

Submerge

An Exploration in Health and Healing

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Abstract

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This thesis will investigate the development of an idea of sustainability, one of life, of love, of peace and prosperity. A theory where taking care of the person in the most wholesome way we as humans know how, we will also, by the very nature of the theory, be taking care of not just our environment but also all that we as humans are connected to. Human life is infinitely interconnected with all other life and processes on the planet. By designing and building with this idea at the core, principles of sustainability will naturally follow. With the influence of the developed ideas of interconnectedness comes the intention of developing an architecture which focuses on the human, their wellbeing and positive existence in built space. This thesis is an exploration of an architecture of health and healing. Health and healing which is built into the very core of a design.

SUBMERGE

An Exploration in Health and Healing

Master of Architecture Thesis

Jack Zimmerman

2019

Thank You

Doug Knotts, for knowing who I was and guiding me to myself,

Carrie Morgan, for celebrating me as myself

and

Rob Peña, for showing me what it means to be human.

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Chapter 1

Introduction



Examining Our Current Situation

As I sit here writing this, out of the corner of my eye I watch the leaves on the trees outside the library window rustle and flutter in the wind. The non linear movement and variation between the rhododendron in the understory to the tall oak tree with its shimmering green and silver leaves bring a sense of calm. Through the branches people walk on an all but invisible sidewalk seemingly among the forest; popping in and out of view between trees and bushes. Each one of them having a completely different but similar experience wholly dependent on their existence in their place and moment in time as well as to me and to each other. Beyond this patch of wooded land sit tall gothic revival structures, their walls mossy and covered in vines. This place was designed for people.

The human species is at a turning point in its history. The United Nations, in October 2018, released a special climate report¹ addressing the catastrophic repercussions of global temperatures rising above 1.5°C. According to the report, Human activity is estimated to have caused a 1°C rise over pre-industrial levels. The UN projects that without mitigation the global temperature will have risen above 1.5°C by 2030-2055. The resultant warming from anthropogenic emissions from pre-industrial to the present will remain and continue to cause long term reordering of climate systems. These changes are manifesting themselves and will continue to do so in the forms of sea level rise, global weather intensification, etcetera. At current, anthropogenic emissions are unlikely to cause warming beyond 0.5°C over the

¹ Allen, M.R., O.P. Dube, W. Solecki, F. Aragón-Durand, W. Cramer, S. Humphreys, M. Kainuma, J. Kala, N. Mahowald, Y. Mulugetta, R. Perez, M. Wairiu, and K. Zickfeld, 2018: Framing and Context. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.

next two to three decades and based on UN research (Find the specific research) the UN feels it is also unlikely over the next century to warm beyond 0.5°C.

If anthropogenic emissions continue globally at current trajectories, without mitigation, it is estimated a global temperature increase of 0.2°C per decade at current and past CO₂ emissions. This increase must be mitigated. The challenge is great, and will most likely be the driving factor in architecture for the next century. In order to avert likely irreversible damage to the planet and climate, extreme measures must be taken. As architects we cannot sit by, checking off the LEED certification checklist for a project. We must act beyond what is seen as plausible and push forward to designing and implementing a net zero future now. This is my take on one potential route to add to the greater story of sustainability and climate mitigation.

Through all the science and facts, where do the human's, the cause of anthropogenic emissions, come into the picture. Are we as humans actually taking care of our species? Or are we simply blindly stumbling through on a route which we have been told is the easiest and most efficient. Would it not seem then that if we were to take care of people by applying the idea of what is wholly beneficial to a human being would also be wholly beneficial to the environment and all that we are connected to upon this earth? How is it then that we as a species say we are taking care of ourselves, while in the process obliterating everything around us?

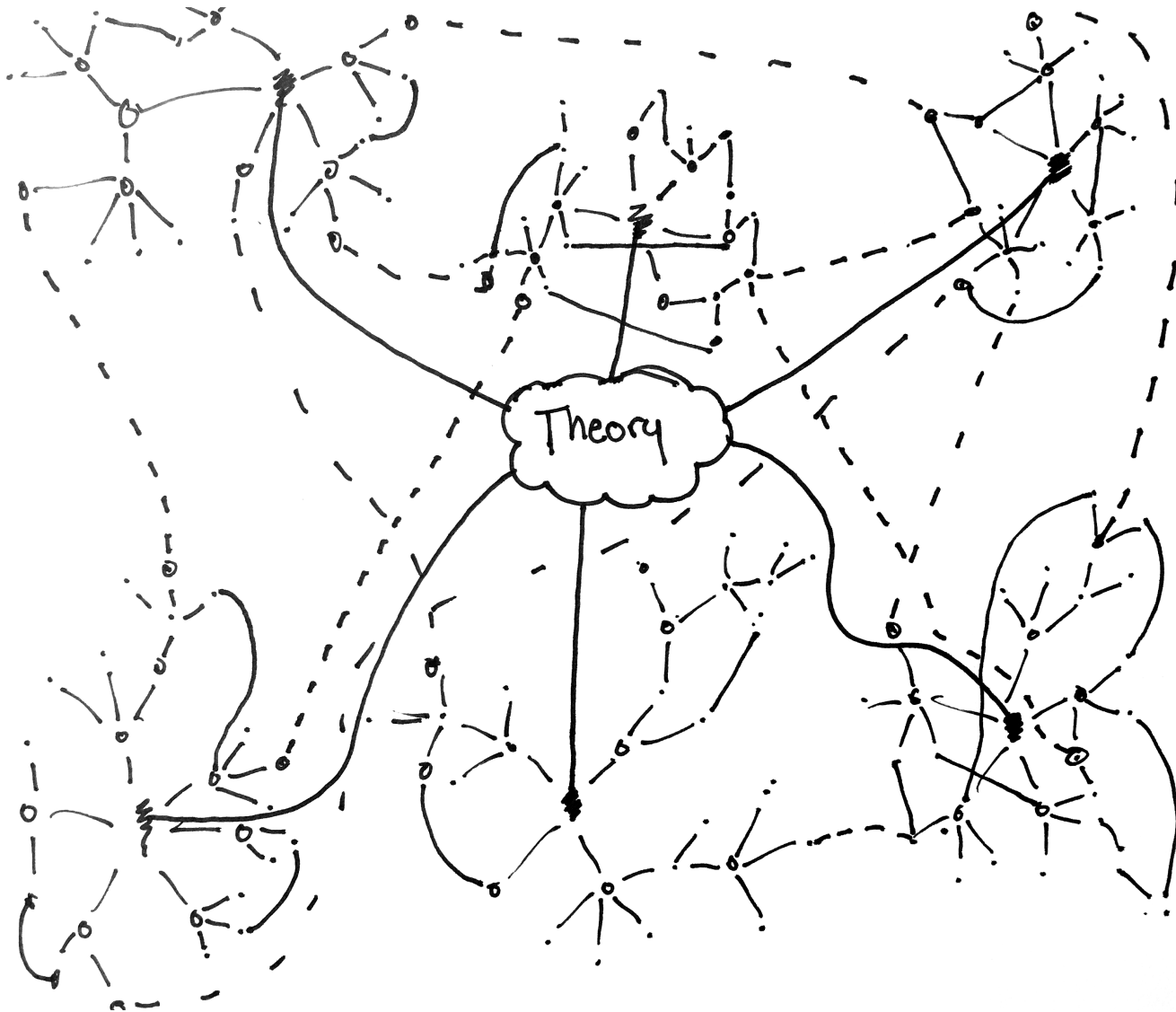
Thesis Proposal

This thesis will investigate the development of an idea of sustainability, one of life, of love, of peace and prosperity. A theory where taking care of the person in the most wholesome way we as humans know how we will also by the very nature of the theory be taking care of not just our environment but also all that we as humans are connected to. Human life is infinitely interconnected with all other life and processes on the planet. By designing and building with this theory at the core, principles of sustainability will naturally follow. With the influence of the developed ideas of interconnectedness comes the intention of developing an architecture which focuses on the human, their wellbeing and positive existence in built space. This thesis is an exploration of an architecture of health and healing. Health and healing which is built into the very core of a design.

Designing for the person examines the entirety of life related to each individual, that entirety interconnects with all other life and thus the web of interconnectedness begins to take shape. As we design the built environment, we must take into account the health and wellbeing of the people we are designing for. We design for people and by extension, the human-earth interconnectedness.

Chapter 2

A Human Approach and a Theory



A Method of Sustainability.

Great credit is due to the Green Building Council for their development of LEED Certification. It has created a methodology for moving toward a more sustainable built environment. It has given the general public a vocabulary and point by point understanding of one perspective on sustainability. That being said, I think we can do better. Architecture at large has forgotten the person; the reason architecture is. Large corporate projects are driven by money and numbers. Firms gloss over human wellbeing by implementing a few prescriptive strategies to make working or living in a building less monotonous and draining, perpetuating the checkbox approach to sustainability, all while designing based on how many desks can fit into cavernous, inhumane spaces. I have lived and worked in spaces which drained the life out of me, offices without windows, apartments and dorms underground, houses which took no consideration of functional lives within, school buildings containing materials so toxic parts of the building were cordoned off, left to stay the course with no protection but some yellow tape.

Essentially we build shelter for people, shelter for various tasks and living so we are not all sitting out in a field exposed to the elements. Out of this principal human kind has developed a vast network of buildings, connected by various forms of transportation and communication methods. Let's look at things differently. We build for people, and if we build for people that which we build should be to the entire benefit of people; following the principle of making lives better, healthier and less complicated. By this logic a building which is wholly beneficial to the person would take into account all which makes up the building from its placement and its environment to the

materials of which it is made and its ecological footprint, to the feelings it evokes when you are within and our ability to use the structure to our highest benefit.

Would it not seem then that if we were to take care of people by applying the idea of what is wholly beneficial to a human being would also be wholly beneficial to the environment and all that we are connected to upon this earth? How is it then that we as a species say we are taking care of ourselves, while in the process eliminating balance in our environment and obliterating species, landscapes, and ecosystems, around us in assumed benefit to people? What if by taking care of the person, the result is a sustainable future? I'm arguing for a renewed, alternative approach to the future of sustainability in the built environment. Human life is infinitely interconnected with all other life and processes on the planet. By designing and building with this idea at the core, principles of sustainability will naturally follow. Because that which allows people to live healthfully and prosperously relies on all that we interact with to also be taken care of in a wholesome, true way.

A person's existence in a place drives their relationships with those around them as well as is a point of orientation for their individual map of interconnectedness to all else that surrounds them. This principle anchors the theory where by taking care of the individual in the most wholesome and best way we as humans understand all that is associated in the possibly infinite web of interconnectedness is also taken care of in a wholly healthful and mutually beneficial way. For example, the person, in their place stands upon a bed of leaves out of which trees and bushes and flowers have grown. Organisms and microorganism live within the leaves and soil. The surrounding area is habitat to various species of plants, animals, and fungus. They all rely on their place within this greater ecosystem for their individual and

communal balance and survival. Encompassing all in this place is the air made up of varying levels of nitrogen, oxygen, carbon dioxide along with smells of rot emanating from the soil, sweet perfume of flowers and the earthy smells of trees rustling in the wind. Auditorily all are connected by a gentle breeze, the leaves of the trees rustling, the hair on the backs of creatures moving as one with the wind. The occasional rainfall returns previously evaporated moisture for this place and from others to the soil. This moisture quenches the thirst of the person, the animals and plants; flowing through all of them and back into the soil where again it evaporates and mixes among that of other places. Should any of these organisms move to another location, their understanding and relationship to place changes. They move among the web, the void they leave behind rebalances and the relationship remains whole. This is a story of ideals, of balance and of life. Each being, which in this sense being refers to neither plant nor animal specifically, but to an entity existing within its place, is interconnected to all that is. If we are to design with the understanding of the interconnectedness of everything, our current understanding of sustainability will naturally follow. A built structure will exist in harmony, becoming part of the web of interconnectedness. The new addition will sit within its place and balance will be maintained.

On Indigenous Epistemologies.

“Indigenous epistemologies are much better at respectfully accommodating the non-human”²

North American and Oceanic indigenous epistemologies focus on the animate and spirit of things. Everything has a spirit, the trees, the wind, the water, the sun. There is an inter-relational nature to things. Every one thing has a relation to an entire web of other things. Dakota philosopher Vine Deloria, Jr has described this relational interconnectedness in two attitudes: “One attitude is the acceptance of self-discipline by humans and their communities to act responsibly toward other forms of life. The other attitude is to seek to establish communications and covenants with other forms of life on a mutually agreeable basis.” Indigenous Epistemologies do not establish an intellectual hierarchy of importance. Relationality is deprived from context. This gives rise to the argument for the importance of regionalisms. Because of the context of place determining relationality, ways of thinking arise out of different areas and thus are by their very nature suited to maintaining balance within the area in which they originated. Jason Edward Lewis, Noelani Arista, Archer Pechawis, and Suzanne Kite in *Making Kin With the Machines* describe this contextual balance as “Language, cosmology, mythology, and ceremony are simultaneously relational and territorial: they are the means by which knowledge of the territory is shared in order to guide others along a good path.”³

² Lewis, Jason Edward, et al. *Making Kin with the Machines*. July 2018. jods.mitpress.mit.edu, doi:[10.21428/bfefd97b](https://doi.org/10.21428/bfefd97b).

³ Lewis, Jason Edward, et al. *Making Kin with the Machines*. July 2018. jods.mitpress.mit.edu, doi:[10.21428/bfefd97b](https://doi.org/10.21428/bfefd97b).

The idea of Indigenous epistemologies guides the theory. Each being or entity is connected to that which is around it, and by extension that which is connected to the entities which it is connected to; Understanding that an action taken by one entity effects all that is around it. This continues infinitely each entity's action effecting and affecting all that is. Why then would we do anything harmful when it may not harm an individual in immediacy but will as time progresses cause potentially infinitely compounded harm to the origin being and all that it is connected to? It would stand to reason that humans would do all that is in their power to take care of the health of themselves and all they are interconnected with; in short the entirety of earth. The immediacy, shortsightedness, and selfishness of thought is detrimental to the future and prosperity of the human species.

On Human Epochs.

According to views expressed by German Philosopher, Jean Gebser in *The Ever Present Origin* humans have not changed biologically since humanity's evolution to homosapien. He asks the question what has happened between then and now? Instead humanity has gone through huge non-biological mutations, which

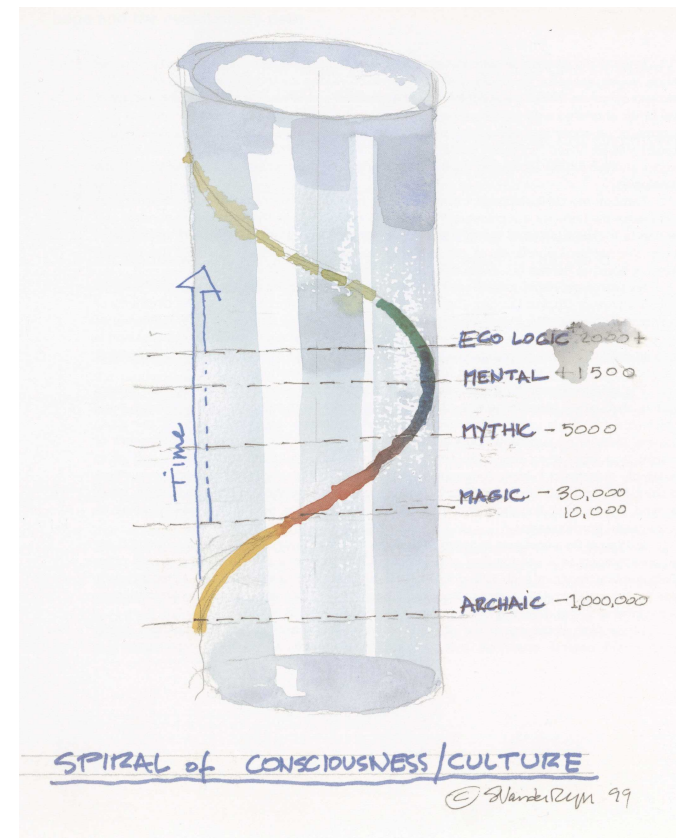


Figure 1
Van Der Ryn, Sim. Design For Life. Gibbs Smith, 2005.

have created radically new cultural structures and world-views.⁴ Thusly Sim VanDerRyn in his book *Design for Life* Describes human history as divided into five cultural epochs: Archaic, Magic, Mythic, Mental and Eco Logic⁵. Looking at the graph, each consecutive age is compounded with the consciousness gained by the previous, as well as a further removal from equilibrium. We currently are at the beginnings of an Ecological epoch, a time where the tides begin to turn and a journey to equilibrium is charted. This is possible because of the compounded knowledge of humanity as a whole as well our ability to hope. David Orr has said the “Hope isn’t the same thing as wishful thinking, because Hope recognizes reality for what it is and proceeds in faith and creativity to better possibilities.”⁶

As Illustrated previously in the graph, VanDerRyn talks of human history divided into epochs. Each consecutive epoch compounding upon the previous. The Archaic outlines a time of natural dominance, where humans were at one among the other life on earth having recently evolved to the current biological status. Progressing forward in time The Magic Epoch, where concepts of language and construction processes began to take shape. The Mythic began

⁴ Gebser, Jean. *The Ever Present Origin*. Ohio University Press, 1985.

⁵ Van Der RYn, Sim. *Design For Life*. Gibbs Smith, 2005.

⁶ Orr, David. *Earth in Mind*. Island Press, 1994.

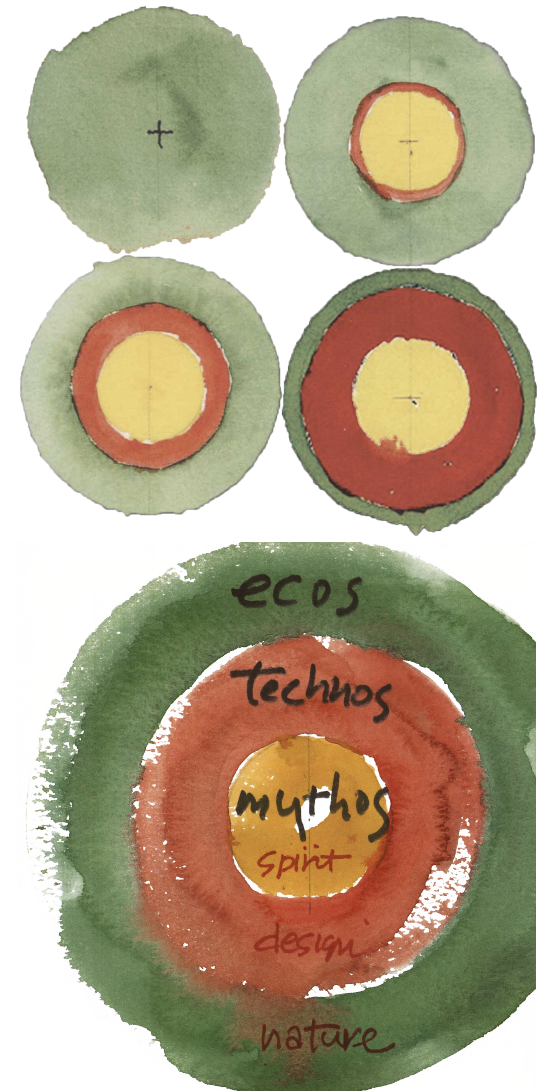


Figure 2
Van Der Ryn, Sim. *Design For Life*. Gibbs Smith, 2005.

as farming took hold in human understanding. Epistemologies of the time were focused on the gods and cosmos. As the Renaissance began so too did a transition in human thought, an entry into the Mental Epoch. From this we have found ourselves at this point in time. A point of Climate Emergency, where we are reaping the results of humanity's actions thus far. It is now we transition into the Ecologic Epoch.

The Ecologic Epoch is a time of rebalancing the Ecos, the Technos, and the Mythos. Our primary goals as designers, moreover as people and residents of this planet, is now to find humanity's equilibrium with earth. My question is, What does this look like? How can this be accomplished?

On Edward O. Wilson and Biophilia

Edward O. Wilson in his 1984 book "Biophilia" Defines biophilia as "the innate tendency to focus on life and lifelike processes," the human tendency to seek connections with nature and other natural processes, and the connections that human beings subconsciously seek with the rest of life. Through His work on myrmecology, which is the study of ants, and biology as a whole, he has developed a theory of Biophilia. He postulates that humans have a preference toward things in nature which is a biological result of evolution. In short, people require a connection to the natural world. He reminds us that "as we come to understand other organisms, we will place a greater

value on them, and on ourselves”.⁷ Wilson, also, gives us a unique example supporting the interconnectedness of species. “The three-toed sloth feeds on leaves high in the canopy of the lowland forests through large portions of South and Central America. Within its fur live tiny moths, the species *Cryptoses choloepi*, found nowhere else on Earth. When a sloth descends to the forest floor to (once a week), female moths leave the fur briefly to deposit their eggs on the fresh sloth dung. The emerging caterpillars build their nests of silk and start to feed. Three weeks later they complete their development by turning into adult moths, and then fly up into the canopy in search of sloths. By living directly on the bodies of sloths, the adult *Cryptoses* assure their offspring first crack at the nutrient rich excrement and a competitive advantage over the myriad of other coprophages.”⁸

On David Orr and Architecture as Pedagogy

David Orr, in his work *Earth in Mind*, lays the case for our Current Climate Emergency.⁹ The reason for this emergency is not necessarily a lack in technical prowess or understanding but a deficit in the mind, will, and spirit. We have the ability as a species to begin to reverse the damage that has been done, yet we have not been approaching the way we think about our planet. Education is in crisis. In general, we teach as though there is no climatic emergency, we teach students to make money before they have discovered who they are. That

⁷ Wilson, Edward Osborne. *Biophilia*. Harvard University, 1984. p. 2.

⁸ Wilson, Edward Osborne. *Biophilia*. Harvard University, 1984. p. 8.

⁹ Orr, David. *Earth in Mind*. Island Press, 1994.

which we do teach is siloed, divided by discipline without much overlap. And we ignore the importance of our connection to the natural world. Continuing along this path will but compound our problems. Humanity must approach the future with love, respect, and gratitude as well as instill an understanding of connectedness to all that is around us.

On Biophilia in the Built Experience

Amanda Sturgeon is CEO of the International Living Futures Institute. Her work on the Cascadia Green Building Council was instrumental in passing the first state LEED legislation in Washington. Her current work focuses on implementation of Biophilic Design. We understand that our connection to the natural world is important. Historically humans have incorporated Biophilia in our buildings. Gothic Architecture is filled with biomorphic design. Cathedrals mimic the great canopy of forests. Details are expressed in carved flora and fauna. Where did that go? How did we arrive at shopping centers and big box retail centers? The principles of nature, in the patterns, discovery, light, space and texture which fill us with peace and tranquility whilst we are in nature can be brought into our buildings. The process of education and incorporation into architecture has begun. Biophilic design is a methodology integral to this project.

An Observation

With the previous elements in mind, an idea begins to manifest itself beginning with VanDerRyn's ideas on the epochs of human history. If we understand we are at a point in time where a new Human Epoch begins then great change is called for. The climate emergency calls us to utilize the entirety of humanity's compounded knowledge to press forward into the future and a balancing of the ecologic with the technos and mythos, which, is justly thought of as the human spirit of things at equilibrium with the natural world and the built world we have created. VanDerRyn's thoughts combine well with indigenous epistemologies as they both understand the need for equilibrium. The epistemologies express a great equality of things, all life and spirit is seen as on an equal plane, not one more important than another. As all is seen as infinitely interconnected this is sensible.

As this theory of sustainability develops a methodology begins to take shape. One in which we understand what is necessary for the health and wellbeing of people but also our innate connection with all that is around us. Because of this Biophilia is at the core of any manifestation of this theory. Wilson's work in the rainforests of Brazil, Madagascar and Surinam solidified a theory of life interconnectedness and the human need to remain within the greater web of all there is. He postulated on the benefits for humanity if the biological is celebrated and incorporated into our built environment. These ideas have blossomed into a methodology pioneered by Wilson along with Kellert, Heerwagen, and Pawlyn. Architecture has begun to understand the need for biophilia in our designs. As with the beginning of any school of thought, education requires time to spread and take hold within curriculum. We have only within the last

decade truly been designing for widespread LEED certification. And even with that it is a regional thought process, unfortunately limited by a religion of conservative politics and blind disbelief of the climate emergency in which we find ourselves.

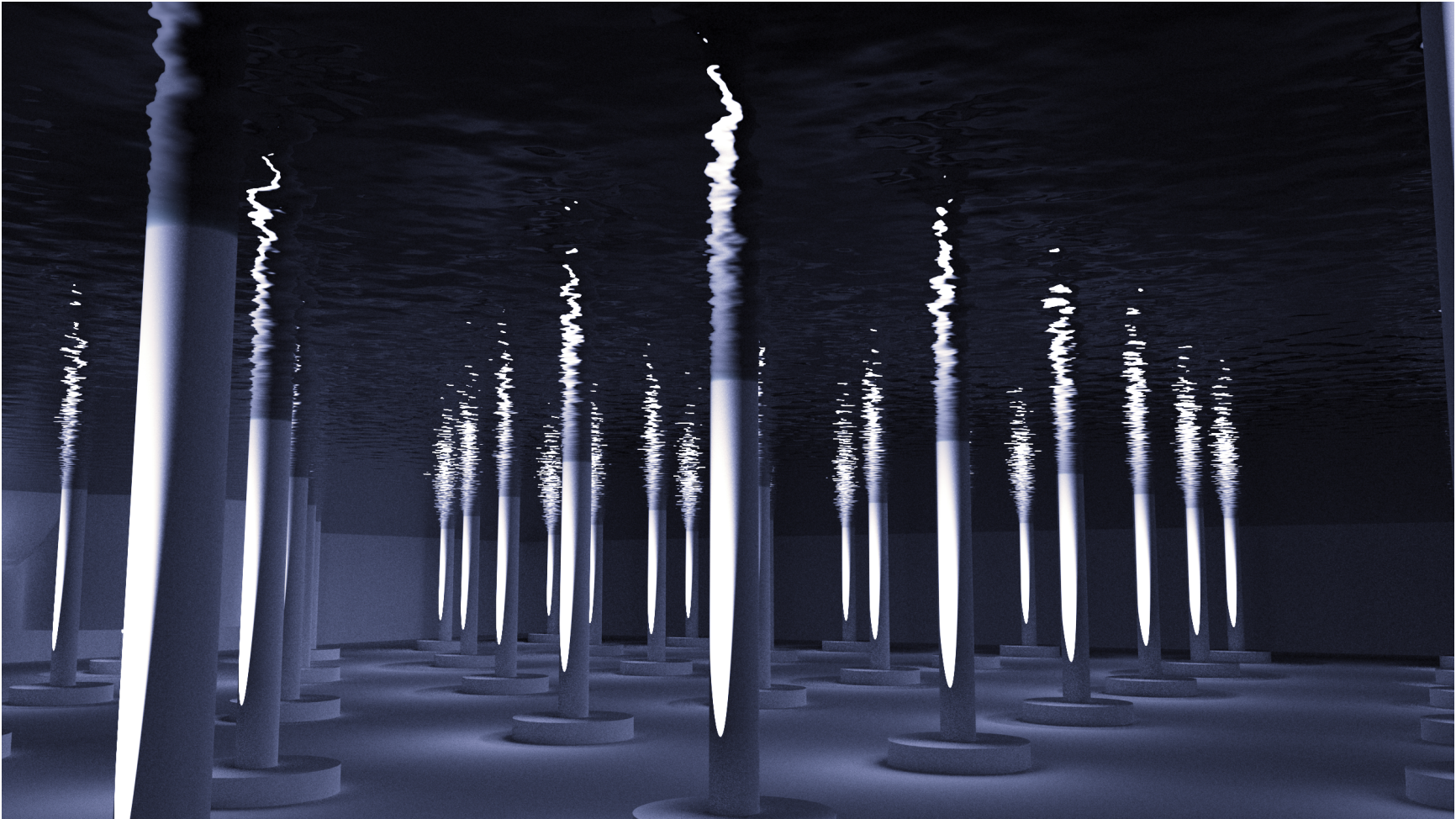
Out of the ideas stated perviously, a question arises: How is this theory of interconnectedness conveyed in architecture. After all this is an architectural thesis. We must look to the humanity of architecture. We build for people. Therefor we must use our abilities to positively influence the human experience. As we are humans we have some experience in this realm. I have found that in day to day experiences in the built environment, much of what we experience is not focused on our wellbeing. the constructed world is a plethora of cost cuts, harmful materials and spaces which are contrary to our natural needs in biophilia. For the most part, profit is placed over the health and wellbeing of the person occupying a space. That is, unfortunately, unsustainable on a human level.

With the influence of the developed ideas of interconnectedness comes the intention of developing an architecture which focuses on the human, their wellbeing and positive existence in built space. This thesis is an exploration of an architecture of health and healing. Health and healing which is built into the design of an entity. Architecture has a responsibility to allow for lives to be better and less complicated. We must respond to the humanity of our profession. With the intention of health and healing an architecture that cares for those who inhabit it materializes; an architecture which uplifts, cleanses and comforts.

As I am a human, I pull from my experiences in life. Experiences where I have found myself comforted by space and my experience within. I am an NCAA swimmer. My life up through my completion of undergrad was focused on my existence in water. Thought my experiences in water, I learned of its power to both uplift as well as tear them down. My experiences have shown me water's positive and

negative effects on a persons psychological and spiritual well-being. Therefore, the intention of this project is to allow for the positive aspects of water to give psychological and spiritual healing to those who interact with the project.

Chapter 4



Design Proposal

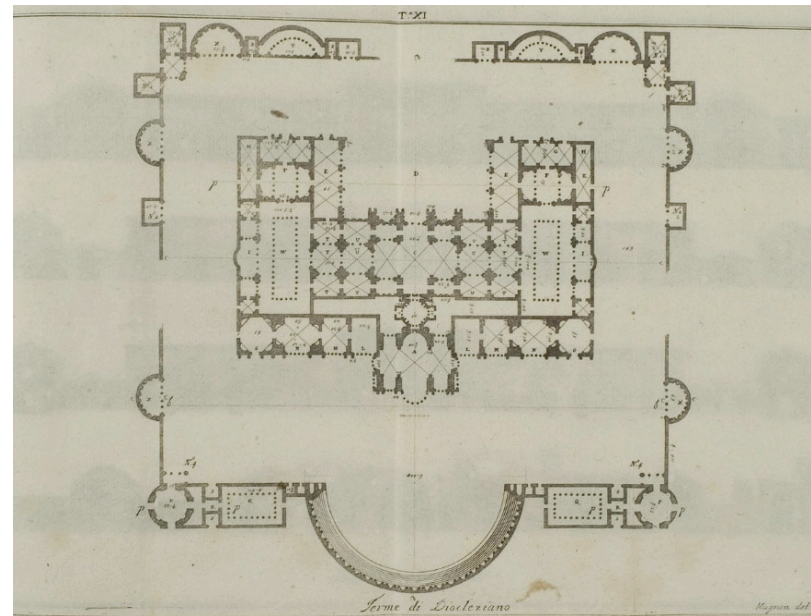
A Project Built on an Idea.

The human perspective of architecture is often overlooked. Developers drop a gypsum box irrespective of its context and the masses flock to reside in these generic, toxic boxes. As architects we have a better way of doing things. We design and build for people. And since we build for people, and that which we build should be to the entire benefit of people; following the principle of making lives better, healthier and less complicated. By this logic a building which is wholly beneficial to the person would take into account all which makes up the building and as stated, sustainability will be inherent. As such, the human experience takes the fore. Out of a conversation of sustainability through focusing on the humanity of architecture comes an idea of health and healing. If we are to strive to make lives better and less complicated, I argue that a focus on the human experience must be made. With the idea of health and healing comes an architecture that cares for those who inhabit it; an architecture which uplifts, cleanses and comforts.

As design inspiration for healing experiences in water I chose to look to historical typologies in architecture. Typologies of wellbeing through water, as well as spiritual healing through experiences in spaces. My main inspiration is Terme di Diocleziano or The Baths of Diocletian.

Terme di Diocleziano

Diocletian was promoted to emperor of the Roman Empire in 284. In 286, Diocletian promoted Maximian to Augustus, as co-emperor, proclaiming himself, Caesar. As part of Maximian's gratefulness and to honor Diocletian, Maximian ordered the construction of a vast and luxurious bath complex in 298. Plaques at the entrance of the bath describe the origin and construction as follows: "Our Lords Diocletian and Maximian, the elder and the Invincible Augusti, fathers of the Emperors and Caesars, our lords Constantius and Maximian and Severus and Maximian, noblest Caesars, dedicated to their beloved Romans these auspicious Baths of Diocletian which the Divine Maximian on his return from Africa ordered to be built and consecrated in the name of his brother Diocletian, having purchased the premises required for so huge and remarkable work and furnishing them with the most sumptuous refinement."¹⁰



Plan of the Baths of Diocletian. This version includes the outer walls and Exedra. The Exedra would later come to frame Piazza della Repubblica.

Figure 3

"Santa Maria Degli Angeli Roma." *Basilica Di Santa Maria Degli Angeli e Dei Martiri Alle Terme Di Diocleziano Di Roma*, 2018, www.santamariadegliangeliroma.it/.

The layout of the roman bath, in its generalized form, originates in the time of the republic. By the last century of the republic, the traditional way of simple home bathing had transformed into a part of daily life of equal importance with that of group meals.¹¹ The bathing experience came to include not just washing, but a plethora of relaxation and health exercises. Baths began, through the beginning of the Imperial Age, to include all varieties of pools and water temperatures, community gathering spaces, libraries, gymnastic equipment, athletic spaces, showers and saunas, to name a few.

Classical baths of Imperial Rome were laid out in a grand fashion, with the main components being the caldarium, hot bath, tepidarium, warm bath, and frigidarium, cold bath. These three components were arranged in any manner of ways, dictated only by the system of heating. In

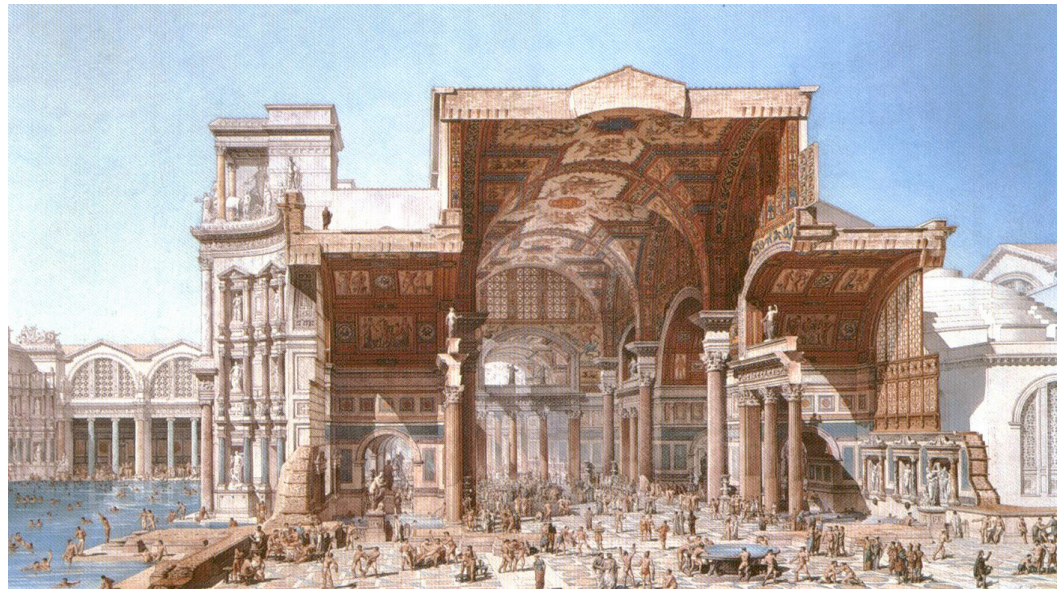


Figure 4
Paulin, Edmond. *Thermae Diocleziano*, 1880.

¹¹ "The Private Life of the Romans." *The Private Life of the Romans*, by Harold Whetstone Johnston, Scott, Foresman and Company, 1905, pp. 265– 227

general, the bathing process was not strictly followed in any specific manner; one was free to go about their time at the baths as they pleased. The general format and order of bathing consisted of a loose flow of process.

In the case of the Baths of Diocletian, bathers entered through the exterior walls and experienced gardens with trees, among which bathers could restfully walk. In the center of the complex, sat the baths. Entry to the bath appears to be mainly on the northeast side. Diocletian's baths were arranged on an axial plan, each side in symmetry to the other. Progressing into the space by entering through the large halls, on either side of the central piscina. The specific use of many of the outlying spaces is not known. After moving through the two large vaulted halls, bathers would emerge into a vast rectangular garden space. This garden is flanked by entrances to the frigidarium on one side and as well as smaller spaces beyond a colonnade. Centrally located, the frigidarium spans the length of the central bathing complex. This grand space, constructed in basilical form, was used as both the frigidarium as well as the apodyterium, changing area containing lockers and benches. Along one side of the frigidarium hall sat the piscina. The piscina was sunken in the ground and uncovered to the sky. On each



Interior and ceiling of the dome of the tepidarium at the Baths of Diocletian.
Figure 5

side of the piscina, arms of the frigidarium extended out to flank the pool. This provided a vast space for Roman bathers to bath during the hot summer months as well as cool, shaded areas to congregate, relax and socialize. Possible other uses of the vast frigidarium include the anointing with oil and scraping with strigilis.

The beginning of the process of using the heated portions of the bath began in the tepidarium. The tepidarium in the Baths of Diocletian consisted of a circular domed space, smaller in side but similar in shape to the Pantheon. This space would be used to acclimate ones body to warmer temperatures and begin the process of perspiration.¹² Pools of tepid water sat to each side of the room in alcoves.

Continuing the process of bathing brought bathers into the caldarium. This area and series of adjoining rooms held pools of hot water for bathing as well as steaming. In addition to humidity, some rooms held no water, but were used for the benefits of hot dry air. The process of heating the baths began beneath and adjacent to the caldarium.

The arrangement of spaces within the Baths of Diocletian were dictated by the placement of the furnace. The further from the furnace, the colder the room. Thus, the caldarium, being the hottest of spaces, was at the location of the furnace. Water in the caldarium received fresh, hot water from the furnace. This was fed to the pool within the room. The water was kept hot with a metal heater called the testudo. The testudo was connected to the hot air chambers between the floors in order to maintain convection. The walls of all heated bathing chambers were lined in hollow tubes to carry hot air through the walls of each connected room, providing heat by convection.

¹² The Private Life of the Romans." The Private Life of the Romans, by Harold Whetstone Johnston, Scott, Foresman and Company, 1905, pp. 265–277.

These tubes began in the area of the furnace and by the power of stack ventilation, carried hot air through the walls and ceilings and vented in stacks.

The Basilica Form

The Basilica, moreover the lower basilica what we would recognize as the basement of great churches, the space among the vaulted arches and naves of what supports soaring stone walls columns above.

Specifically I look to two experiences. The first: San Clemente in Rome. Beneath the existing 12th century basilica lies the remains of the fourth century basilica.

Pressingly quiet, with but the sounds of rushing water below, the space exudes a feeling

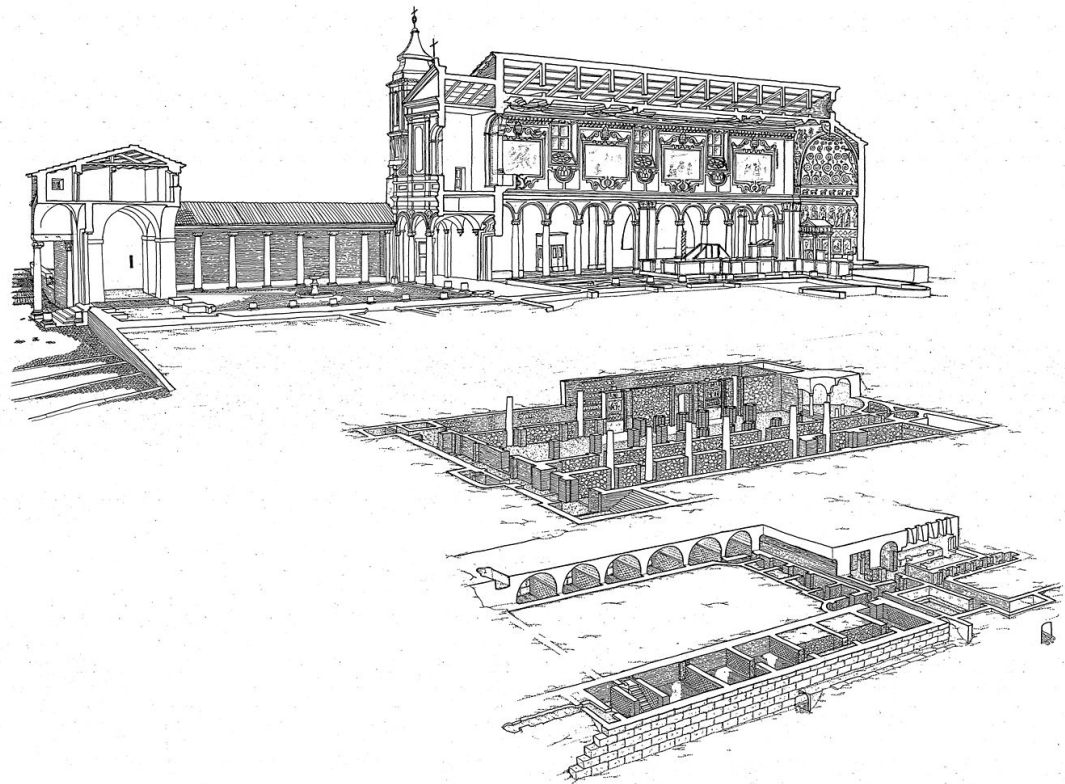


Figure 6
Cosentino, Valerio. Basilica Di S. Clemente, Roma Esploso Prospettico Dei Tre Livelli. 1989.
Disegno dell'Autore.



Figure 7
Hartley, Thomas. The Interior Of The Lower Basilica Of St. Francis Of Assisi. 1839.

of spiritual excitement. Further below the fourth century Basilica lie streets of ancient Rome and A Mithraeum temple. The air hangs heavy, damp and quiet as if you are but a visitor to an era a century past. This experience instills a sense of calm through quiet and

depth.

The second basilica form I looked to was the Lower basilica of San Francisco d'Assisi. Begun in 1228, The lower basilica is much the same form as the building above. Though its ribbed vault suspend low over the nave, transept and chapels. Muffled echos disperse through the hallowed space as people whisper to each other and firm Italian soles clack across the ancient tile work. A hush exudes over the entirety of the basilica. Each person appearing to take a deep breath and just be with themselves and their existence. Religion aside, The spiritual experience in spaces such as these is intentional. Form drives experience and experience drives form. They form harmony in design.

Project Location

The Pacific North West sees its fair share of rain. And as such we have managed to harness the potential of water to power the entire state as well as capture water from the cedar river watershed in the cascades to provide potable water for our city. Eight foot diameter pipes called transmission mains run the 20 miles or more to Seattle and surrounding communities. Transmission mains branch off into



Figure 8
Stiles, Marc. Seattle Daily Journal of Commerce. 8 Jan. 2004, <https://www.djc.com/news/co/cis.html?id=11152628&printmode=true>.

smaller pipes, to water storage tanks and reservoirs, sometimes to water pumping stations, and then to you. Reservoirs are placed throughout the city one such existing beneath Cal Anderson Park in Capitol Hill. Lincoln reservoir was originally built as part of the Olmsted Plan for Seattle's park system. The reservoir was covered in the early 2000s and the existing park we see today took shape. Beneath a green field and fountain lies two 6.25 million-gallon vaults nestled within in the existing reservoir. Each is 210 feet long, 240 feet wide and 20 feet deep. All walls were cast in place. A series of concrete columns, also cast in place, support the roof of the vaults. It is within this space I have chosen to locate my project, utterly within the water of the city; a chapel sorts to health and healing through water.

Project Form

The project sits within Lincoln reservoir; submerged and guided by the "Waterworks" the fountain on the surface. Programmatically the project consists of the three waters hot, cold, and tepid, along with communal changing and gathering spaces. The resulting form is then placed within the reservoir as

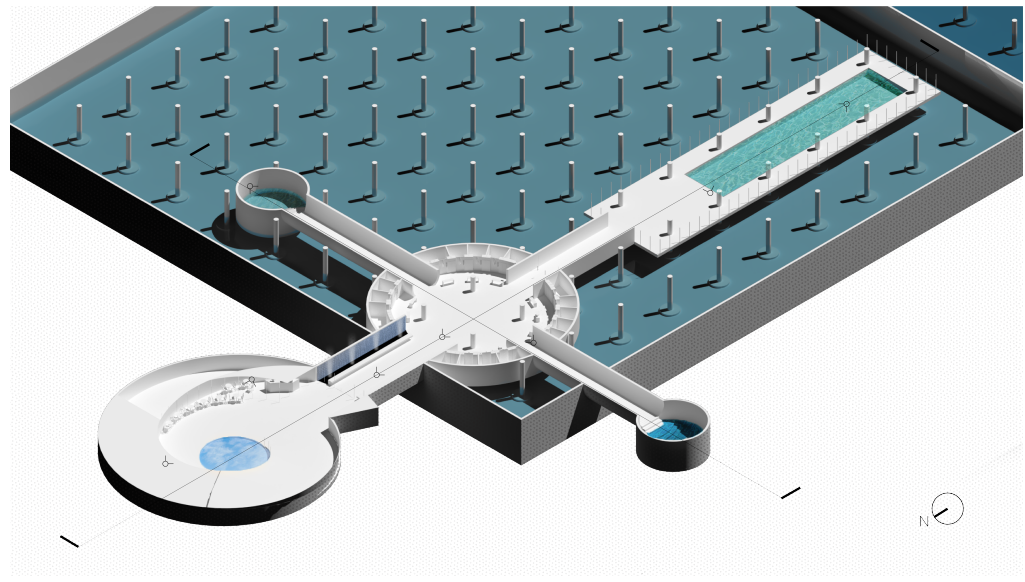


Figure 9

such. The program is arranged along an axial nave form. The entry earthworks, spirals down much like water into a drain. The people of capitol hill enter “Submerge” in much the same way. At the base of the entry is a shallow reflection pool where actual water can collect and respond to the sky above.

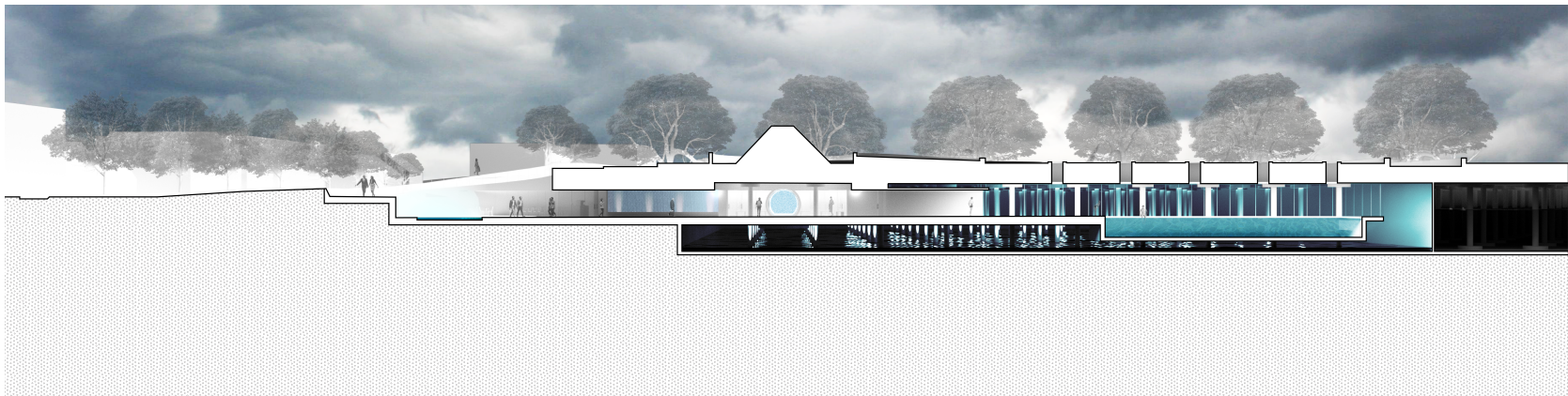


Figure 10

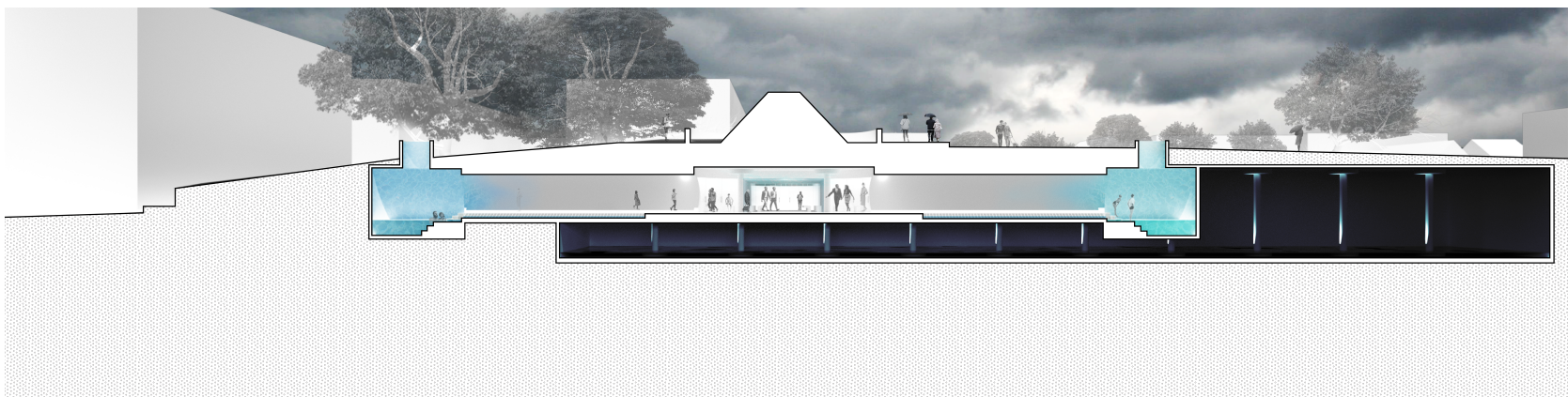


Figure 11

Figure 12

The transept of the project contains private showering and changing rooms, with communal lockers. Transversely, off of this space lie the Hot and Cold waters down long tubular halls heralding to the transmission mains which bring water to the city. At the end of each hall are cylindrical rooms of hot or cold water. Each space open to the sky through an oculus of sorts which presses up through the lid of the reservoir and soil above. Continuing along the Nave of the project is a 25 yard two lane lap pool containing the tepid water. This space is suspended among the expanse of the colonnade of the reservoir. Thick Plexiglass walls surround the pool allowing users to experience the rise and fall of the water within the reservoir.

A Narrative

Light Streams through the curtains on your windows, as you begin to stir in your bed. The perfect beam of sun hits you in the face. Morning has come, Turning over you mumble something about the blinds and stretch. Feet firmly planted on the floor you stand and walk over to the curtains and throw them open. Light bursts through into your bedroom, setting the entire place aglow with the sun of early summer. A sense of excitement fills your very being, such potential. As is customary Saturday ritual you pack

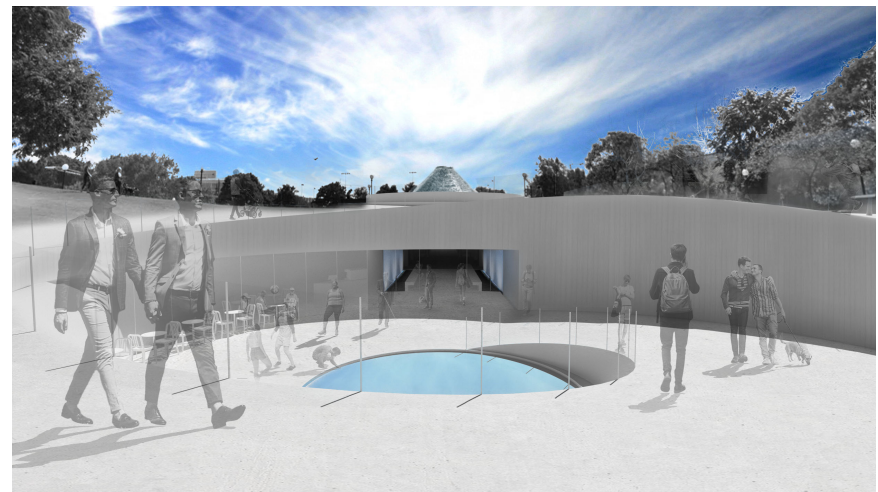


Figure 12

your bag with a bathing suit and begin your walk down the street. Broadway is abuzz with shoppers and breakfast goes. A cool breeze fills your lungs as you listen to the street musician vamp "Sweet child of mine" on a ragged electric guitar. The sound echoes between buildings as you approach The light-rail Station. A mixture of John and olive emits from the crosswalk signs as the little walking person flashes. With the others waiting you cross the street and continue your walk down towards Cal Anderson. As you turn the corner at Denny a sunken shape begins to take form in your vision. People laying in the grass, dogs running about after various balls or other dogs and a steady stream ow people walking along the paths. Making your way to the fountain you follow the path into a spiral structure. There are a decent amount of people you see and wave to as you pass. Smiles are in abundance on this Saturday morning. The smell of grass is slowly replaces with a slight whiff of chlorine. Walking down the path you spiral around into a sunken basin. The reflection pool shows the brilliance of the morning sky. You stop for a second and say hi to your neighbor Shirley as she is leaving. Your weekend morning ritual consists of visiting "Submerge" What you've come to

understand as a peaceful moment to gather yourself and your thoughts and just be. A place where you can let go of all that goes on out there in the city, the stress, the car horns, and the crowds and come to a peaceful place of mental and spiritual healing just steps from your home. You enter glass doors and are greeted with a pressing feeling of protection.

Water cascades over roughly cut stone walls on either side of the corridor. A procession of sorts. The sound of splashing and feeling intensifying humidity and warmth increase as you progress. You smile at your friend sitting on the bench that flanks the hall. She is sipping a steaming cup of coffee as she reads a book. Each step you take leaves behind the hectic city. You ponder this, I mean, you love the city. Its your very own emerald in the North West. Its your place, but sometimes you need some silence and maybe don't want to go off to the mountains. So you come here. You wonder what Olmsted would have thought.

As you come to the transept of the space you veer off to the left and find an empty changing room. In This circular space, lit from



Figure 13

the outside edge, there is a slow methodical movement of people. Movement in and out of the doors surrounding the area as well as people coming from any one of four openings around the room. You open your chosen changing room and proceed to dawn your suit. Packing your clothes back into your bag, you emerge and find a locker. Taking a deep breath you begin. Today you feel like a short swim will do you some good and get your day off to a good start. Progressing further into the depth of the structure you come to long pool. It appears to float out among a deep colonnade. Biting the bullet you just leap in. the cool water engulfs you, and you let out an explosive breath. The bubbles from your jump as well as your breath surround you. All is silent.

Surfacing you take a deep breath in and begin your strokes, One two three, Breathe, One two three breathe. This goes on for about 1000 yards and you feel as though you've had enough. You



Figure 14



Figure 15

remove your goggles and hop out of the pool. To your right you see the expanse of Lincoln reservoir. The columns are lit up and reflect off the dark water. A slight glow emits from the pool out into the expanse. You return to the central space and proceed right down a long circular hall. You hear rushing water beneath your feet, under the loosely spaced boards, steam begins to build and you walk towards a brightly lit turquoise space. Through the opening in the ceiling of the warm cylindrical room a beam of bright sun burns through and lights up the warm opalescent foam swirling around on the surface of the water. One step at a time, you enter the warm waters. Sitting along the wall you close your eyes. Your eyelids burn dull red as you sit and do nothing for the first time this hectic week. You lose track of time.

Coming too you progress out and across the transept to a cold plunge where you just go for it, going all the way under. You burst upwards, all the cells in your body screamingly awake. You gasp. And you gasp again. Ok ok, very awake now. Jumping out and tiptoeing down the hall, your tingling feel feeling every board, you fumble with your locker and grab your towel. As you dry feeling

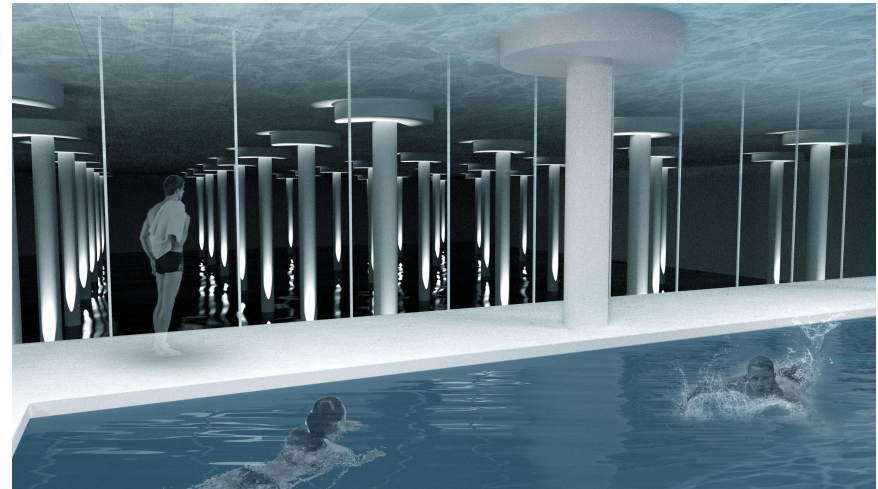


Figure 16



Figure 17

returns to your extremities and you find an open changing room. You change and a slight whiff of coffee reaches your nose. It's time.

Walking back out between the walls of cascading water you turn right into a small cafe. Ordering a drip coffee you find a place to sit as the sun continues its path exposing more and more of the basin to the sky. With each sip of coffee you breathe and smile. Renewed feelings of joy and excitement fill you. You sit, and reflect, and feel at peace with things.



Figure 18



Figure 19

Reflections

Out of the ideas and theories of people like Jean Gebser , Sim Van Der Ryn, Edward O. Wilson, David Orr, Vine Deloria, Jr, and Amanda Sturgeon comes a theory of utilizing our interconnectedness to develop a methodology in architecture. This theory is an idea of sustainability, one of life, of love, of peace and prosperity. A theory where taking care of the person in the most wholesome way we as humans know how, we will also, by the very nature of the theory be taking care of not just our environment but also all that we as humans are connected to. With the influence of the developed ideas of interconnectedness comes the intention of developing an architecture which focuses on the human; their wellbeing and positive existence in built space. This thesis is an exploration of an architecture of health and healing. Health and healing through varied experiences in water. Using historic typologies as a guide form was developed.

The entire process and experience of *Submerge* is designed to focus on the health and healing of those who experience it. These experiences within the project seek to provide an environment where one can be mentally, physically and spiritually uplifted in a communal setting. The project accomplishes this with a series of experiences which respond both to its context but also those who use it. The entry interacts with the expanse of the sky, the falling rain and the landscape of Cal Anderson Park. It sits below grade, within the earth of Capitol Hill. As one moves through the project they progress into the confines of Lincoln Reservoir, both physically and

symbolically representing the embodiment of water infrastructure in Seattle. The space inside is of forms reminiscent of the vast concrete culverts and pipes which bring the very water in which it sits to the reservoir. It is within these forms one experiences a human scale environment echoing the form of lower basilicas of times since the Roman Empire. Basic nave and transept forms are used to create a simple, personal scaled interior. It becomes a space which holds its occupants, which comforts and allows for healing through water to occur. Echoing the three temperatures of Roman baths, hot, cold and tepid waters combine with modern architecture of the city to form *Submerge*.

Program aside, this project has taught me to listen to scale and its effects on people's understanding of their existence in and relationship to place. Through the view of indigenous epistemologies we are all connected, human, plant, animal and all other forms of life on an equal and diverse plane. All of us connected and interacting on a constant and unending basis. This connection changed the way I approach architecture. It turned the proverbial volume down on expression and allowed me to think inwardly. Scale diminished and what was once a vast project complex became an inward personal experience in modest architectural moves which are unnoticeable to most outside the immediate vicinity. All remains the same in the park outside the entrance, but for a few light wells protruding from the grass above the reservoir; an exercise in complementing context. The project brings the human experience in health and healing to the fore.

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Figure List

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- Figure 4 Paulin, Edmond. Thermae Diocleziano, 1880.
- Figure 6 Cosentino, Valerio. Basilica Di S. Clemente, Roma Esploso Prospettico Dei Tre Livelli. 1989. Disegno dell’Autore.
- Figure 7 Hartley, Thomas. The Interior Of The Lower Basilica Of St. Francis Of Assisi. 1839.
- Figure 8 Stiles, Marc. Seattle Daily Journal of Commerce. 8 Jan. 2004, <https://www.djc.com/news/co/cis.html?id=11152628&printmode=true>.