Verity Waters
Water and architecture and the quality of life

Laura Hann, B.A.S.

A thesis submitted to The Faculty of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

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M.Arch (Professional)

Advisor: Professor Sheryl Boyle

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Verity Waters

Water and architecture and the quality of life

Laura Hann, B.A.S.

Abstract

Research into water in architecture has directed the course of this topic through texts by Gaston Bachelard and Ivan Illich. This research will explore three facets of water; the philosophical, the physical and the spiritual. Carlo Scarpa's *Brion Cemetery* and Betsy Damon's *Living Water Park* are the prime case studies that this design thesis will explore. Through insight gained in the research and case studies this thesis will propose the design of a dwelling for women in crisis in Ottawa.

The inspiration for this thesis comes from several sources. Morris Panych's play, *Girl in the Goldfish Bowl* has provided insight for the design process, while the Apostle John's story of the Woman at the Well, acts as the archetype of the broken woman. This thesis proposes a temporary approach toward a solution as well as a long-term proposal. The design development method suggested is based on field research, including interviews with both people who work with those in need, as well as the women themselves.

*"The city child has no opportunities to come in touch with living water: Water can no more be observed; it can only be imagined, by reflecting on an occasional drop or a humble puddle."*¹

- Ivan Illich

*"As in its very nature [water] is itself pure, it can purify, refresh, heal, strengthen, revive and clarify all things."*²

- Theodor Schwenk

¹ Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986) 76.

² Schwenk, Theodor: "Sensitive Chaos." trans. Olive Whicher and Johanna Wrigley. (London: Rudolf Steiner Press, 1965) 98.

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[a visual diagram of ideas pertaining to the development of this thesis]

 

Cognitive · semantic
Personal · citations [illegible][illegible]

Water
source of life

1. Introduction

Key aspects to be included in the final application: **Architectural Component**

Private pavilion
reflecting pools and
garden

Private pavilion
reflecting pools and
garden

Private pavilion
reflecting pools and
garden

Private pavilion
reflecting pools and
garden

Private pavilion
reflecting pools and
garden

Private pavilion
reflecting pools and
garden

substance
[sub-stuhns]
noun
that of which a thing consists;
physical matter or material
form and substance

idea
[ahy-dee-uh]
noun
any conception existing in the
mind as a result of mental
understanding;
an opinion, view, or belief

metaphor
[met-uh-fawr]
noun
a term or phrase applied to
something to which it is not
literally applicable in order to
suggest a resemblance

physical properties of water

spiritual aspect of water

philosophy of water

[illegible]

Year	Population	Population	Population
1990	100	100	100
1991	101	101	101
1992	102	102	102
1993	103	103	103
1994	104	104	104
1995	105	105	105
1996	106	106	106
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2012	122	122	122
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2014	124	124	124
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[illegible]

need
 location of refuge for those
 living on the streets or at
 risk of being homeless

[illegible]

• healing waters, therapeutic • • usage of minerals •

Winter Garden

Mid 18th C act of going to France the toilet became a separate gendered activity

Late 18th C Marie Antoinette made the function of going to the bathroom private, tucking the chamber pot facilities into a closet for France

Initially ornate furniture, latrines became labor, the privatization of the act brought bodily about the birth of the water closet, or simply "WC"

1775, Alexander Cummings invented a device that when "flushed" released the waste water to be drained out and at the same time let in fresh water, Britain

Early 19th C toilet also known as "water closet" or "WC" developed in modern WC eastern London

Late 19th C, Thomas Crapper developed the modern WC eastern London 1872, Government's Metropolitan Water Act passes, standardizing plumbing regulations and installations in England

Human need for water

Urban population led access to improved water supply, estimated 17% of the global population

Public health, improved access to improved water supply, estimated 17% of the global population

Public health, improved access to improved water supply, estimated 17% of the global population

What life of water? Where does it come from?

What is it for? Why do we need it?

What is it for? Why do we need it?

What is it for? Why do we need it?

What is it for? Why do we need it?

Conceptualizing

- Abstraction
- Minimum Resources
- Wash Kit
- Laundry Kit
- Water Closets

Program

- Addressing the needs of the community
- Creating a safe, comfortable place to commune together, in equality
- Addressing the needs of the community
- Creating a safe, comfortable place to commune together, in equality

Design

Designing a safe, comfortable place to commune together, in equality

Designing a safe, comfortable place to commune together, in equality

threshold transition, passing through moments of de-Residence

PROGRAM

gathering place
 administration
 drop in center
 laundry
 emergency overnight shelter
 temporary transitional housing

conceptualizing

the idea
 of a place
 where the
 community can
 find a place
 to live

the idea of a place
 where the community
 can find a place to live

the idea of a place
 where the community
 can find a place to live

the idea of a place
 where the community
 can find a place to live

the idea of a place
 where the community
 can find a place to live

a safe comfortable place to continue
 together in a secure

building relationships
 meeting the need
 providing hope

"When you're the director of
 a place like this, it's not just
 about the building, it's about
 the people who live there."

the idea of a place
 where the community
 can find a place to live

the idea of a place
 where the community
 can find a place to live

the idea of a place
 where the community
 can find a place to live

educate on the scope and the future
 ways to improve the community

water and the building

the idea of a place
 where the community
 can find a place to live

conquering obstacles to
 an even better

Stairwell

design concept.....

building and existing within the
 programme of work.
 programme with building of each
 individual building

moments and themes

coffee shop encounter (a brief snapshot)

the woman behind the counter
 angrily complains to a regular
 about the poorly dressed man
 on the bench in front

"no loitering"

she goes out to him again and
 threatens to call the police
 sick to my stomach I get up to
 go, by this time then man has
 moved on already

to this in brightness

and the

comparing others for
 and the other side of
 Stairwell

comparing others for
 and the other side of
 Street intervention

HEAVEN IS THE BURNING
 "Landscape"

NATURE IS A MIRROR
 "Stillness"

FAITH IS THE WATER
 "Phantom"

STEEPING BEYOND BATHING
 "Reflection"

sign concept
 designed to be used as a
 series of signs
 with varying degrees of
 abstraction

moments and themes

Prologue

0.1 Opening

What insight can be gleaned from water? At a glance, water as an element, a physical substance, has the ability to fashion and sculpt landscapes. Water, as a spiritual substance, provides cleansing and purification in ritual ceremonies such as baptisms and preparation for prayers. In various cultures water is a source of spiritual therapeutic rejuvenation of body, mind and soul. The metaphorical qualities of water are endless. These metaphors provide various illustrations necessary to communicate ideas between people of all cultures and backgrounds. Our understanding is constructed of this water.

In his book *Water and Dreams* Gaston Bachelard quotes Honoré de Balzac, the French realism writer, stating that, “‘It is near water and on water that we learn to sail on clouds, to swim in the sky . . . The river was like a path along which we flew.’ Water invites us on an imaginary journey.”¹ This water journey will be anything but imaginary; rather it is a reality of life. Looking to the physical, spiritual, and metaphorical aspects of water this thesis aims to seek out the relevance of water’s role in architecture and what ability it holds to improve the quality of life.

Figure 1 |
Cover: *Water and Dreams*,
Gaston Bachelard

The design proposal aims to explore these themes through a design for a women's shelter in Ottawa. The design has been inspired through resources of those at work on the streets of Ottawa as well as through considerations of women who are currently in need in Ottawa. A play by Canadian playwright Morris Panych, entitled *Girl in the Goldfish Bowl*, provided further design inspiration and served as a hinge in the synthesis of the theory, design considerations and architectural components that are the backbone for the development of this exploration of water in architecture and the quality of life.

Girl in the Goldfish Bowl is a story about a young girl's reality, her transition from the last moments of her childhood to adulthood. A short play with a small cast of 5 characters; these are Iris, the young girl, her parents, Owen and Sylvia and two borders, Miss Rose and Mr Lawrence. It chronicles a brief period in time of the interaction of these characters through the eyes of Iris. Her mother is trying to leave her father, and she believes Mr. Lawrence, a new boarder who she determines is the reincarnation of her recently deceased goldfish, is the one holding her world in balance.

While containing no direct relation to the women this thesis focuses on, the play enters upon topics of transition, security and transformation. These issues are present in the underlying topic and design proposal of this thesis. Using moments and themes from

Figure 2 |
Cover: *Girl in the Goldfish Bowl*, Morris Panych

the play, a design charrette was conducted that provided the synthesis of the design considerations and essential architectural concepts that came out of the field research for this thesis.

The design considerations for a women's shelter begin with the need to develop relationships. This process begins with the design of a Street Intervention on the site, acting as an extension of an existing bus stop. As a piece of street furniture, it's main function would be for sitting in the sunshine or waiting for the bus. It will also provide an initial point of contact between the women and the services of the shelter and as such be the first architectural component in the process of the shelter. To facilitate the fostering of relationships and to discover the deeper issues needing to be addressed, the next architectural component is a casual and safe Gathering Place, modeled after coffeehouses where all were welcome regardless of their social standing. The third architectural component is a feature Stairwell that acts as an orienting device within the building as well as a spine physically interacting with each of the other architectural components. Following the Stairwell, the next architectural component of progressive entry to the security and services of the shelter would be the Core, a combination of spaces for administration and educational purposes. The Core is a space built to begin to address the issues of each particular client. The fifth architectural component is a Residence that branches off from the Core. The Residence

addresses the specific issue of the need for shelter as a combination temporary shelter and affordable housing. The final stage will be an architectural landscaping component, a Water Garden that will function as a water collection and filtering system, as well as a space of reflection and rejuvenation. Composed of these six architectural components, the result is intended to be as much a collaging together of people from various backgrounds, cultures and situations as it is to be an assembling of separate architectural components that make up the design of the whole.*

Learning from the successes of St. Joe's Women's Centre and Cornerstone², the approach is intended to facilitate the difficult process of reaching out for support, accepting it, and rebuilding stability in the women's lives. A great deal of importance is placed on the first two components, to be able to know in what respect the facility itself can cater to the women's needs. While it is understood that not all the needs will be able to be met, these two components allow for the needs to be made known, so that as many as possible can be addressed. The fourth component, the approach to the core facilities, would include the development of incentive programs. These would give the women the opportunity to become physically involved in the remaining stages, through tasks such as exterior landscaping, cooking, housekeeping, and eventually operating the Gathering Place. These various opportunities aim to give the women a chance to develop life skills in the area of their interests and expertise. This will allow them to

Figure 3 | St. Joe's Women's Centre

Figure 4 | Cornerstone

* For architectural component amplification refer to the *Ideagrammatic* on page 1.

take ownership and gain a sense of pride through their responsibilities for themselves and the place they live. At the same time being able to fulfill the daily tasks necessary to keep the facility operating.

This design proposal is part of a continuing process that shapes its environment by varying degrees over a period of time. The proposal puts forward a design using qualities of water containing potential for improvement of the quality of life for women in Ottawa.

0.2 Aspects of Water

As this study on water and architecture unfolds, the question must be asked, what kind of water is being addressed? The following addresses the definitions and approach being taken to the three facets of water: the philosophical properties, the physical substance, and the spiritual quality. Establishing a common foundation for the remainder of the text, this section will focus on the context of water.

0.2.1 Philosophical Facet

The philosophy of water in architecture describes a tangible presence of the intangible. This is what Ivan Illich, author of *H₂O and the Waters of Forgetfulness*, writes of as, “the water needed for dreaming city as a dwelling place.”³ It is the unattainable and yet

Figure 5 |
Cover: *H₂O and the Waters of Forgetfulness*, Ivan Illich

the attainable, these are the waters described in metaphors and the waters of dreams. The subject of meanings of water in the subconscious mind is one that Gaston Bachelard addresses. Focusing on the imagery of water through various metaphors as it relates to the conscious self. Bachelard describes it as the nutritive liquid, the milk that nourishes the imagination.⁴

There are two aspects of waters of dreams addressed in this thesis. The first is the subconscious waters while the second is the fluid translation of imagination to lived reality.

0.2.2 Physical Facet

Water, as a physical, tangible substance is undisputed across cultures and centuries as an element essential to basic human life. It is a unifying element, and yet one that varies significantly from landscape to landscape, engaging all the senses in a different manner based on its surroundings. Water is too often taken for granted by the population that is able to turn on a tap and have it readily available to them, and the “availability to water is reflective in how we perceive water (as a precious commodity or as an ever constant substance taken for granted.)”⁵ Water in its pure state, “is (or should be) odourless, tasteless, and colourless.”⁶ Water is incredibly unique; containing no nutritive value it is still the essential component of all living things and the only natural

Figure 6 | Physical Facet of Water – Lake Kashiwakamak

material that exists at earthly temperatures as liquid solid and gas.⁷ Charles Moore writes that, “its source was always an important place – where people gathered, settlements flourished, and cities were established.”⁸

Illich and Bachelard both make note of the water cycle as one that ends in death. Bachelard is clear to note however, that the end he describes is a “horizontal death,” where water is collected in a pool or puddle. There may be stillness in the cycle, however, “water never goes away, disappears, or vanishes; it always returns in one form or another ... ‘all water has a perfect memory and is forever trying to get back to where it was.’ ”⁹ While humans may not treat water as they should, water is an element that was, is and will always be. The issue being addressed through this thesis is partially in enabling clean water, and water facilities to be made available for those who live on the streets of Ottawa. While at the same time including in the design proposal for a water retaining and filtering process as a self-sustaining building element and aesthetic aspect of the proposed facility.

0.2.3 Spiritual Facet

Illich makes a distinction between water and H₂O, where water is perceived to be a pure substance and the latter is the substance of reality that life depends on. H₂O he describes as a social construction, requiring technical management to monitor its

quality.¹⁰ The pure substance of water he refers to is that of a spiritual nature. Water in this capacity is seen through various religions as an implication of spiritual death and rebirth. In Taoism, it is recognized that water “nourishes all things without trying to,” this is synonymous with the “supreme good” of Taoism.¹¹ In India, the muddy water of the Ganges is seen in the Hindu religion to have purifying power for all it touches.¹² In the Qur’an water is understood to be “a gift from God, a token to mortals of divine omnipotence and omniscience.”¹³ In early Greek religion their sacred springs were closely entwined with mythology, from the myth of Narcissus who, in love with his reflection is unable to attain his image, to the mythical underworld rivers the Lethe and Mnemosyne, the rivers of forgetfulness and recollections. The Greeks understood water to be a symbol of life and death, a vital substance to be feared, and also revered.¹³ In Judaism, the scriptures describe the physical cleansing of the body and soul through washing oneself with water along with a period of physical separation from the community. In Christianity the New Testament introduces baptism as a physical sign of an internal cleansing, dying to one’s spiritual self and being reborn as a new creation.¹⁴ Before the twentieth-century Christians saw cleansing oneself and purifying one’s spirit as two opposing acts. The church discouraged the habit of outward cleanliness due to the sinful nature of the public bathhouses and did not change their attitude until it was scientifically proven to be healthy.¹⁵ Water takes on an even deeper meaning in Christianity as spiritual life giving water, the living water that is Christ.¹⁶

Figure 7 | Spiritual Facet of Water – Holy Water Basin

The spiritual facet of water indicates that which is, ‘linked to water’s role as a symbol of chastity is its power as a cleansing agent. Physical purification that leads to spiritual rejuvenation is a recurrent water metaphor.”¹⁷

0.3 Collaging as a Process in Architectural Design

The next six chapters are presented in the following format:

Opening

Each chapter will begin with a collage and a quote from the *Girl in the Goldfish Bowl* relating to a design consideration that will be addressed in that chapter. This will be followed by the main body of text bridging the design consideration discussed with the design of an architectural component.

Closing

Each chapter will conclude with the synthesis of the design consideration and the architectural component as an architectural character. The synthesis will be amplified by a written scene involving the architectural character.* Finally the chapter will close with a vignette of the scene and technical drawings of that character.

* For synthesis of Design Considerations and Architectural Components as Architectural Characters refer to the *Ideagrammatic* on page 1.

This thesis is thus intentionally structured using the technique of collage to bring together the fragments from a play, design considerations, theory of water in architecture and programmatic requirements to form architectural characters. These characters are then later “housed” in an overall “building,” again using collage as an instrument of representation.

Prologue | Endnotes

- ¹ Bachelard, Gaston. "Water and Dr Bachelard, Gaston. "Water and Dreams: An Essay on the Imagination of Matter," trans. Edith R. Farrell, (Dallas: Pegasus, 1999) 132.
 - ² St. Joe's Women's Centre is a day-time women's drop-in centre in down-town Ottawa, while Cornerstone is an emergency women's shelter in Ottawa.
 - ³ Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986) 11.
 - ⁴ Bachelard, Gaston. "Water and Dr Bachelard, Gaston. "Water and Dreams: An Essay on the Imagination of Matter," trans. Edith R. Farrell, (Dallas: Pegasus, 1999) 117.
 - ⁵ Spellman, Frank. "The Science of Water: Concepts and Applications," (Boca Raton: CRC Press, 2008) 6.
 - ⁶ Moore, Charles. "Water and Architecture." (New York: Harry N. Abrams, Inc., Publishers, 1994) 15.
 - ⁷ Spellman 14.
 - ⁸ Moore 21.
 - ⁹ Spellman 5.
 - ¹⁰ Illich 75.
 - ¹¹ Ibid.
 - ¹² Moore 20.
 - ¹³ Wylson, Anthony, "Aquatecture: Architecture and Water." (New York: Van Nostrand Reinhold Company, 1986) 5.
 - ¹⁴ Moore 20.
 - ¹⁵ Petzke, Karl and Slavín, Sara. "The Art of the Bath." (San Francisco: Chronicle Books, 1997) 23.
 - ¹⁶ Moore 17.
 - ¹⁷ Ibid. 20.
-

Prologue | Figure Sources

Figure 1

Bachelard, Gaston. "Water and Dr Bachelard, Gaston. "Water and Dreams: An Essay on the Imagination of Matter," trans. Edith R. Farrell, (Dallas: Pegasus, 1999).

Figure 2

Panych, Morris. "Girl in the Goldfish Bowl." (Vancouver: Talonbooks, 2003).

Figure 5

Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986).

Title Page and Figures 3, 4, 6 & 7

Images by the Author

Plate 2 | BEAUTY IN THE BROKENNESS

She goes off. He sits, empty. IRIS comes forward and stands behind her father, watching him for a moment as he drops his head into his hands. Suddenly he stops.

IRIS I was watching you cry. It was rather interesting.

OWEN

(Getting up) I wasn't crying.¹

Chapter One | Beauty in the Brokenness

1.1 Ottawa Manifesto

In April of 2006 the Evangelical Fellowship of Canada's Roundtable on Poverty and Homelessness put forward the "*Ottawa Manifesto*." Outlined in the manifesto are what they believe to be essential elements in addressing the issues of poverty and homelessness in Canada. The first point addressed is that:

"We all need homes, not just housing:
A home is more than just four walls and a roof. It is a whole life situation that means being welcomed into a safe, secure and dignified place to live; healthy nurturing relationships; the opportunity for education, meaningful work for reasonable pay; and to worship, dream and play in vibrant community. Housing initiatives need to take these values into account, and aim to create far more than "affordable" space."²

It is with this philosophy in mind as well as an understanding of the lack of facilities for women in crisis in Ottawa that the program for this design proposal was selected. The need is for a place of dwelling, not just a safe place to sleep at night. More than just another building, it needs to be a place that will provide hope and encouragement.

The “Ottawa Manifesto” continues further on to address the impact of society on homelessness stating that:

“Ignoring poverty impoverishes everyone:
... when people are shut out because of their poverty,
poverty itself “snowballs”, at once increasing our social
burden and diminishing our societal capacity.
Homelessness in Canada is a clear and concrete
manifestation of this truth.”³

It is the responsibility of society, to step up and realize that this is not an issue that will simply go away on its own. The ability of society to have an impact is shown at an environmental level by a community in China on a project to reclaim their polluted river. Under the leadership of Betsy Damon, the community brought together their talents, time, and resources to turn the otherwise deteriorating riverside into a once again pleasant parkland and natural water filtration system known as the *Living Water Garden*.

In Betsy Damon’s *Living Water Garden*⁴, the vision she had would never have been realized without the participation of devoted residents and the positive “snowball” effect that it had in changing the hearts of key figures to bring the project into existence. As she says, the most important aspect of the creation of the project is that it would not have been possible if they had not done it as a community.⁵ Echoing the “*Ottawa Manifesto*,” a commitment needs to be made to our fellow brothers and sisters who are

Figure 1 | Image of children and flow forms: Betsy Damon’s, Living Water Park

facing the crisis of poverty and homelessness to:

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“**LEARN** all we can about the systemic, sociological, economic, cultural and spiritual deficits that have left them in this state. We will listen carefully to them, for they are our greatest teachers. We will seek out the knowledge others have acquired, and teach what we ourselves have learned to those who want to care more effectively for people who are poor or homeless;

ACT with diligence and integrity to create with them healthy, nurturing relationships, and safe, secure, dignified homes;

SPEAK on their behalf when their own voices are not heard, and support them in speaking for themselves, to the end that Canadian churches, governments, media and businesses would make the substantial reduction of homelessness, poverty and their root causes a high priority; and

COOPERATE with others committed to these baseline objectives, respecting differences of approach and philosophy.”⁶

With this commitment as a foundation of the response to the need, the next step is to determine how that can be realized through architecture.

1.2 Dwelling

Illich describes dwelling as a way of “living insofar as each moment shapes a community’s own kind of space.”⁷ It is a process that is never finished, one that is constantly growing, evolving and adapting to its environs. The Ottawa Manifesto is a

perfect description of aims that can work to achieve this act of dwelling that Illich suggests is lost. In *H₂O and the Waters of Forgetfulness* Illich speaks of the water of dreams and the technological construct of water and the effect they have had on the separation of what we have come to regard as synonymous: “living” and “dwelling.” This design proposal aims to take these thoughts further in reference to dwelling, through looking at the spiritual facet of water along with the philosophical and physical facets of water in order to propose a women’s shelter which allows for dwelling.

Physical water in architecture takes on two predominate aspects in design according to author Aaron Betsky. The first is in *influencing infrastructure* and thus the built assembly through the necessary components, such as waterways and plumbing that make up this assembly. The second is when water is used as a *design enhancing* element, for example as a reflecting pool.⁸

History provides an understanding of water (at the scale of the city) as infrastructure both poetic and pragmatic. Water has determined the location of cities due to trade routes, its ability to contribute to natural fortifications and meet agricultural needs. The importance of the watering hole at the micro level was key in determining the significance of place in early Greek society. This was reiterated by embellishing of the points of entry for water as fountain features in Italian Renaissance and Baroque

Figure 2 | Trevi Fountain
(Example from Baroque)

society. Islamic cultures approached water with greater reverence and significance for each precious drop of water, avoiding glorification and striving for harmony and communion with water in the architectural landscape. Further to Betsky's two design aspects of water, the Islamic culture exemplifies a the third aspect of water; the conjunction of *infrastructure influence* for the *design enhancing* use of water. The design for Alhambra, a palace complex in Spain, is regarded as the *locus classicus* of water in architecture, with its combination of channels for irrigation flowing into decorative fountains and reflecting pools.⁹ In another example of water in architecture, Scarpa's channels at the Brion Cemetery reflect an influence from Alhambra. Flowing between the family pavilion and the tombs the channel creates a symbolic connection between the living and the dead.¹⁰ In this instance of dwelling, water mediates between the natural spatial aspect and the abstract spatial aspect, the world beyond this world.

Despite the contrast in which the Renaissance, Baroque and Islamic complexes and gardens were designed, they each allowed for the individual to inhabit these spaces both through "living" and "dwelling" in Illich's sense of the word. That is where, in living verses dwelling, the former "stresses the temporal, the other the spatial aspect of being. To dwell means to inhabit traces left by one's own living, by which one always traces the lives of one's ancestors."¹¹ In the Apostle John's story of the Woman at the Well, living in the vestiges is demonstrated quite clearly. The woman lives with the abstract bearing

Figure 3 | Alhambra

Figure 4 | Brion Cemetery

of her ancestry as a Samaritan, an outcast people, and as a woman, a lesser gendered people, there were certain expectations of her role. Fulfilling a task of dwelling in the spatial sense, such as in drawing water, she is faced with the vestiges of her past in the temporal setting, her tarnished history. According to Illich, she would be among those who can truly dwell, as only those who are currently seen as a lesser class of people are capable of dwelling.¹² These are the downtrodden, such as the women living on the fringes of society in Ottawa or those of impoverished countries, who literally live in their own physical traces as they form the territory in which they reside from day to day. What this thesis is calling for is a balance between the extremes of living and dwelling that have come out of the 20th century, which are still drifting further from the unity of living and dwelling of early societies. With regard to this separation, Illich writes,

“Most people today do not dwell in the place where they spend their days and leave no traces in the place where they spend their nights. They spend their days next to a telephone in an office and their nights garaged next to their cars ... the traces people manage to leave in the course of living are perceived as dirt that must be removed, as wear and tear that calls for repair, as the devaluation of a considerable investment.”¹³

To achieve this balance between living and dwelling, a women's shelter must provide the spatial context for this to happen. By looking beyond the routines of desk to bed and back again it must also provide opportunities to educate both those of society who are in or not in need.

The first design consideration of this thesis addresses the need for a safe space to begin building relationships and creating spaces for healing to take place. This will be achieved by utilizing water in both its necessary operations as a part of a built structure as well as integrating it into functioning feature elements – through collection and filtration for reuse, demonstrating the preciousness of water through an architectural component at the human level.

1.3 Street Intervention – Architectural Component 1

The site for the proposed women's shelter is in Ottawa, at the northwest corner of Kent Street and Gladstone Avenue and will be described later in this document. The first architectural component is the *Street Intervention*¹⁴ and it is situated on the south facing side of the site. It separates the public sidewalk space from the private space of a sunken courtyard.

The Street Intervention is more than just a wall; it is a functional piece of street furniture. It provides shade and shelter, a place to sit and relax in the sun or wait for the bus, while also acting as a key part of a water collection process. A bus stop currently exists at this location, and the intention is to provide a seating place for those waiting for the bus. Constructed mainly of concrete and wood the simple wall form is pushed and pulled to create ledges and window box style seats. These are accented with

wood at varying levels, giving warmth and softness to the harsh concrete. The wall creates some seating open to the elements, while other seating is more protected deeper within the wall.

Vertical channels are cut along the wall, running from a canopy above and disappearing down through discrete holes in the wall. When it rains water runs down the channels to a basin in a sunken courtyard on the other side of the wall. Three wooden columns support the widest portion of the canopy. The canopy begins higher and wider, closest to the bus stop, and slants downward as it becomes narrower towards the opposite end providing the option of seating open to the sun.

Translucent blocks of coloured glass allow light into the sunken courtyard beyond through the circles as well as through the two window style seats tucked into the wall. The wall seating encourages one to sit and enjoy the city by turning attention away from what is beyond the wall and directing the gaze of the inhabitant outwards.

Chapter One | Endnotes

- ¹ Panych, Morris. "Girl in the Goldfish Bowl." (Vancouver: Talonbooks, 2003) 51.
 - ² Roundtable on Poverty and Homelessness, StreetLevel 2006. *Ottawa Manifesto*. April 2006.
 - ³ Ibid.
 - ⁴ **Case Study – *Living Water Garden***: A river revitalization project in Chengdu, China, completed in 1998. (Further discussed in 4.2)
 - ⁵ Mavor, Anne H. "China's Living Water Garden." *YES! Magazine Winter* (2000). 9 Sept. 2008 <http://www.yesmagazine.org/other/pop_print_article.asp?ID=312>.
 - ⁶ Roundtable on Poverty and Homelessness, StreetLevel 2006. *Ottawa Manifesto*. April 2006.
 - ⁷ Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986) 9.
 - ⁸ Betsky, Aaron. "Take Me to the Water: Dipping into the History of Water in Architecture." *Architectural Design - Water and Architecture* 113 (1995): 9.
 - ⁹ Betsky 9.
 - ¹⁰ Moore 85.
 - ¹¹ Illich 8.
 - ¹² Ibid 10.
 - ¹³ Ibid 10.
 - ¹⁴ **Interface** – Architectural Character 1 (See Plate 3)
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Chapter One | Figure Sources

Figure 1
greenmuseum.org. Betsy Damon. 9 Sep. 2008
<http://greenmuseum.org/content/artist_index/artist_id-62_nosplit-z.html>.

Figures 2, 3
Moore, Charles. "Water and Architecture." (New York: Harry N. Abrams, Inc., Publishers, 1994).

Figure 4
Images by the Author

Scene One | Interface

Interface -

Architectural Character 1

You -

The participant

[*questions*] -

responses to the design
consideration

Quite literally an exclamation of an edge.

A curiosity.

It beckons,

*sit in the sunshine,
take shelter from the rain,
make a new friend.*

Perhaps you will ignore it and merely wait for the bus

(It is simultaneously intended to draw people in, distract those it is not intended for and provide security for those in need.)

Composed of harsh concrete, contrasting moments of gentle wood and splashes of coloured tile and light, it invites everyone to make themselves as comfortable as they choose.

(with the pitter-patter of the rain)

A second skin comes alive ...

The channels in the concrete and tilt of the canopy ... moments ago appeared simply to be decoration.

Water now runs down, disappearing through openings.

[*Where do they go?*] You absently muse.
Then your bus arrives.

The brief thought already fleeting ...

Perhaps it is not important.

Plate 3 | *Interface* – Scene 1

Plate 4 | *Interface* – Architectural Character 1

Plate 5 | GEOMETRY OF RELATIONSHIPS

IRIS Miss Rose works at the cannery. People who gut fish all day are very cynical. My mother, meanwhile, is upstairs with her feet propped on a pillow and a cold washcloth on her forehead. My father waits beside her, saying nothing. Listening to her every breath. Ordinarily, he sits and doodles at his drafting table all day, and dreams about Paris. He wants to stand under the Arc de Triomphe, gazing down the Champs d'Elysee all the way to the Louvre. Apparently, it's a moment of sublime geometry.

OWEN *appears with a map of Paris; he sighs.*

...

OWEN I thought people your age ran away from home.

IRIS I can't. I have a vocation.

OWEN A what?

IRIS Someone has to save this family.¹

Chapter Two | Geometry of Relationships

2.1 Commencement of the Journey

Many homeless women find themselves at a loss with no one to turn to and nowhere to go. There are many reasons why women end up on the streets. One of the most common reasons is an escape from the negative impact of the people, situations and memories that have been shaping them. Some individuals are at risk of losing their homes due to “fleeing abuse, losing a job, or having an income too low to stay in suitable housing ... Some are at risk because of mental illness or substance use problems; others lack the life skills or ability to live on their own.”² Whatever the reason, they are in need of care and attention. That is where we must meet them, at their level and in response to their needs.

The Apostle John tells the story of an encounter at a well in Sychar. A woman is coming out to draw water alone, an outcast from society she meets a man who offers her a new “water” that will make her never thirst again. There is a lot we can learn from this woman. She is the epitome of the lost soul. She has suffered from five broken marriages and is currently amidst a sixth relationship. She is the community outcast, not even able to carry her water socially among the other women at the time they would usually

all go to the well. Her desire is for answers, to fill the despairing emptiness she feels, and for wholeness in her shattered life. The man she meets is Jesus, and the offer He makes is the answer she is looking for; though she is sceptical and does not truly understand it at first. He responds to her current need and reaches out to her as an equal in a way that does not demean her because of her position in society or judge her for her past. In the end, after questioning and testing to see for herself if it could be true, she believes. As a result, through sharing her story and giving hope to others, she is reconciled in a way she never thought possible. Thus through the healing process that takes place she is able to have her life renewed and in turn support others in need.

This woman is no different from women in Ottawa who face daily challenges at the “wells” in our world. These “wells” could be issues such as trying to meet basic needs such as food, clothing or shelter where they find themselves being shunned by people who would rather not take the time to help a person due to their outward appearance or social standing. They could also be deeper emotional or physical needs, that people who are capable of providing for these issues do not want to offer their time to these individuals. This is not to say there is no one in Ottawa reaching out to these individuals. There are in fact organizations in place that are diligently involved with caring for the men and women on the streets of Ottawa. The fact remains however, that there are even more people, though they say they are willing to lend a hand, they would

Figure 1 | Sketch of woman at the well

prefer it 'not take place in their backyard.'³

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What are these needs exactly? The basic necessities are obvious, shelter, food, hope.

What lies deeper than these surface needs however are hurting people facing very real issues.

In exploring this current issue, according to "Alliance to End Homelessness" (ATEH) in Ottawa there has been a significant rise in homelessness in Ottawa over the last two years.⁴ The main issue is the need for more to be done to address the lack of affordable housing in Ottawa and equally the need for more space for people with nowhere to go. This place for them to go to has to be more than just a place of provisions and shelter from the elements. It has to be somewhere they can be welcomed, feel secure and be encouraged to dwell.

2.2 "Third Places"

In early Greek and Roman history we see the explosion of popularity of the bathhouse. The public bathhouse is an excellent example of a public facility as a social leveller. A place where, regardless of their standing in society, citizens were welcome to enjoy the healing waters. In this manner, they were very similar to the coffeehouses of the French and British societies of the late 17th and 18th centuries. Coffeehouses to the French

and British were what public bathhouses were to the Greeks and Romans, a space of social and bodily healing.

In defining places of the human construct, Ray Oldenburg, author of *The Great Good Place*, explains three types of places. The “first place” is the domestic, the “second place” is gainful or productive, while the “third place” is one that is “inclusively sociable.”⁵ The third place is a public or neutral space that acts as a unifying space, a social leveller. The term “social leveller” originally came from an extreme left-wing British political party, the “Levellers”, and came to imply anything that instituted equality in England, which the coffeehouses certainly were.⁶ The social code which allowed for this new “equality” was not a mere unwritten code of conduct. In London (at least), it was a physically posted set of Rules and Orders:

“Of its thirty lines of substance, the first six enforced the *levelling* of coffeehouse visitors. It said in effect, that all were welcome and could sit down together; that there were no privileged seats and no requirement that anyone should give up his place to those “Finer Persons” who might chance to enter. It is remarkable that those of all backgrounds complied readily and observed the spirit as well as the letter of rules and orders of the coffeehouse. Not only was one in a ragged coat free to sit betwixt the belted earl and the gartered bishop, here he was assured that these worthies would answer him in civil terms.”⁷

The third place provided grounding and roots akin to a traditional home and in it was formed a new type of social “family”.

Figure 2 | Coffeehouse

Oldenburg gives five criteria as to what makes up a “third place”, starting with this ability to give roots. If a person is a part of a third place, Oldenburg writes that, “the place also ‘has him.’ In America, the third place does not root individuals as tightly as, say, in France, but it roots them nonetheless.”⁸ A sense of ownership is the second criteria to defining a “third place”. Ownership extends the sense of belonging to its participants. In the context of the shelter, extended privileges are offered that are not available to the random or casual customer. Similar to the bathhouse, the “third place” is also a place of regeneration or restoration. It is a place to unwind and provide the freedom to be who you are and find genuine warmth, support and friendship. Home can unfortunately exist without warmth; a “third place” however, cannot.⁹

In the Apostle John’s story, the well itself provided a meeting place concept that needs to be reclaimed by the women’s shelter as more than just a meeting place, but rather as a “third place” where all are equally welcome.

The second key architectural component for the design proposal is a Gathering Place. A “third place” where relationships can be developed and fostered to find out how to go about catering to specific needs of the women in a casual coffeehouse atmosphere. The Gathering Place both educates and integrates the community of the shelter with the surrounding community.

2.3 COFFEE SHOP ENCOUNTER

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Let us look at a brief snapshot of a coffee shop¹⁰ encounter:

The woman behind the counter angrily complains to a regular about the poorly dressed man on the bench in front.

“No loitering.”

He is not causing trouble. He is just sitting in the sunshine.

She goes out to him again and threatens to call the police

With a sick feeling in the pit of my stomach I get up to go. By this time the man has moved on already. Exiting the coffee shop and looking either way I see him sitting at the doorstep of the next shop over. I am on my way to a nearby drop-in centre, going over to him, I tell him where I am headed and ask if he has heard of it. He is not sure, so I suggest he stop by for a meal.

With a non-committal shrug, he says he’ll try.

About to leave to catch the bus as I am running late, I pause to think about it, then ask,

“Why don’t you walk with me? We can go together.”

I learn his name is Bill.

No longer a faceless, nameless person, but a fellow friend who loves the sunshine as much as I do.

The coffeehouses of the 18th century are long gone, and with it the programmed social levelling of those spaces. The design consideration will address the approach to create a coffeehouse environment that will provide various seating arrangements and be

Figure 3 | Coffee Shop

conductive to discussion and exchange for building relationships.

Here we clearly see the three facets of water addressing Illich's concept of dwelling in the 21st century. Describing the Gathering Place as a way of shaping the community and a foundation for dwelling. Replacing the community well, the original casual gathering place with the modern 'watering hole'. The Gathering Place provides a unique space in which to be given a chance to begin again, to be able to create a place of living as a dwelling.

2.4 *Gathering Place* -- Architectural Component 2

The *Gathering Place*¹¹ is located at the southeast corner of the site, joining the *Street Intervention* to what will become the main *Core* of the building.

One enters the space through a vestibule, which gives the option of entrance to the Gathering Place or the possibility of a deeper entrance to the Core. Warmly lit, with brightly coloured walls, there is a combination of lower round table and higher bar style seating. A comfortable space with a mix of wooden chairs and tables. There are two bar style table features. The first melds directly into the main counter so those wanting to be close to the activity and serving can do so; as well as have a chance to chat with whoever is working during quiet moments. The second is a key window "bar table"

sill feature. This runs between the exterior and interior, blending the physical space of the interior with the space outside. For those who choose to take their coffee and smoke a cigarette this feature becomes a table on the exterior. Wrapping around the corner it integrates two architectural components, providing a direct connection between the Street Intervention and the Gathering Place.

On the far north side, within the Gathering Place, is a bathroom while directly below is the kitchen and larger dining area for meals and busy times requiring overflow seating. The space below can also function as a multipurpose space for programs, dialogue and discussions. Fostering relationships, nourishing the body and filling the soul, the space begins to get women involved in developing programs to meet their needs.

Chapter Two | Endnotes

- ¹ Panych, Morris. "Girl in the Goldfish Bowl." (Vancouver: Talonbooks, 2003) 4.
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- ⁵ Oldenburg, Ray. "The Great Good Place: Cafés, coffee shops, community centres, beauty parlors, general stores, bars, hangouts and how they get you through the day." (New York: Paragon House, 1989) 14.
- ⁶ *Ibid.* 23.
- ⁷ *Ibid.* 186.
- ⁸ *Ibid.* 39.
- ⁹ *Ibid.* 41.
- ¹⁰ The *coffee shop* referred to here is that of the 21st century, not to be confused with the earlier described *coffeehouse* of the 17th and 18th centuries.
- ¹¹ **Awahl** – Architectural Character 2 (See Plates 6 & 7)

Chapter Two | Figure Sources

Figure 1, 3
Images by the Author

Figure 2
Oldenburg, Ray. "The Great Good Place: Cafés, coffee shops, community centres, beauty parlors, general stores, bars, hangouts and how they get you through the day." (New York: Paragon House, 1989) 14.

Scene Two | *Awehl*

Awehl –
 Architectural Character 2
 Interface –
 Architectural Character 1
 You –
 The participant
 [questions] –
 responses to the design
 consideration

NOW OPEN

The sign reads.

Interface is no longer alone.

Directly adjoining now rests Awehl.

Lit up with joy and bustling with activity.

[*Why all this? Why here?*] There is agitation in your thoughts.

What was one easily ignorable, passable character, was now two.

Caring the same as Interface,

Come, join in the gathering

Take a load off

Share with us.

Your thoughts, your worries, your hopes and dreams

(It welcomes in young and old alike. Offering a shelter from the elements, a drink to fill the body and a kind smile to nourish the soul.)

Situated directly at the southeast corner of the site, the morning sun is welcomed in through the large panes of glass.

Blurring the threshold of interior and exterior space the front window ledge extends on either side as a bar style table.

There is something about it that is different.

The agitation subsiding ...

Perhaps you will investigate,

... another time.

Plate 6 | *Awehl* – Scene 2

Plate 7 | *Awehl* – Architectural Character 2

Plate 8 | STAIRS IN VERDIGRIS

IRIS suddenly notices her mother at the top of the stairs, with a suitcase, and gasps, without a sound. IRIS tries to speak. SYLVIA puts a finger to her lips, smiles. IRIS watches helplessly, as SYLVIA descends.

OWEN

(From the kitchen) Did you know that if you stand under the Arc de Triomphe, Iris—you can see all the way to the Louvre. And if you look the other way, practically the same distance in the other direction. It's the intersection of twelve streets, you know. And honest to God, Iris. When you stand there, you'd swear you were at the centre of the whole world.

With another sad little smile, SYLVIA disappears. A moment. IRIS, as she speaks, begins her transformation into an adult, putting on a raincoat, undoing her hair.¹

Chapter One | Stairs in Verdigris

3.1 Water as an Orientation and Healing Device

Culturally water has always acted as both a healing remedy for the soul and as an orientation device. Greek geographer and author of *Descriptions of Greece* in 150 A.D. claimed that no place without a fountain, a major source of water, had any right to consider itself a city.² The Greeks had strong ties to water, believing that the notion of heaven was within water. Greeks found medicinal healing in bathing. Therme bath facilities became extremely important and were integrated into the architecture of the already prominent Greek gymnasium.³ Water and as a result bathing, as a sensual human interaction with water, played a very important part in Greek culture due to their respect for the power that was held within water.

By the fourth century B.C. Greek bathing was no longer out of reverence for the mythological associations to the power of the gods, but rather an extravagant leisure pursuit.⁴ The Romans took from the Greeks inspiration for their own bathhouses. The cultural aspect where the Romans begin to derive their bathhouses from is not in reverence to water, but rather the indulgence in water as a personal pleasure. More significantly for the Romans, “as an institution, the baths created the illusion of a

classless society where nearly everyone could enjoy one of the perks of the imperial system.”⁵ The need for water in Rome for the development of bathhouses, fountain piazzas and most importantly, fresh drinking water, provided huge opportunities for engineering and architectural feats. Exploring water’s medicinal and therapeutic value through cleansing and bathing, the cultural rise in the popularity of bathhouses brought with it a social significance in the daily life of a Roman citizen. Public fountains were key locations for more than mere access to household water. They played a similar role as the therme baths acting as a social junction, bringing health to the body and rejuvenating the spirit.

The North American use of natural water elements as well as constructed water components can be seen in the design and layout of Washington DC.⁶ The concept of “water as a spatial organizer” is incorporated in the city layout.⁷ Here we see how water, both within architecture and in natural occurrences, has acted as an orientation device. Through waterways as trade routes, springs and fountains as gathering points, and directional nodes within the city. “The Mall,” as the main portion of the integrated parkland design is called, is a notable translation from the axial Baroque court style garden situation to a melding of the public garden within the urban fabric. A popular gathering place for various events and festivals, it is a synthesis of water, greenery, architecture and most importantly, human interaction.

Figure 1 | Plan of Mall,
Washington DC

The design consideration of a healing and orienting device is addressed through the facets of water in the third architectural component. This is through a main circulation Stairwell piercing through, and connecting the components of the building.

Just as water acts as an orientation device, the proposed Stairwell physically orients the patron within the structure.

Physically, water is incorporated within the Stairwell through three water features addressing the change in function of the levels as one moves through from the public spaces to the private spaces. The water features are actual physical orienting devices, defining the floors.

3.2 *Stairwell* – Architectural Component 3

A spine running through the building, the *Stairwell*⁸ is the backbone connecting the architectural components, the *Gathering Place* and the *Core* to the *Residence*. Visually the Stairwell is connected to the *Water Garden* and the *Street Intervention* through windows on the southwest side running all the way up the Stairwell.

Constructed as a heavy oak structure, with steel framing, the Stairwell is a central circulation component running from the level below grade up to the private residences on the fourth floor. The steps themselves produce secondary functions such as counters, shelving, and balconies as well as a water feature at each level. The water feature indicates the separate functions of each level as one moves up through the building.

The Stairwell begins below grade where the kitchen, dining area, public bathroom and multi-purpose space are located. The Stairwell interacts with the bathroom, integrating the steps as a washing basin and counter. The Gathering Place, the Core, and the first level of emergency housing are located on the ground floor. Here the Stairwell again interacts with the bathroom for the Gathering Place. At the same time, on the opposite side it becomes a wooden shelving unit used by the offices and the main reception, while the landing stretches behind the front desk to become a water fountain in the waiting area. As the Stairwell breaks through from public to semi-private spaces, the water elements begin to blend. On the second level the Stairwell continues to interact with the bathroom on one side, while on the other side, a portion of the stair is again stretched out to offer a water fountain.

The third floor moves from semi-private to private space as it becomes the first floor for transitional housing residents. Here, the Stairwell again offers a water fountain feature,

as well as a wall of water, running down from the floor above. The landing at this level becomes a common area for the private residence, with a portion of glazing running down the south wall further visually opening up the space to the outside.

Finally, the Stairwell leads up to the top floor, which is solely for transitional housing. Pushing out through the south wall, which is now an exterior wall, are two balcony features off the landings of the Stairwell. This is where the water-wall feature begins, falling from the top floor down to the lounge area in the floor directly below.

As one moves up the Stairwell the transition of water flows from “dirty” water, to “clean” water. From containment to freedom – reversing the historical order, which was from the free flowing spring, to the contained water element.

Chapter Three | Endnotes

- ¹ Panych, Morris. "Girl in the Goldfish Bowl." (Vancouver: Talonbooks, 2003) 92.
² Campbell, Craig S., "Water in Landscape Architecture." (Toronto: Van Nostrand Reinhold Company, 1978) 15.
³ Ibid. 15.
⁴ Ibid. 16.
⁵ Ibid. 18.
⁶ Moore, Charles. "Water and Architecture." (New York: Harry N. Abrams, Inc., Publishers, 1994) 127.
⁷ Ibid. 128.
⁸ *Stairwell* – Architectural Character 3 (See Plate 9)

Chapter Three | Figure Sources

- Figure 1**
 Moore, Charles. "Water and Architecture." (New York: Harry N. Abrams, Inc., Publishers, 1994).

Scene Three | *Stairwell*

Stairwell – Architectural Character 3	
Awahl – Architectural Character 2	
Street Interface – Architectural Character 1	Passing through the side of Awahl, a ledge, a balcony, a ladder to climb up.
You – The participant	It is Stairwell, a new character on the scene.
[questions] – responses to the design consideration	A column of hope. A portrait of transition (From the top down water runs, free and clear, a happy moment to rest in and enjoy. From the bottom up water runs from containment to cleansing to nourishing.) Branching off: a sink, a water fountain, a waterfall. Branching off: a counter, a shelf, a ledge A collage of elements Fitting together like a jig-saw puzzle It is never ending, a cycle ever moving onward and upward. At least you hope, [Otherwise, what is the point of all these characters coming together?] Every part of Stairwell prods and draws it's way through, making its presence known. A spinal connection. It is more than just a means of going up.

Plate 9 | *Stairwell* – Scene 3

Plate 10 | *Stairwell* – Architectural Character 3

Plate 11 | UNDERSTANDING FOUNDATION GEOMETRIES

IRIS Almost eleven. Mr. DaSilva says I have a very old soul, though. Do you believe in reincarnation, by the way?

Miss Rose thinks that a human being is the lowest thing you can become. She's our one and only boarder at the moment. She works at the cannery, and she keeps the temperature in her room about a million degrees. I hate to say it, but she smells just a little like fresh halibut. Even though she has about six lavender baths a day. She soaks forever and she never, ever drains the tub. This is my father's drafting table. Do you like it? It's made completely out of oak.

MR. LAWRENCE Congratulations.

*Curious beat.*¹

Chapter Four | Understanding Foundation Geometries

4.1 Illuminating

Ken MacLaren is the Executive Director of Ottawa Innerscity Ministries (OIM), a street out-reach program as well as a drop-in centre for homeless in Ottawa. At a panel discussion on Poverty and Homelessness in Ottawa, he addressed the need for a change in community attitudes. He introduced a new program they were implementing called, Assets Based Community Development, or ABCD. This program is intended to inspire and educate and begin to develop the needed paradigm shift. He challenged the audience to see a nameless person on the street as a person with skills, hopes and aspirations not a person who is a lesser human being.

Through the course of the presentation, Ken illuminated this change in thinking by sharing a story about an 18 year-old girl:

She leaves her boyfriend every few months, when she finds someone new to pay for her drugs. She had talked with an out-reach worker about being interested in their art program.

At the drop-in centre one day she asked for a piece of paper

She took the paper; cut herself and bled on to the paper ... she then proceeded to look at the blood on the paper through a magnifying glass

“You don’t have to do this, please, we have paint.”

*“I know . . .
When I look at the blood I see flowers and designs . . .
This is the only way I can see there is still beauty inside myself.”*

The goal OIM is trying to achieve through their new ABCD program is specifically to empower street youth. They want to find out what their specific needs are, what their strengths and passions are and to reach out to them through these strengths and passions. In doing so, OIM is building self-worth and self-esteem while providing the support and praise missing in their lives. OIM is to helping them see the beauty within. Empowering them so that they will be able to move forward, beyond the situations of crisis that they struggle with.

4.2 Case Study: Living Water Garden

From a program currently being developed in Ottawa, let us now turn our attention to an architectural example with similar aspirations as the focus of OIM’s ABCD Program.

The Living Water Garden is an educational water park that is both functional and enjoyable for the citizens of Chengdu, China. As part of a five-year relocation and improvement plan the people of Chengdu had worked out the need for water treatment and the creation of parkland along the Fu-Nan riverside. The river used to be a place

Figure 1 | Sketch of the plan for the Living Water Garden

of community, to swim and fish and enjoy companionship on its banks. Between the end of the sixties and the beginning of the nineties the region of Chengdu grew by seven million people. The rise in population brought a rise in the amount of sewage being dumped in the river causing the steady deterioration of the river, it's species and surrounding environment.² It was out of discussions with the planners that American artist Betsy Damon put forward her dream idea, "that they construct a park to help clean the river and teach citizens about the environment."³ The 460 metre long, 2.5 million dollar project began with an idea in 1989 when Damon made her first visit to Chengdu. The following year, in 1990, she founded an organization called "Keepers of Water" to fund and execute projects relating to the protection, education and enjoyment of water. In 1995 Damon returned to China to take part in an art event focusing on educating citizens on the out of control pollution situation of the Fu-Nan River. It was as a result of this event that Damon was able to meet with the leaders of the river improvement project. In the following year Damon was able to return to begin conceptualizing ideas for the riverside with landscape designer Margie Ruddick. Once the initial design was completed Damon stayed for ten more weeks to complete the design, working closely with the Chinese. After several monetary setbacks in raising the funds for the project the construction finally began in 1997. Taking 15 months to complete, the Living Water Garden was officially opened to the public in 1998.⁴

Figure 2 | Sculptural "flow form"

Figure 3 | View of the Fu-Nan River and Pump House

The park's facilities include a natural water purification system, which cleans 250 cubic meters of water from the river per day. Along with the series of landscape purification features there is an educational centre with an open amphitheatre and recreational facilities. Most of the funding and workforce for the Living Water Garden came from local Chinese donations. These people "have a pride and a deep love of China, which makes them want to have real solutions to the problem, not false ones."⁵ They brought not only their money but also their time, effort, talent and expertise to ensure the creation of the park.

As a result of working so closely with the Chinese in the design and construction of the park the project has become rooted in its culture. The layout of the park was derived from the existing form of the landscape, which was the shape of a fish. The fish, as a symbol, represents regeneration, good fortune and health in Chinese culture. The water begins its journey through the park by being pumped up from the river to the eye of the fish, which is a settling pond. The pump house itself is designed to blend in as an old Sichuan tea house with a water wheel on the side of it retrieving the water from the river. From the settling pond the water is then aerated through "flow forms," which are sculptures made by Damon and the Chinese craftsmen. The water then reaches a wetland, where it goes through a series of ponds filled with plants that act as natural

Figure 4 | Water Wheel

Figure 5 | Stepping stones across a pond

filters to purify the water. The wetland ponds then pour into fishponds, where the fish work as a further filtration system on the water as well as “living monitors” for the quality of the water. The water then flows through a park and past the amphitheatre. Finally, before returning to the river the clean water flows through a very popular splash pond for the community.

Yes Magazine writes that, “Since it opened in April 1998, it has become the most popular park in the whole city. Damon attributes this success to the fact that nature – and water in particular – is dynamic and always changing.”⁶ Damon’s philosophy for the park itself was twofold. Following a similar line of thinking on the duality of water as Ivan Illich puts forth, which is purity and cleanliness. Damon’s aim through the park was to purify the river water and to provide pleasant, clean water surroundings for people to observe and learn from. Essentially, attempting to return the river and its environs to the original state it held as a gathering place for the enjoyment and health of the community. Betsy Damon emphasized the fact that the park is not her own saying, “That is a really important truth. We did it together.”⁷ It was the relationships she and those with her were able to make that made it possible for this park to be created.

Through Damon’s project we see the amazing changes that can take place when the community draws together as one. The elements required were; the recognition of the

Figure 6 | View of amphitheatre

Figure 7 | Birds eye view of the Living Water Garden

need for the river to be cleaned, followed by the education of the community through the discussions as well as the art instillation.

Ken MacLaren's approach likewise addresses the need for an attitude shift on both the part of the community and for those in need. Indicating the need for people to be educated about the problem as well as about practical solutions. This design consideration of the intricate process of transformation, that is evident in both the building of the *Living Water Garden* and in OIM's ABCD Program, is what this thesis design proposal addresses as a core foundation element. Through the fourth architectural component, the Core, space is provided to facilitate the process of transformation within and of the community. It is intended to be space to work out the geometries of these various relationships, a space to educate and to advocate.

4.3 Core – Architectural Component 4

The *Core*⁸ is connected on the north side of the *Gathering Place* and the *Stairwell* to the existing components.

Entering through the vestibule one is met with the heavy oak reception desk, with a brightly tiled inlay. Just beyond the front desk is a waiting area which people pass through in order to access the rest of the facility. To one side of the front desk, is the

Stairwell, which pushes out across the wall behind the reception, providing shelving behind the desk.

The Core covers two levels, crossing over top of the Gathering Place while acting as a pillar supporting the space at the same time. A combination of heaviness and lightness, the Core is a series of interlocking spaces, serving as offices, private meeting rooms and classrooms. The rooms on the second level appear to float above in space, grounded by built up wooden support columns. Windows from the rooms above look down into the reception area below. A central opening above the waiting area brightens up the two levels through a skylight. Soft white walls contrast to the brightly coloured art tile details and the heavy wood floor and column details that hold the spaces together.

The tiled inlay details throughout the spaces are compliments of an art therapy drop-in program that has been taking place in the space available in the Gathering Place. It has been an opportunity for the women to tell their story, their thoughts, feelings, whatever they like, through art. The tiles provide a solid interaction through the making of connections between the caregivers and the women and the women with the facility that is being created. It is tangible reaffirmation of how welcome they and their abilities are in the facility.

As the main point of entry, the Core aids in security and helping to be able to keep track of who is coming and going. The Core shoulders the burdens of the women and acts as their voice to those won't hear or listen to them.

Chapter Four | Endnotes

- ¹ Panych, Morris. "Girl in the Goldfish Bowl." (Vancouver: Talonbooks, 2003) 6.
 - ² Spaid, Sue. "Ecovention: current art to transform ecologies." (Cincinnati: Contemporary Arts Center, 2002).
 - ³ Ibid.
 - ⁴ Spaid, Sue. "Ecovention: current art to transform ecologies." (Cincinnati: Contemporary Arts Center, 2002).
 - ⁵ Mavor, Anne H. "China's Living Water Garden." *YES! Magazine Winter* (2000). 9 Sept. 2008 <http://www.yesmagazine.org/other/pop_print_article.asp?ID=312>.
 - ⁶ Ibid.
 - ⁷ Mavor, Anne H. "China's Living Water Garden." *YES! Magazine Winter* (2000). 9 Sept. 2008 <http://www.yesmagazine.org/other/pop_print_article.asp?ID=312>.
 - ⁸ *Drafting Desk* – Architectural Character 4 (See Plate 12)
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Chapter Four | Figure Sources

Figure 1-6
Images by Siavash Zanjani used with permission.

Figure 7
Spaid, Sue. "Ecovention: current art to transform ecologies." (Cincinnati: Contemporary Arts Center, 2002).

Scene Four | *Drafting Desk*

Drafting Desk –
Architectural Character 4
Stairwell –
Architectural Character 3
Awehl –
Architectural Character 2
Interface –
Architectural Character 1
You –
The participant
[comments] –
responses to the design
consideration

This is getting crowded now.
Drafting Desk, has arrived, a pillar of strength, with its weight and bearing provides
a presence not to be ignored.
And yet, there is something welcoming,
A solid foundation to trust.

This is getting confusing.
You go to Awehl, you can get some answers there.

[*Transition, security and transformation*]

(Advocating and educating; that is what Drafting Desk has arrived for.)

Constructed of a series of spaces, connected with glazing panels and each supported
by solid oak details, resting on a concrete foundation. Visually open and inviting,
while strong and secure.

Knowledge is contained within,

Not to remain that way, but to be shared and distributed,

To those who come to Awehl
And you.

To everyone.

Plate 12 | *Drafting Desk* – Scene 4

Plate 13 | *Drafting Desk* – Architectural Character 4

Plate 14 | FISH OUT OF WATER

OWEN My wife doesn't love me.
He removes his hat.

IRIS I do.
As OWEN wanders off, she calls to him

IRIS There's still hope.
An air raid siren.
IRIS crawls under the drafting table. The siren ends.
SYLVIA enters. Looks about.
No one. She sighs. Covers her face with her hands.
MR. LAWRENCE rushes in.¹

Chapter Five | Fish out of Water

5.1 Bathroom Facilities

The Living Water Park offered a look at the physical cleansing of water through the design of public spaces and the greater community impact it was able to address as a quasi-technological park while still maintaining a poetic quality of inhabitation. This next section will move inside to the locus of water within the private spaces of architecture, specifically the bath or washroom. The first case study explored water on the exterior; here we address the water on the interior:

In designing specifically with the end user in mind, Finnish architect Alvar Aalto takes extra care in the details of the patient room of 1933 *Paimio Tuberculosis Sanatorium*. Patient rooms were designed to have two people to a unit. While it is not necessarily an issue for the average person, the tuberculosis patient's ability to sleep was very easily disrupted by various sounds. Aalto was keenly aware of the "psychological requirements of the 'horizontal person,' the patient (or 'man at his weakest') lying on his bed."² With this in mind, Aalto designed a special sink for these rooms that was both noiseless and splash-free. This way if one roommate was using the sink it would preserve precious sleep for the other patient in the room.

Figure 1 | Sketch of Aalto's sink

Figure 2 | Paimio Tuberculosis Sanatorium – Sink

Another example of ingenuity in dealing with design constraints of the bathroom is in Pierre Chereau's *Maison de verre*. The building, completed by 1932 in Paris, is an exploration in "modern spatial design served by new technical solutions."³ One of the technical solutions turned a spatial constraint into a design opportunity through the incorporation of swivelling bidets. These were placed in all the third floor accommodations as a screened off combination sink and bidet unit. In the tight space, the bidet unit pivots around the wastewater pipe connection, to be tucked out of the way when it is not needed. The clean water comes from a completely separate source, attached to the wall and not to the unit. It is an example of "the fragmentation of design, the allowing for the unexpected as a springboard to execution, and the refusal of architecture for its own sake."⁴

These two designs deal with water in dwelling with respect to everyday tasks in cleansing one's self. In Chereau's design, it is one with the end user in mind as well as physical spatial constraints. In Aalto's design it is specifically intended for the comfort of patients who will inhabit the space. In both cases, the innovation in a relatively uncelebrated bathroom fixture evokes the imagination of the user. Within the privacy of this personal space the fixtures each serve as a moment where perhaps a view of the poetic side of water can be glimpsed. This design thesis aims to address architecture

Figure 3 | Sketch of plan for Chereau's bidet

Figure 4 | Maison de verre – Bidet

as dwelling with the underlying adaptation of Aalto's view. That there should be no division in the approach to architecture, that design should uphold the ideals of even those who are considered weakest in society. So that this thinking in terms of the small details with the end user in mind, in turn will reverberate to the larger scale, beginning with the details within the dwelling, leading to the dwelling within it's context. This is by no means a new idea in architecture, however as Illich notes, it is too often a concept that is lost in the ideals of current design approach.

5.2 PURIFICATION

Water in architecture, specifically in the physical progression of water into the typical house, has evolved drastically, from the hole in the ground, to the chamber pot to the flushing toilet. At the same time, the evolution of the toilet, or the water closet unit, caused a transition of thinking in society's views on odours and the separation of classes, of the distinction between the clean and unclean, both socially and physically.

Throughout history, water has always played a significant role in purification and transformation. It plays a role culturally through ceremonies where water is used as an outward sign of one's inward purification. Bachelard takes this a step further by writing that water in dreams causes one to, "sympathize obscurely with the drama of the purity and impurity of water."⁵ His thought results in the questioning of water in

reality, since, “Who for instance, does not feel a special irrational, unconscious, direct repugnance for a dirty river? For a river dirtied by sewers and factories? We deeply resent this good natural beauty being ruined by men.”⁶ The passion behind the indignation brings forth an action in reality. This is clearly shown in the effort of the community in Chengdu rising up to create the Living Water Garden under Betsy Damon’s direction. She had a vision, and the reality was a call to action and a transformation as the result.

5.3 TRANSFORMATION

Illich writes how the public of both Europe and America were striving towards the “Utopia of an Odourless City.”⁷ And as the cities became odourless, society saw the rise in the significance of perfume which, “artificially [provided] secondary sexual characteristics to the new “human” body stripped of its aura.”⁸ The subtraction of the human odour or aura as Illich calls it, caused the need for the reodourizing of cities to replace what had been so calculatedly taken away.⁹ While these transformations opened up opportunities for architecture they also created new dilemmas in the approach to design. The architect, who had originally laboured to address the aura of his elite client, now designed “shelter for a yet unidentified resident who was supposed to be without odour.”¹⁰ For Illich, this is further evidence towards his argument that dream water is lost in modern society. As both aura and dream water are lost into the

constructs of technically monitored plumbing, sewage and social constraints. While it may be lost as it once existed, as Illich claims, it has not entirely been eradicated. It is simply being distilled, transformed and reinserted into society in new ways.

Bathing facilities, toilets and plumbing in general have improved dramatically over the last two centuries compared to the previous four millennia. Leaving the bathing in the river behind for the shared well or water pump to finally arrive at personal indoor plumbing. For many parts of the world the public watering hole is a thing of the past. As of 2002 however, according to the World Health Organization, 17% of the world's population did not have access to "improved water sources."¹¹ While the majority of the people representing this statistic live in Asia, there are over 8000 homeless in Ottawa who are among those without direct access to water sources.¹² In Chengdu, the people by the Fu-Nan River had access to a water source that was unsuitable until the construction of the Living Water Park. The woman at the well in Sychar had the means and the ability to access water but was socially "unclean". One item is certain, Betsy Damon, the woman at the well, Ivan Illich and Gaston Bachelard all agree on the fact that human life depends on water. And if, as Bachelard writes, there is antipathy for the unnatural state of a river, how much more so should there be abhorrence at the state of homeless person. Even more so then the dream of a clean rushing river calls one to action should the dream of a home and water for those that have no hope spur us into

motion to see this become a reality.

The design consideration of the program for this design proposal will consist of several elements addressing dwelling and water within architecture. The main portion of the site is dedicated to a residence element. Spaces within the other elements of the facility have already described places for developing relationships and a core space for administration, advocating and education. These elements on their own are what make up a living space. It is the intended process behind the developing of the water elements in these spaces that will enable people to rethink water and perhaps glimpse its poetic side finding a lost piece of themselves.

5.5 Residence – Architectural Component 5

The *Residence*¹³ will be situated behind the *Core*, adjacent to the *Water Garden*.

Five stories high, the Residence is divided by levels into various types of housing. The top two floors will be allocated for affordable transitional housing. A more private space intended for an extended length of stay. The two floors directly below these will be for temporary emergency shelter. The lowest floor will contain a multi-purpose area, which will open onto the sunken courtyard Water Garden, and will be accessible by all residents as well as by those participating in daytime drop-in programs. The roof will

also be utilized as a private rooftop garden for the residents, which is the beginning of the water collection process that eventually finds its way to the Water Garden. The roof slopes inward to direct water into channels that run along either side of the skylights in the centre of the roof. The water is then directed into a holding tank at the northwest corner of the building to regulate a continual flow into the Water Garden when it is not raining. This water runs in via the west garden wall. When it rains the water runs naturally from both garden walls. The central residence corridors to the rooms are separated from the interior walls. This opens up the corridors and at the same time allows light from the skylights above to filter down into the space.

On the emergency shelter floors, each room is intended for two people and has a bathroom unit within the room. Transitional housing residents have a room to themselves containing a private bathroom. The bathrooms are all on the south facing side of the building, puncturing through the wall, making their presence visibly notable from the exterior. For the transitional housing floors this is used to create balconies for each of the rooms.

The bathrooms are bright spacious aspects of the living unit. Each bathroom contains the traditional components, toilet, sink and shower. What is not conventional is the manner in which these units interact with each other. The airiness of the room is the

first thing one notices. This is due to the unique design where the showerhead lies directly above the sink. In order to use the shower, one must swivel the sink into the adjoining corner, perpendicular to its original position. Thus reducing the footprint of the two fixtures in the bathroom. In the shower position the sink becomes a shelving ledge while at the same time redirects the water to the showerhead. So that the same faucets used to turn the sink tap on are then used to turn the water for the shower on.

A perforated floor piece provides unhindered access to the shower and sink while disguising a sunken drainage cavity. The interior walls are finished in large tiles while the wall jutting out from the building envelope is comprised of frosted glazing.

The Residence component addresses the practical everyday inserts of water in architecture through exploring bathroom facilities and through the collection of water from the private rooftop garden space.

Chapter Six | Endnotes

- ¹ Panych, Morris. "Girl in the Goldfish Bowl." (Vancouver: Talonbooks, 2003) 68.
- ² "Alvar Aalto : through the eyes of Shigeru Ban." ed. Juhani Pallasmaa and Tomoko Sato, (London: Black Dog Publishing, 2007) 109.
- ³ "La Maison de Verre." ed. Yukio Futagawa. (Tokyo: A.D.A EDITA Tokyo Co. Ltd., 1988) 6.
- ⁴ Ibid. 17.
- ⁵ Bachelard, Gaston. "Water and Dr Bachelard, Gaston. "Water and Dreams: An Essay on the Imagination of Matter;" trans. Edith R. Farrell, (Dallas: Pegasus, 1999) 137.
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- ⁸ Ibid, 62.
- ⁹ Ibid, 53.
- ¹⁰ Ibid, 54.
- ¹¹ "Water, Sanitation and Hygiene Links to Health – Facts and Figures." (Geneva: World Health Organization, 2004) 2.
- ¹² "Experiencing Homelessness: Fourth Report Card on Ending Homelessness in Ottawa" (Ottawa: Alliance to End Homelessness, 2007) 2.
- ¹³ *Threshold* – Architectural Character 3 (See Plate 15)

Chapter Five | Figure Sources

Figure 1, 3
Images by the Author

Figure 2
"Alvar Aalto : through the eyes of Shigeru Ban." ed. Juhani Pallasmaa and Tomoko Sato, (London: Black Dog Publishing, 2007).

Figure 4
"La Maison de Verre." ed. Yukio Futagawa. (Tokyo: A.D.A EDITA Tokyo Co. Ltd., 1988).

Scene Five | *Threshold*

Threshold –	
Architectural Character 5	
Drafting Desk –	
Architectural Character 4	
Stairwell –	
Architectural Character 3	
Awehl –	
Architectural Character 2	
Street Interface –	
Architectural Character 1	
You –	
The participant	
[questions] –	
responses to the design	
consideration	
	Drafting Desk, together with help from Stairwell, Awehl and Street Interface, bring Threshold onto the scene.
	The timing is right, the other pieces have fallen in place.
	Threshold comes though to provide what the other characters cannot.
	Offering, A <i>tangible passage</i> . A <i>practical solution</i> .
	It may only before a night.
	It could take a month; it could take a year; It could be more
	Fresh and clean, walls of bright colours. With interior balconies connecting open spaces. There are moments to pause, to gather, to bathe, to be alone, and to refresh. Complete with space for one to simply lay their head, and space for others to begin to rebuild.
	[How can it provide all this?]
	With help from the others.

Plate 15 | *Threshold* – Scene 5

Plate 16 | *Threshold* – Architectural Character 5

Plate 17 | STEPPING BEYOND REFLECTIONS

OWEN Iris?

IRIS This, I remember, is when it happens, father.

OWEN What is it?

IRIS The last moment of my childhood.

Beat. OWEN, noticing the front door is open, goes up the stairs, as IRIS sits with her goldfish bowl, remembering. As the lights fade, a melody.¹

Chapter Six | Stepping Beyond Reflections

6.1 Stepping into the Water

In *Water and Dreams* Gaston Bachelard questions the image of water and the memories and imagery it inspires. Delving into the waters of mythology, poetry and philosophy he strives to understand the qualities and effects of the element on reveries and in turn reality. Writer Ivan Illich responds to Bachelard's findings in his own book *H₂O and the Waters of Forgetfulness*. He writes that the waters being sought are elusive waters; they are tangible and yet intangible. Illich provides two reasons for this, "first because this water has nearly unlimited ability to carry metaphors and second, because water, even more subtly than space, always possesses two sides."² These two sides that he describes are the spiritual and the technical. Where the first side is the poetic waters of purity and spiritual cleanliness, and the second describes the technological waters filtered through man-made devices. Arguing that while dual, the former component is being extinguished in the urban society, leaving only the memory of this water in the technological construct of the present water. Although Illich critiques Bachelard's thoughts on water, there exist undeniable truths at the foundations of both their arguments. This thesis aims to use both points of view to understand the significance and possibilities of water in architecture and its role in rejuvenation.

Ivan Illich writes that, “the city child has no opportunities to come in touch with living water. Water can no more be observed; it can only be imagined, by reflecting on an occasional drop or a humble puddle.” The first case study this thesis explored was Betsy Damon’s Living Water Garden in China, an educational resource as well as a functional and aesthetically pleasing architectural landscape. This chapter will be focusing on a second case study of water in architecture. This is the Brion Cemetery, a poetic resting place for the dead.

6.2 Case Study: BRION MONUMENTAL COMPLEX

The Brion Cemetery, or perhaps more appropriately described as the Brion Monumental Complex, is a project designed by Carlo Scarpa in San Vito d’Altivole, Treviso, Italy. In defining the project as a Monumental Complex one can understand the broader range of functions the facility provides. Designed and built in the 1970s the project includes sarcophagi, a little public chapel, a private pavilion for the family, reflecting pools and meadows. When asked about the scale of the project Scarpa explained, “Someone died, here in Italy, and the family wanted to commemorate the achievements of this person, who came from a humble background ... a mere 100 square meters would have sufficed but I was given 2200 square meters ... Well, I did what you have seen.”³ And what is seen is a masterpiece of water, earth, concrete and details.

Figure 1 | Brion Monumental Complex

Scarpa was given a very free hand to work through the design for the Brion Family. His design came during a time of student revolution in Italy when architecture was being forgotten. Taking inspiration from French surrealist writer, Raymond Roussel's book *Locus Solus*, the place of the dead was designed to be more like a garden and less like a series of mere tombs. Scarpa leads visitors through his work in the same manner that Roussel takes his readers through *Locus Solus*, lingering for moments of invention, creativity and obscurity. Scarpa begins with the approach to the cemetery, leading those who have come to pay their respects in a very traditional Italian manner via a road lined with Cypress trees. This brings the visitor to a sliding concrete door that marks the entrance to the complex. The complex itself wraps in an "L" shape around the existing town cemetery while a sloping concrete wall encloses the space. The wall provided the opportunity to play with levels, raising and lowering the interior in reference to the landscape around to change the views one encounters within the space. Specifically this was done so that you could view "out" from within, but not "in" from without. In doing this Scarpa was able to capture the countryside in a manner that pleased the Brions. The design is filled with a great depth of ideas and philosophies, reflecting in nature and incorporating musical elements to enhance one's presence and reflecting in the space.

Figure 2 | Site Plan

Figure 3 | Main entrance and reflecting pool

Through his design, Scarpa wanted to, “express the naturalness of water and meadow, of water and earth,” for he believed that “Water is the source of life.”⁴ There are four significant water elements within the complex. The first one a visitor encounters is the reflecting pool surrounding the chapel at the entrance. The second is a stream that runs towards where the sarcophagi rest. This stream is punctuated by two small wells just before it reaches the sarcophagi. The third water element, which is where the stream appears to pour in and out, is another reflecting pool. Within this reflecting pool is a private pavilion meant only for the family of the deceased. The fourth water element is the access to this pavilion. The passage to the pavilion is impeded by a vertically sliding glass door which, acting on a counter-weight pulley system is pushed into a crevice of water that is fed from the reflecting pool. One is then able to step across the threshold and as the door slowly returns to its place water cascades down it, back into the crevice. These water elements combine together to act as physical and metaphorical gateways to the memories and reflections of the past. The waters stir the soul and bring a calming effect. Through the waters healing touch, they bring a peace to the mind and body as a rejuvenating source of life.

There is a specific architectural component that will address not only the water’s healing touch, but include all three facets of water in a physical realization. Similar to

Figure 4 | Stream with tombs beyond

Figure 5 | Sliding glass door to Private Pavilion

Scarpa's work, this will be through a water garden that will interact with water that naturally occurs on the site. Acting as a therapeutic healing water labyrinth through a series of elements that will collect, filter and retain rainwater to be used through the building itself. It will provide a space of contemplation, to connect with living water, as a space that addresses the metaphorical aspect of the waters of cleanliness, while physically cleansing the water.

6.3 *Water Garden* – Architectural Component 6

The *Water Garden*⁵ will be located in the sunken courtyard, directly behind *Street Intervention*.

The flow of water to the Water Garden will begin with the Residence roof as a collection point, followed by a succession of channels that will eventually pour the water via Street Intervention into a settling basin contained in the sunken courtyard. Within the sunken courtyard there will be a series of water elements in the style of Betsy Damon's *Living Water Park*. The water will flow from the basin into a stepped pond containing "flow forms" to aerate the water before it streams into a series of plant filtration ponds and a fishpond. The fishpond, or living monitor, will be the final stage before it enters a water holding tank to then service the building.

As the aerating stream flows along the north side of the garden, it flows past the full height windows of the multi-purpose area, which is the lowest level of the *Residence*. As the sunlight beams onto the rushing water it reflects into the space, a dancing light, cheerful and inspiring. A ramp leads down from the multipurpose space in a meditative manner, following the flow of the water in the opposite direction of its cycle. Situated along the path are wooden benches set into the edges of the various ponds, providing places to pause and enjoy either by oneself or with the company of others. The overflow gathering space, or dining area opens out on to the east side of the garden, with space to sit and relax, and take one's meal outside in the warmer weather.

This architectural component, among other attributes, will aid as a therapeutic water garden as well as perform a practical function through its purpose as a water filtering process. Utilizing water "within the realms of man-made environment," the facets of water, removed from the realm of speculation, become "sensual and economic."⁶

The Water Garden completes the cycle of the building, the architectural components now all working in harmony, each receiving from the previous component while in turn offering something to the component that follows. The Water Garden is an opportunity to be used as an incentive program, for the women to get involved in helping to care for the facility, and take ownership and pride in their efforts.

Chapter Six | Endnotes

- ¹ Panych, Morris. "Girl in the Goldfish Bowl." (Vancouver: Talonbooks, 2003) 93.
 - ² Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986) 24.
 - ³ "Carlo Scarpa, Architectural Atlas," ed. Beltrami & Zannier, (Milan: Marsilio, 2006).
 - ⁴ "Carlo Scarpa, Architectural Atlas," ed. Beltrami & Zannier, (Milan: Marsilio, 2006).
 - ⁵ *Reflection* – Architectural Character 3 (See Plate 18)
 - ⁶ Betsky, Aaron. "Take Me to the Water: Dipping into the History of Water in Architecture." *Architectural Design - Water and Architecture* 113 (1995) 11.
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Chapter Six | Figure Sources

Figure 1, 3, 4, 5
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Figure 2
"Carlo Scarpa, Architectural Atlas," ed. Beltrami & Zannier, (Milan: Marsilio, 2006).

Scene Six | Reflection

Reflection – Architectural Character 6	
Threshold – Architectural Character 5	
Drafting Desk – Architectural Character 4	
Stairwell – Architectural Character 3	
Awahl – Architectural Character 2	
Interface – Architectural Character 1	
You – The Participant	
[comments] – responses to the design consideration	
	You are inside outside now.
	It does not take long to realize, To the south is Street Interface
	You have moved past that character.
	Looking on you see Reflection.
	[Now it makes sense.]
	The water Street Interface collects is for Reflection.
	The openings the water disappears through pour into Reflection.
	(The water flows through, guided along each step of the way, and yet while forging a path of it's own.)
	A series of concrete and wood based ponds, assembled in a labyrinth manner.
	Combination of rushing water and still water, plant life and sculpture. The ramped pathway runs against the direction of the flow of the water.
	Don't we all?
	The characters have come full circle. Each one giving something to the next and further provided for the one before it.
	And now it is your turn.
	You can no longer ignore it.
	How will you respond?

Plate 18 | *Reflection* – Scene 6

Plate 20 | *Architectural Synopses – The Characters*

Epilogue

7.1 [Fluidity of] Imagination

Gaston Bachelard writes that in dreams, “we can retrace, reclaim, relive and even transform experience in our imaginative selves.”¹ The water of dreams is the subconscious fluid matter of the imagination. There are two sides to it, the first is as direct relation of a dreamed of water that is an implication of something else. For example, a dream of thrashing violent waters could contain implications of danger or a bad omen. The second side is what Illich describes as the elusive waters, “the fluid that drenches the inner and outer spaces of the imagination.”² This water of reverie can further be understood as a journey of three essential conditions. Beginning as water of a still or calm pool, a receptacle, that is quietly collecting thoughts under the surface, the subconscious. Which inevitably then has the potential to bubble up, overflowing with inspiration, as the second condition, a stimulus for imaginations, passing from the subconscious to the conscious. Finally, as a reflective water that will eventually settle to begin the processes to journey between the subconscious and the conscious again.³

Charles Moore writes of physical water that, “the vast range of qualities that water is

Plate 19 | *Reflection* – Architectural Character 6

shaped into by the environment sets the stage for profound poetic interpretation and inspiration for architects.”⁴ It has been the intention of this design proposal to take inspiration from water, addressing the described three facets of water in both a tangible and intangible manner.

It became apparent early in the design proposal for this thesis that the site selection would not be associated with any particular waterway, even though Ottawa is a city with several dominant waterways, including the Ottawa River, the Rideau River and the Rideau Canal. The choice of this site was to place an emphasis on a design focusing on water within architecture and not architecture on water. Instead, the criteria for deciding on a site placed a greater importance on the need that is to be met through the design.

The site chosen for the women’s shelter and transitional housing design proposal is a downtown Ottawa core location at the northwest corner of Kent Street and Gladstone Avenue. It was selected for its proximity to existing amenities, including Ottawa Innercity Ministry (OIM), World Skills Employment Services and the Canadian Resource Centre For Victims Of Crime. The location can be easily accessed via several bus routes that run by the site. The location is also far enough away from the male shelters in the central downtown area, which was a concern among women interviewed.

7.2 The Shelter

The central condition of water of reveries, the stimulus for imaginations, rests in the power of joy. Bachelard describes that the imagination is not usually motivated where there is no joy.⁵ He writes further that of the water of reveries only “one drop of powerful water suffices to create a world and to dissolve the night ... water thus given dynamic force is a seed; it gives life an upward surge that never flags.”⁶ The design proposal provides an architecture that can do just that. The process of 6 architectural components collaged together is a seed that addresses the issues and needs of the women in crisis in Ottawa.

The first architectural component begins by creating a common ground to approach the women. As the following components grow around it there is an interaction that takes place between with the community and the building as it continues to develop and thus influence its surroundings in its existence and openness. The second component addresses the main issue that caused the transitional housing case study to fail, through the Gathering Place as a space to facilitate the interaction between patrons and staff. This solves the separation of the woman at the well from the other women, drawing the women on the fringes of society into a “third place” community. Through the insight gleaned from the Gathering Place community, the fourth component is then able to

address the facilities needed through the Core to enable the healing process to begin. The components are each tied together through the Stairwell component physically orienting the patron within the space and providing moments for pause and reflection and for healing interaction to take place. The Residence component provides a practical living condition while in connection with the other components creates a place to dwell. The final component, the Water Garden, provides a place of joy and inspiration. It is another opportunity for the women to be involved in the ownership of the building through the sustaining of the space while bringing the building's water elements to a poetic climax.

7.3 Closing Thoughts

This design thesis has investigated six design considerations relating to the progression of the physical design proposal. Beginning with the *need* for a women's shelter and transitional housing in Ottawa, this thesis has also addressed the *site* selection and the functional *program*. It has dealt with the proposal's *approach* through building relationships, taking each architectural component one step at a time. Through the *design* itself this thesis has explored how each of the overall *design concepts* form together to create this proposal.

The need is to educate, inspire and move forward. To educate both those who can have the ability to make an impact as well as educate those who are in need of something impactful to draw them out of the deep place they are in, regardless of how they got there. The desire is to inspire, people to action and to give people a vision of what can be, and that it is attainable.

Following through segments of the *Girl in the Goldfish Bowl*, each of the design considerations have been woven together with a moment or theme from the play into an architectural component. One that is just as much a “built” component as it is a “living” character. Evident within each component are one, if not all of the three facets of water that have been discussed.

This thesis has found that the ability for one to dwell has been lost in our current society. This has been in part as a result of the evolution of physical water in structures and more significantly due to the evolution of water’s spiritual and philosophical properties in society’s approach to the concept of dwelling. This design proposal offers a way to return to Illich’s concept of “living” as “dwelling” through using the three facets of water to drive the design, both in influencing the physical and social infrastructure as well as in using water as a design enhancing element. Thus taking water, the element that this thesis has found to be the basis for the loss of

the ability to dwell in the first place and finding it is possible that the ability for one to dwell can be returned by reclaiming water through the three facets that this thesis has explored.

The approach to the make up of the design as a whole, as a collage of fragments, not only keeps the end user in mind, however it also directly provides them with opportunities to impact the design from the beginning. Walking through each scene, you have been offered a chance to participate in the realization of this proposal. It has been a chance for you to see yourself in the response, and not merely as a passive bystander. In exploring an architecture that can enhance one's ability to dwell, this project provides an opportunity to break the cycle for the women of the streets. Aiming as Aalto did, to uphold those who are at their weakest and to provide a glimmer of hope in the reclaiming of living water in architecture.

Chapter One | Endnotes

¹ Bachelard, Gaston. "Water and Dr Bachelard, Gaston. "Water and Dreams: An Essay on the Imagination of Matter," trans. Edith R. Farrell, (Dallas: Pegasus, 1999) viii.

² Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986) 24.

³ Moore, Charles. "Water and Architecture." (New York: Harry N. Abrams, Inc., Publishers, 1994) 122.

⁴ Ibid. 16.

⁵ Bachelard, Gaston. "Water and Dr Bachelard, Gaston. "Water and Dreams: An Essay on the Imagination of Matter," trans. Edith R. Farrell, (Dallas: Pegasus, 1999) 2.

⁶ Ibid. 9.

Plate 21 | *Architectural Synopsis – Synthesis of Considerations and Components*

Plate 22 | *Architectural Synopsis – Water Epilogue*

Appendix | History of the Water Closet

The first recorded location of a bathtub was in circa 2000 BC in the Palace of Knossos of King Minos of Crete.¹ The palace also contained elaborate indoor plumbing, where vases of water were used for “flushing.” These technologies do not resurface until the fourth century BC in Greece and Rome as bathing became a social venue. The grand *therme* included “libraries, lecture halls, cult shrines, porticoes and promenades as well as *palaestra* and tracks for exercise and games.”² *The Art of the Bath* states that the “average Roman used three hundred gallons of water a day – nearly what an American family of four uses today.”³ With few exceptions, the baths were open to all who could pay the entrance fee, and there were even a few that had no fee at all. The baths were an opportunity for a Roman Emperor to spend time among his people. This created an illusion of a society without class boundaries, where everyone could equally partake in one of the pleasures of being a Roman citizen.⁴

As bathhouses grew in demand and popularity, public lavatories were constructed near or adjacent to public baths. The lavatories were made up of stone or marble seats over trenches that were then flushed away by overflow water from the pools. The waste would then run out into the main sewers. In elite private homes lavatories also became

evident as simple seats located over drains or cesspools. As a military focused civilization, Roman forts are also noted for their impressive bath facilities. Dating back to 122 AD Housesteads, a Northern England Fort, rerouted a river to flow through trenches for latrines. Similar to the overflow water from the baths, the river carried the bodily waste out of the fort. The main mode of defecation for the common person however remained done through use of the chamber pot, which was traditionally emptied into the street. The chamber pot was actually a set that included a pot for defecation, a pitcher of fresh water, a basin for rinsing and soap in a dish. Some chamber pot sets contained “silencers,” which were lacy covers on the bowl that softened the noises of the pieces clanging against one another as they were used. This was specifically necessary when used in the evenings to avoid waking other members of the household with the sounds of the chamber pot.

During the middle ages chamber pots began to be enclosed in cupboards. The sixteenth century saw the rise of the “flushing” toilet in England when Queen Elizabeth I installed a device designed by her godson, Sir John Harrington.⁵ At the end of the eighteenth century in France, Marie Antoinette made the function of going to the bathroom officially private, tucking the chamber pot facilities into a closet to be regularly cleaned out by servants. Before this time, French latrines were originally very ornate furniture, highly decorative features that were emphasized in a room. The

Figure 1 | Chamber Pot Set

privatizing of the act of using the toilet brought about the birth of the water closet, more commonly referred to as “WC.” Illich writes that the elite English WC “was usually in a closed cupboard and connected by unventilated pipe to a cesspool in the cellar.”⁶ This created a new sort of gas within homes, raising hygienic issues while the public got used to the stench of the upper classes as a result of their WC’s.

In Britain in 1775 Alexander Cumming invented a device that contained a pan with a little bit of water in it that when “flushed” released the waste water to be drained out and at the same time let in fresh water. This device brought running water into the cleaning of the toilet and helped with the gas issue within the houses. The bidet came into fashion in France at the beginning of the nineteenth century to specifically cater to the issue of sweat and odour in the groin and buttocks area of the body. By the middle of the nineteenth century it was common to have running water WC’s in London. Near the end of the nineteenth century Thomas Crapper developed the modern WC cistern and brought about the Government’s Metropolis Water Act of 1872 in Britain. This Act standardized plumbing regulations and instillations.⁷ He is also responsible for water conservation and the insertion of a new form of “silencer” to address the noises of going to the toilet.⁸ With the function of going to the toilet now removed from sight as well as from hearing, the issue of smell was still being addressed. There is a wide variance in cultures in reference to the amount of actual bathing that takes place,

Figure 2 | “Close-Stool”

Figure 3 | Crapper valveless waste water patent

between none at all in a person's life and daily soaks, scrubs and steams. The physical transformation of the apparatus to relieve oneself progressed in a symbiotic relationship with mental transformation of the act of relieving oneself. As a result odour became a class specific designation as the elite installed the latest toilet devices and could both afford and access soap and water.⁹

Appendix | Endnotes

- ¹ Petzke, Karl and Slavin, Sara. "The Art of the Bath." (San Francisco: Chronicle Books, 1997) 15.
 - ² Ibid, 16.
 - ³ Ibid.
 - ⁴ Ibid, 18.
 - ⁵ Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986) 57.
 - ⁶ Ibid.
 - ⁷ Reyburn, Wallace. "Flushed with Pride: The Story of Thomas Crapper." (London: Pavilion Books Limited, 1989) 11.
 - ⁸ Ibid, 21.
 - ⁹ Illich, Ivan. "H₂O and the Waters of Forgetfulness. (Ideas in progress)." (London: Marion Boyars Publishers, 1986) 59.
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Figure 1, 2 & 3
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