. So that was really fun. I was kind of on my own and there was, my partner was over there (gestures away from herself) saying “well, try a little to the right if I was getting a bit lost or
confused but it's definitely me as opposed to most of the time I'm hanging on to somebody's elbow or their backpack. That's even better because lots of times it's narrow. So that's a bit of my experience too, is that I'm often seeing it, metaphorically speaking, from the perspective of hanging on to somebody's backpack, or their elbow or something like that so it's freeing and it's wonderful but it's certainly not as freeing if I could see. Right, so that's the pay off.

...on blindness and visuality

RB: I've been legally blind since the age of six. And so...that's the best time to go blind if you have to go blind because young enough to adjust more easily yet old enough to retain visual memory. There's some research that says if you lose your sight before the age of, I've heard five and two, I don't know but that then your brain doesn't retain visual memory and I have wonderful, creative visual memory and ability to visualize. So that's important I think to realize. And then about twelve years ago, I started seeing colours in my environment so it's as if seeing through a filter of colour. So you know the old saying, um, a person is looking through rose-coloured glasses, right. So if you put glasses on that have a rose colour then everything is that, I know it's a metaphor but, it has that rose colour tint to everything, right? And so that's essentially what I see and it can be any colour. Usually, when I wake up in the morning, the first thing I do is check out what is the colour of the day and sometimes it's pink, and yellow, green, purple, orange, gold, it's all different colours. It can be any colour and they're always very beautiful. And I consider it such a gift. I consider it, uh, grace. And whether it's my own brain, um, creating this opportunity for me to see colour and enjoy colour or whether it's a divine inspiration, I'm not sure. Maybe a little of both. Definitely feels divine. But we co-create with the creator, right. So it's probably my brain and I believe that the more I focus on the colours, the richer they become. And I've noticed that the colours are quite different in different locations. So that's kind of interesting too, that it's not just about me. I think it's about my environment as well.

MS: Yeah, and what changes the colours, do you notice?
RB: The light. You know, we know that the physical world, um, everything in our physical environment, um, projects a colour, right. So light possesses all of the colour spectrum and the physical matter of any object absorbs all of those colours except the one that it projects. And so then that’s why the table will be brown and the wall will be yellow or whatever. So because I don’t see the physical world per say, I think I’m seeing all of the colours that are in the spectrum based on the light. And as you know, I’m very light sensitive as well. So I don’t think that’s a coincidence. I think there’s a connection there. But any artist will tell you, right?, that the light in Calgary is very different than the light in Kelowna than the light on the west coast than the light on the east coast so I think it has something to do with that. I also think I’m picking up on the energy of a space. I don’t see auras around people like some people do. My colours are like the entire space around me so I think I’m picking up the energy of a space. And then I think there are other interesting things that may influence, um the colours when I was in New York were absolutely amazing. And we suspect that Manhatten may be built on a crystal, right? So that’s got to make a difference, right?

MS: And, well if you.. anybody who’s been to New York knows, just the feeling, the, there really is energy there, isn’t there. Like, a different buzzing, happening..yeah.. energy.

RB: Yes, exactly. And water makes a difference and here we are in the Okanagan with this great magical lake. But I know that if I take a shower, for example, um sometimes the water, I mean I can’t see the water but sometimes I “see” the water coming out as a gold shower, coming out and then when I finish the shower, I am always very excited to come out into my apartment ‘cause the colours will be very vivid then, at that point. So, I think it all works together. But it’s all energy in the end. It’s all energy.

MS: Yeah, that’s beautiful.

…on sensing mountains in the far distance

RB: To be honest, I think if you were able to beam me (snaps fingers) prairies (snap) Kelowna (snap) New York (snap) and say “Where are you?” I have no… I
mean would I be able to use the sounds? I mean…maybe with sound ..um there might be some clues. But otherwise, I can’t really say that for me, I mean another blind person be more astute for whatever reason but for me I can’t really say I get an impression one way or another. It could probably be anywhere. It’s more the visual imagery I have of where I know I am. And then maybe some of the audio as well. Um, but otherwise, that would be interesting to be able to beam someone and say “Where are you?”

RB: And yet, for a minute I though of myself being in the middle of the bald ass prairie and I can’t help but thinking that would feel different. Um, I mean it feels different just as I’m thinking of it. Uh, is that my imagination? I don’t know. Could be.

Interview 5: JB, Young woman totally blind since birth

…on what she understands of mountains

JB: Like, all I know is mountains are higher up than the lower valleys and like, it’s steep to get up there. And, uh, I never really understand, um when people say, like we’re driving under the mountain, like an underpass or whatever. I don’t really understand how those work and people have tried to explain it but I still don’t get it because to me like when you’re driving underneath of a mountain like I don’t get how that would work like. You’re underneath the mountain but it’s not like there’s a big block above you. Like you can still see the sky. But people say you’re driving under the mountain and I don’t see, I don’t really understand how that works like that you can be driving underneath the mountain and still see sky. I mean I understand how they’re high, I know they’re higher in elevation but I don’t understand how the landscape is possible, that you can still drive under it and be able to see the sky.

…on skiing

JB: Yes, I've been skiing for about four or five years and uh, I have people who help me and they guide me down the hill with harnesses and tethers and sometimes we tried using walkie talkies or um..like we’ll have a big, instead of regular ski poles I’ll have a big uh pole that we’ll hold on to and I’ll hold on to it
and the guides will hold on to it and, um, we’ll ski that way. And, but now that I’m getting better with the harness, I’m better. Last year I was just, I just started skiing with the harness and I got to try out using regular ski poles instead of using the..having somebody holding on to the adaptive pole with me and guiding me down. They just guided me with the harness.

…on what she hears when she’s skiing

JB: I don’t listen to music, um, when I’m skiing because I need to be able to concentrate. Uh, so I can, like I have to listen to you know what my skis, cause, what kind of noise they’re making can tell me if it’s hard snow or soft snow. And then I have to listen to my instructors to make sure their, I’m following their directions, I’m turning where I’m supposed to and, um, I mean, sometimes I can hear other skiers or snow boarders going by us and the chair lift you can hear that coming and it’s actually kind of cool.

…on why she likes skiing

JB: Being outside in the fresh air and just….getting the chance to do something I don’t do every day. Something as…. Like it almost seems like stuff is funner when you don’t get to do it as, like everyday so … like watching TV you can do that every day so it’s not very much fun or listening to music, I you can do every day so that’s not much fun but skiing can only happen in winter and only when people are available to take me so I..I enjoy it because it’s not something that’s like a worn out novelty, it’s something I can only do every once in a while. So I find with skiing and other things I only get to do a little bit instead of stuff I can do every day that is, it’s more fun… like the best part of it is just being able to move and just being able to get out.

…on orientation on the slope

JB: When I’m walking, …um.. normally what people will do is just tell me turn left or turn right just so I know where I’m going and they’ll help me get to places just by guiding me with their voice. And that works fine walking but sometimes on the ski hill, more times than not, they’ll tell me and I’ll try to do it but it’s just, I find turning really hard, like, it feels different turning. I can’t really feel myself turning
as good when I’m on skis as when I’m walking. So I can’t really tell where I’ve turned, how much I’ve turned. Whereas when I’m walking, someone can say “Turn 90 degrees” and I can feel when I’ve turned 90 degrees. But if they say that on a ski hill it’s a bit harder. So I find trying to turn is hard. People have to be a lot more descriptive and then they have to be like, “okay, you’re done turning, you don’t have to turn anymore” like, otherwise I would either turn too much or I wouldn’t turn enough.

JB: I pick up lots of information when I’m walking. And it’s good information that helps me but when I’m skiing, that information is blocked. It’s not there. I can’t, I can’t feel anything through my feet so I have to really rely on other people and rely on my ears and um, like really trust other people because I can’t really feel anything and then also I can’t..normally when I’m walking I’d use my cane to feel what’s in front of me sometimes. But I obviously can’t be caning down – or skiing down the hill with a cane so um it’s hard that way but we fig, we figure it out.

JB: Like.. I tend to walk slower than other people and part of that is cause I’m walking and trying to use my feet at the same time. So like, um… one of the -so for example one of the things I don’t get normally when I’m walking – I can feel if there’s a curb or a stairs – or a set of stairs coming with the tips..like how I walk I walk slow enough so that the tip of my foot will go off of the stairs so I know it’s there but I won’t be walking fast enough so that it will be too late and I’ll actually fall cause instead of my whole foot going over, it’ll just be the tip and then I know there’s the stairs I need to go up or there’s the stairs I need to go down. But when I’m on skis, the tips of your toe, the tip of your toe is not on the ground. It’s in the middle of the ski and it’s totally that information is not there.

…on fear and skiing

JB: I used to (be afraid) when I was first learning (to ski) because I never understood what was happening but now that I understand more about it I mean I don’t get as scared as often. I mean I still get scared but every year I get scared less and less.

…on going up mountains in other seasons
JB: Sometimes we do, my dad will take us up there, not the same mountains as the ski hill but we’ll go up into the mountains up in the bush with, we have our four-wheelers and Dad usually just takes me on the back of his and we go up there sometimes and ride around on the trails up there.

…on what she enjoys about four-wheeling
JB: I like that (riding with her dad) and the sound of the engine running and depending on how steep the hill is, I can tell we’re going up and down and I can tell if it’s a really long hill we’re going into the mountains so then if it’s long enough I can sometimes feel when we’re coming down. But then again sometimes if it’s, if it’s just a gradual incline, I..I might not be able to feel that okay, we’re coming out of or into the mountains. So sometimes I can tell that we are and sometimes I can’t tell.

…on experiencing a mountain summit
JB: You know sometimes, it might flatten out a bit. So when we’re on the four-wheeler and we usually sometimes go to the top and then I can feel it flatten out but sometimes we don’t go all the way to the top and we turn around again so then it just goes straight up and then straight back down again because we’re not, we’re not staying, we’re not going to the top so it never flattens out. It’s just straight up and then straight down. And when we are in the winter and we’re driving to the ski hill, that’s not right at the top either. That’s part way up so then it never flattens out.

…on what she wants others to know about her
JB: And, um, I am completely blind. I’ve been completely blind since birth. But I still enjoy life and I ha – I do things that are fun. I listen to music and I swim and for the most part I am able to live a normal life like anybody else would.

JB: I’m blind like but that’s just who I am. Like everybody’s different. Lots of people think that I’m..that I can’t do things because I can’t see or think that I’m ..I, I ..I can’t perform as well as other people because I can’t see and that is.. makes me feel sad when people say that because um I can do it, I just have to do it in a different way. I still get it done even if it’s not the same way other people get it
done. So... just... being blind is... like everybody has hard things in life. And being blind is just one of my things. Everybody is different. Everybody has things they have to deal with. And, but really, it's, it's hard and but it's just another hard thing, everybody has to deal with hard things. And really, it doesn't stop me from living a good life and being a normal person and being a productive person who is able to do things. I can still do everything.