

This + That, Both And



This + That, Both And

Architecture : Landscape

| 75 Nicholas Street Botanic Garden |

A thesis submitted to
The Faculty of Graduate Studies and Research
In partial fulfillment of the requirements for the degree of
Master of Architecture (Professional)

Azrieli School of Architecture & Urbanism
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for Federico

There is a man who grew up on his aunt's farm all because his parents did not appreciate him; he was sickly as a child and he barely finished high school. He can tell you his story without saying a word. All you have to do is look into his light blue eyes and the wrinkled skin that is the same colour as the dirt that he toils everyday. He is the most gentle and caring person I know.

This man is my grandfather.

My first memory of my grandfather is of him in our newly built garden in Brampton. The vague memory is of him actually building the garden, but the most vivid is of him looking at the new greens sprouting, almost watching them grow. He is monitoring his garden, making sure it is all according to plan. My grandfather was at ease in this environment, in the garden. A garden has shaped every wrinkle on his face and created all the calluses on his hands.

When he comes in for dinner and needs to wash his hands, he watches the dirt come out from under his nails and break free from between the ridges in his hands. There is a kind of sadness that appears in his eyes, as if watching a part of himself fall away.

My grandfather is one of the few men that I know well that does not go to church on a regular basis. He only goes twice a year, once on my grandmother's birthday, and once on his own birthday.

His garden is his church. It was there that he found faith and sought solace in the world. Everyone was equal, he was not master, and despite his lack of higher education it was his garden that he could become teacher. He taught of care, respect and patience.

Camille F. Mendoza
October 15th, 2009

Thank you to my advisor Kelly Crossman for his guidance;
and to the Carleton faculty for their support and for
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And it is with my most heartfelt gratitude, which no
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* Composite Image of *The Bedford House* by J. Wines, 1982
and *Face Anatomy* by Antonio Scarpa, 1801.

| Abstract |

In order to investigate the potential of the relationship between architecture and landscape, this thesis will explore and examine the notion of an architectural landscape as a built form that takes the qualities and attributes of two disciplines in order to create something new. One might call this *architecture: landscape*; a hybrid idea that is part of both worlds. Is it possible that a hybrid could be a model for cities to stay livable and for landscape to recover from its limited role on the periphery of architecture the city?

This project is intended as a catalyst to re-assess and re-imagine how we think about the relationship between buildings and landscape. Much of what connects architecture and landscape is often overlooked, even though “architecture and landscape inhabit each other’s conceptual and physical space.”¹

The botanic garden traditionally includes both architecture and landscape in its design. Even with variations in program and form, the architecture and landscape of a botanic garden are interwoven, creating a symbiotic and balanced relationship. In order to explore the idea of *architecture: landscape* as a hybrid form, the botanic garden is chosen to demonstrate this at an urban site in central Ottawa, at 75 Nicholas Street.



CRABAPPLE BLOSSOMS. MONTREAL BOTANICAL GARDEN.
C. MENDOZA. MAY 2009.

1 Anita Berrizbeitia and Linda Pollak, *Inside Outside: Between Architecture and Landscape* (Massachusetts: Rockport Publishers, 2003). 10.

I Prologue: An Argument for a Garden I

Place one person in a garden and that person, in vicinity to the plants, the smells, the water, the colour and the textures will occupy a state connected to his or her environment. Situate one hundred people in that same garden and the garden becomes a backdrop to an event — a party, or a wedding. The garden will remain beautiful but its perception is likely to be much less textured. It will be difficult to see it for what it is; a small-scale slice of a beautiful, complex world. Place a thousand people in the space and the effect of the garden is lost. Overwhelmed in a sea of people, the garden disappears.

The same effect occurs between buildings and their landscape. A building, a cabin in the woods, a lookout in the hills, a chalet in the mountains all exist in partnership with the environment. One can barely imagine the structure without the landscape. Within a dense urban environment, this important environmental relationship is lost. Landscape often stands the barest chance of being noticed in the city and in the scheme of architectural design it is often an aesthetic afterthought, an obligatory gesture to finalize the periphery of a site. If architecture can take years to reach completion, then is not a proportionate amount of time due to its site? This thesis contends that the landscape within which a building is placed is of critical importance in all design, whether thin or thick, control or periphery.

An acute awareness of one's surroundings is essential to a garden's success. There are several steps to planning and starting a garden: for some people, the steps can be completed in just a few hours, while others require months of preparation. The movement of the sun is taken into account and the arrangement of specimens and variety of

soil are carefully selected. This is very similar to some of the decisions that the architect must consider; solar exposure aids in determining building orientation, programmatic elements are positioned and re-arranged and materiality is considered. By allowing landscape to fall to the wayside, opportunities to create meaningful space are often lost. This poses the obvious question: can the same attention to details, quality and functionality be paid to landscape as is paid to the development of architecture?

I Framework I

In *Re-Envisioning Landscape/ Architecture* Catherine Spellman notes that:

...the architect's responsibility continues beyond the building envelope to include the site, the neighbourhood, and the city that it was part of. Today these responsibilities are separated into distinct disciplines that often do not consider the other in their design process or in their pedagogical pursuits.²

The Germanic term for landscape, *landschaft/landskab* differs from the English term because it involves multiple meanings, including political and cultural aspects and how landscape reflects and maintains a cultural identity. It carried the meaning of a "restricted piece of land". Only when the English started to use the term *landscape*, as they referred to it as "the appearance of a land as we perceive it"³ at the end of the sixteenth century, the meaning started to include the idea of nature.

Cultural geographer, Denis Cosgrove, wrote that our understanding of landscape is complex:

[The key to the modern landscape idea and its development lies in the] dual significance of land during the struggles to redefine it... Therefore, landscapes can be deceptive. Sometimes a landscape seems to be less a setting for the life of its inhabitants than a curtain behind which their struggles, achievements and accidents take place. For those who, with the inhabitants, are behind curtains, landmarks are no longer geographic but also biographical and personal.⁴

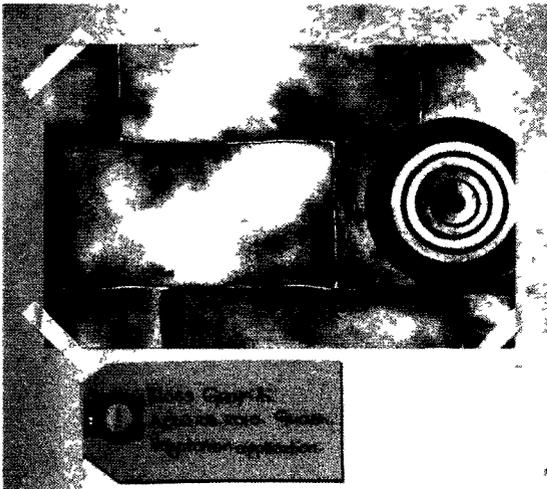
2 Catherine Spellman, *Re-Envisioning Landscape/ Architecture*, ed. Catherine Spellman (New York: Actar, 2004), 11.

3 Kenneth R. Olwig, "Recovering the Substantive Nature of Landscape," *Annals of the Association of American Geographers* December 1996: 630-653. 641.

4 Denis Cosgrove, "Landscape as Cultural Product (1984)," *Theory in Landscape Architecture*, ed. Simon Swaffield (Philadelphia: University of Pennsylvania Press, 2002) 165- 166.

75 Nicholas Street is a prime example of how a landscape struggles to break free of the incidents that have occurred during its history. It has not been allowed to move forward to become a setting for public and enjoyable events for the people that surround the site every day. Those that are familiar with 75 Nicholas Street know that behind the concrete walls are the past people that inhabited the Gaol, and their stories are being contained within. In accordance with Cosgrove, landscapes should not just be about the physical location, but should include the personal aspects, the events, and the tales that will forge a deeper connection with the landscape. Through a combination of geographic location and personal attachment, landscape becomes connected to those that experience it, making it accessible and relevant to the society around it.

Vignette - a brief evocative description, account, or episode; a small illustration or portrait photograph that fades into its background without a definite border [a small ornamental design filling a space in a book or carving, typically based on foliage.] The following vignettes were created during the thesis as a method of exploration; limited to a 4"x6" size and mainly composed using gouache and watercolour.



Different cultural views on landscape are demonstrated by how it is treated. As described by Bosser and Le Toquin in *Gardens in Time*, Islamic gardens were “created to be a dream...with abundant water, cool shade and protective walls, with the intoxicating perfume of plants and flowers...a private paradise, a place for meditation where we renew contact with the essential world of nature,”(19). This view contrasted with how late seventeenth century England treated their landscapes, which was one of “opening up vistas into ‘wild’ Arcadian surroundings, and creating parks as if they were composing paintings.”(177) The character of English terrain included relatively little woodland divided by hedges into fields, open and gently undulating. According to Bosser and Le Toquin, “the aim was to improve nature rather than to transform it, in order to attain an ideal beauty, refined by the addition of fake ruins, temples and grottoes” or, as they later came to be known, follies. In contrast,

during the seventeenth century the French formal garden was based on symmetry and the principle of imposing order over nature. The most famous of these French gardens is found at Versailles. Designed by Andre Le Notre, the main feature of the garden is the idea of control. From his palace, Louis XIV could observe, by means of axial lines of vision, the entire landscape: the king was both visually and symbolically at the centre of the garden.⁵ Perhaps the culture with the most similar approach to integration to the English is the Japanese, where the “garden is designed at the same time as the building it surrounds, in a subtle interplay of relationships between interior and exterior, and of bonds between nature and culture.”⁶

By 1857, North American ideas of landscape began to change, especially on the east coast of the United States with the design of New York City’s Central Park. The contemporary idea of the landscape included urban forms such as buildings and roads.⁷ According to Corner, “now it could be clearly seen how the landscape influenced the city.”⁸

In most contemporary urban situations however, the architectural consideration toward landscape is limited to the immediate site. The design created for the landscape company is often left to the end of the design process and only given minimal consideration. A landscape’s propensity to be dramatic and beautiful seems to be the key for it to be included as part of the architecture as it can then be a marketed commodity. When the view is less than dramatic, as it has become in most places today, it is usually ignored. In a sense, landscape is only included as a ‘value-added’ commodity when it brings something to the building.

5 Jacques Bosser and Alan Le Toquin, Gardens in Time, trans. Simon Jones and Anthony Roberts (New York: Harry N. Abrams, Inc., 2006). 149.

6 *Ibid.* 47.

7 Merriam-Webster’s Collegiate Dictionary. 2003.

8 James Corner, “Terra Fluxus,” The Landscape Urbanism Reader, ed. Charles Waldheim (New York: Princeton Architectural Press, 2006) 24.

Rarely does one think about architecture that adds value to a landscape. If there is consideration for a building's surroundings, it is usually very minimal. Within the field of landscape architecture, there is a similar recurring problem: what is done to the surroundings has no connection to the building from an aesthetic point of view. As Richard Rogers stated, "design is not an added expense; it is an added value. Design often makes the difference between a place that simply exists, hoping to attract new residents and workers, and a place that can thrive for many years to come – which is the most sustainable result of all."⁹

Because of the lack of design consideration between the fields of architecture and landscape architecture, one cannot help but think that the splitting of the two professions¹⁰ facilitated the gap. In 1863, landscape architecture was established as a profession distinct from architecture. Currently, when one approaches a project from either the perspective of architecture or landscape, there is often a total disregard for the other point of view. According to Nan Ellin, associate professor at Arizona State University, "the last century particularly was dominated by attempts to plan cities and design buildings that would be 'machines for living.'¹¹¹² This approach tended to discourage the crossing of disciplinary boundaries. Master planning and zoning applied a unified, homogeneous method of designing a city, pieces of cities were produced "that do not congeal into an urban fabric." The gap between the architecture and the landscape remained.

In the 21st century, cities like Ottawa are beginning to face the challenges of urban growth and sustainability. Perhaps now is the logical time to re-consider "the urban landscape

9 Manaugh, Geoff. "Richard Rogers." *Dwell* May 2009: 80-87.

10 "They professed themselves "landscape architects", inventing the name to convey their intent to bear towards the totally landscape the same relations that an architect bears toward a building, with essential emphasis on design." Norman T. Newton, *Design on the Land: The Development of Landscape Architecture* (Cambridge: Belknap Press of Harvard University Press, 1971).xxi.

11 Machines for Living – in reference to the Ville Radieuse, where the different zones of living were separated and independent of each other. The buildings were raised on piloti in order to create a continuous ground surface where pedestrians were free to wander at will. *Modern Architecture: A Critical History*.

12 Nan Ellin, "A Vulnerable Urbanism," *Re-Envisioning Landscape/ Architecture*, ed. Catherine Spellman (New York: Actar, 2004) 223.

as a *terra fluxus*- a development of the urban landscape over time – rather than a *terra firma* – not changing.”¹³ Species of plants have adapted to their ever-changing environment, and cities such as Ottawa must do the same. It is not just the land that is changing; the people are continuously changing too. Developments are arising, towns are amalgamating and the face of the Canadian city now includes other cultures and traditions. Disconnected so emphatically from the landscape, urban settings face the risk of becoming unsustainable in an environment that demands it. This thesis proposes an alternative relationship between architectural forms and landscape that would allow the city and the landscape to adapt both independently and together, encouraging the appearance of a balanced urban hybrid.

13 James Corner, “Terra Fluxus,” The Landscape Urbanism Reader, ed. Charles Waldheim (New York: Princeton Architectural Press, 2006) 30.

I Architecture: Landscape I

The Hybrid

Originally a term for plant and animal breeding, the heterogenic nature of the hybrid's existence meant that the offspring of such a mix could possess the potential of both parents. A possible new approach to blur the line between architecture and landscape is to create a hybrid. In the view of Fai and Frascari:

...the hybrid is a unique result from an inter-taxic coupling of genetically discrete entities. A relatively common occurrence in mythologies and folktales, this magical intercourse between individuals with taxonomic differences that can range from minute (sub-species) to general (domain). The wondrous progeny retain distinct characteristics that the hybrid recognizes as individual.¹⁴

Such a hybrid is "neither this or that; rather it is this and that."¹⁵ An interpretation of this may be that the hybrid can not be categorized into one species. Instead, it is simultaneously part of two species that may or may not seem related to each other, bringing together fields that would not have been seen before. Also, because a hybrid comprises parts of two different things simultaneously, there is a balance between the two species in a single form; there is no hierarchy or prominence of one over the other. As such, this thesis considers the hybrid the best of both worlds, a model that finds unexpected potential in the inherent and inherited nature of its genesis. Part of the process to create a hybrid would be to piece together the different elements in:

14 S. Fai and M. Frascari, "Cultural Heritage Conservation in a Hybrid Manner," International Symposium on Temple Reconstruction and Restoration (Pingtung, Taiwan: University of Science and Technology, 2008).

15 Ibid.

...our disciplines, professions, and urban fabrics that have been torn asunder. Rather than presume an opposition

between people and nature, buildings and landscape and architecture and landscape architecture, a vulnerable urbanism regards these as complementary or contiguous. Rather than generate perfect objects and separate programs and functions, a vulnerable urbanism aims to build relationships. Our attention thus shifts from objects and center to the border, boundary, edge, periphery, margin, interstices and in-between space that lies within the realms of architecture and landscape. ¹⁶

There is positivity in Ellin's statement, for it shifts the focus towards spaces that do exist in both architecture and landscape rather than those that do not. This would allow the creation of the seam and the hybrid that joins the two fields. Rather than focusing on the big picture and stretching to find connections, Ellin sees the small details that can be useful to both fields and links them together.

The idea of the hybrid is re-emerging, as there is now a higher demand for combining several ideas, but few actually succeed in presenting a hybrid that possesses the qualities of its progenitors while being distinctly individual. As can be seen in the nineteenth-century Russian fairy tale entitled *Ivanko the Bearlet*¹⁷. The tale of Ivanko is important to the understanding of the hybrid, because it tells of its mixed nature and the logic it possesses. In the tale, Ivanko, the child of a human mother impregnated by a bear, is a true hybrid. The boy looks human from the waist up and from the waist down appears as a bear. He seems to possess no common sense, but because of his hybrid logic he does have the sense to outwit the devil. Ivanko illustrates this project's definition of hybrid as something characteristics from both parents can be seen.

16 Nan Ellin, "A Vulnerable Urbanism," Re-Envisioning Landscape/ Architecture, ed Catherine Spellman (New York: Actar, 2004) 226

17 Aleksander Afanas'ev, Russian Fairy Tales (New York: Pantheon Books, 1973) 221

A conscious effort has been made to merge architecture and landscape architecture on several levels, creating projects that launch new way of thinking about the disciplines. For example, the collaboration between landscape architect James Corner's *Field Operations* and architectural firm *Diller Scofidio & Renfro* resulted in their design of the High Line in New York City. Both firms had a hand in the redesign of a strip of elevated rail tracks that was abandoned in the 1980's. The thousands of visitors at the High Line prove the project's success every day. It has the beauty of wild grass growing, the comforts of a park and the familiarity of being able to stare out a window, all while being 9 meters above 17th Street in New York City¹⁸. The High Line can be considered a hybrid because it deals with architectural ideas of physical structure, path, threshold and boundaries and landscape ideas of views, site-specific vegetation, biodiversity and natural elements. Together they look at the neighbourhood, the in-between spaces of the city and re-development. Independently, the disciplines focus on their own values, but architecture and landscape are sewn together and the simultaneous nature of the hybrid emerges. For example, the wood that is used for the walkways on the High Line fray at some instances to allow for planting. At other times, they bend to become seating. Another example is the arrangement of the planting beds. Not only is each bed carefully arranged, but their placement helps to focus views, allow for openings and create "rooms" in and along the High Line.



HIGH LINE NEW YORK CITY DILLER SCOFIDIO & RENFRO
ARCHITECTURAL RECORD 2009

18 Clifford A. Pearson, "High Standard," *Architectural Record* October 2009 84- 89

Another model of the hybrid is architect Bernard Tschumi's Le Fresnoy National Studio for the Contemporary Arts in Tourcoing, France. The National Studio can be seen as a hybrid because it incorporates the remains of the past



HIGH LINE NEW YORK CITY DILLER SCOFIDIO & RENFRO
ARCHITECTURAL RECORD 2009



LE FRESNOY NATIONAL STUDIO FOR THE CONTEMPORARY ARTS
BERNARD TSCHUMI HAYS & DAMIANI 2003

site into the new architecture and program. In the National Studio, one can see the distinct parts that are characteristic of this particular project. The old is merged with the new to create original spaces that contain qualities of the former program and the new technology that was needed to create the National Studio. Tschumi embraced existing conditions, recognizing that there were extraordinary spaces located within the existing building and maintained the landscape of the site. A secondary structure envelops the pre-existing buildings, eliminating the need for repair and the remnants of “an old leisure complex of the twenties that included cinema, ballroom dancing, skating, horseback riding...” remained. “The in-between space between the new steel and the old tile roofs is the key element of the project.”¹⁹ By maintaining the old buildings, a vast amount of space was available for the new centre to contain “a film studio, a mediathèque, spectacle and exhibition halls, research and production laboratories, housing and a bar/restaurant.”²⁰ By going against the practice of *tabula rasa*²¹, the historical content of the pre-existing and the connection to their neighbourhood and the city landscape is preserved.

In contrast to the High Line and Le Fresnoy National Studio for the Contemporary Arts, the Anne Demeulemeester Shop in Seoul, South Korea, created by the architectural practice *MassStudies*, takes a different and less successful approach to joining architecture and landscape. The architects appear to be highly aware of this superficiality of ecology and are able to provide a meaningful commentary on it through radically rethinking the façade of the building. The structure includes one level below grade and three above. The shop is located on the ground level on the west side of the courtyard of the building. According to

19 K Michael, Damiani, Giovanni Hayes, *Tschumi* (New York City: Universe, 2003). 84.

20 Bernard Tschumi, *Event-Cities(Praxis)* (Cambridge: The MIT Press, 1999). 395.

21 *Tabula Rasa* – Tablet from which the inscription is erased, ready to be written upon again; obliteration of history and collective memory



LE FRESNOY NATIONAL STUDIO FOR THE CONTEMPORARY ARTS
BERNARD TSCHUMI HAYS & DAMIANI 2003



ANN DEMEULEMEESTER SHOP SEOUL SOUTH KOREA
MASSSTUDIES MARK APRIL/MAY 2008

Alexandra Onderwater of *Mark – Another Architecture*, the Anne Demeulemeester Shop adds to the interest of the Gangnam quarter of Seoul as the building contributes to the neighbourhood’s transformation from a primarily residential area to a fashionable commercial district while fulfilling “the resident’s urgent need for some ‘green’ in the densely populated metropolis.”²² The Ann Demeulemeester Shop has an “undulating dark brown exposed concrete floor, which forms an organically shaped ceiling, which also informs the space that is directly above it. Round columns on the edges of the space continue the ceiling surface while providing structural support.”²³ Because of the structural system, arched openings are formed, allowing for views to the outside street and the bamboo plantings. *MassStudies* tried to incorporate as much vegetation as possible within the site constraints of 378m² in a high-density urban environment with low-elevation requirements.²⁴ The project takes advantage of wall systems that support vegetation, thereby allowing landscape to connect to the architecture through materiality. “Bamboo is used as a screening device along three of the borders with neighbouring sites, and the exterior building material is a geotextile that is planted with herbaceous perennials”²⁵ to transform the façade into one that is living. Thus, the project uses vegetation as an exterior cladding element, rather than the traditional methods of planting at one’s feet, allowing for the enjoyment of plant material in a different manner.

Because of the nature of a living façade, those that inhabit the building are required to make a commitment to the space: “geotextile on a façade require a lifetime involvement.”²⁶ This suggests that the architecture is more than just a space that one is to occupy and emphasizes

22 Alexandra Onderwater, “Massive Attack: Attack #1,” *Mark* April/May 2008. 122.

23 Alexandra Onderwater, “Massive Attack: Attack #1,” *Mark* April/May 2008. 124.

24 Ibid.

25 Ibid.

26 Alexandra Onderwater, “Massive Attack: Attack #1,” *Mark* April/May 2008.125.



ANN DEMEULEMEESTER SHOP SEOUL SOUTH KOREA
 MASSSTUDIES MARK APRIL/MAY 2008

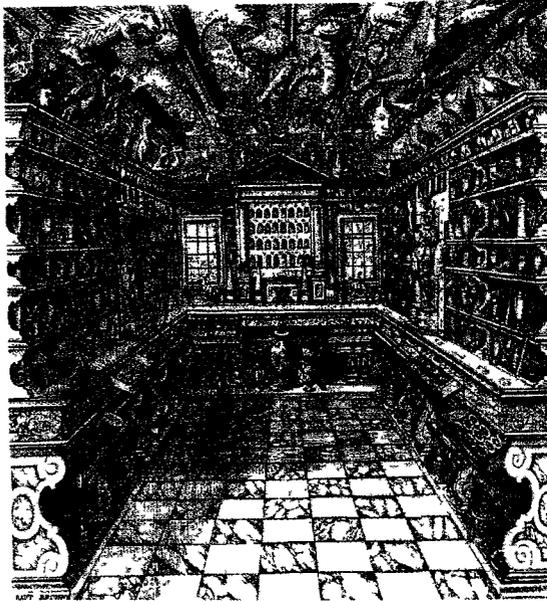


ANN DEMEULEMEESTER SHOP SEOUL SOUTH KOREA
 MASSSTUDIES MARK APRIL/MAY 2008

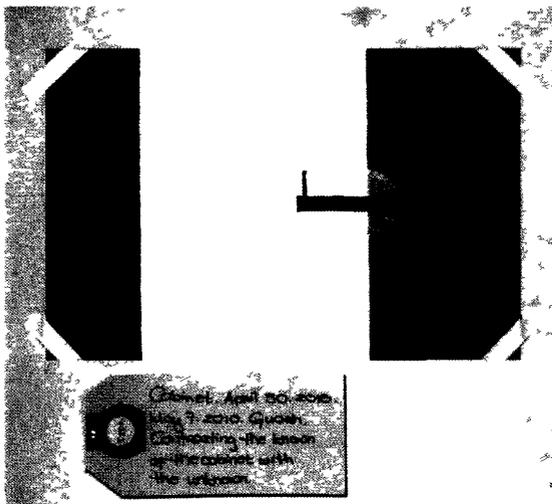
the permanence of the architecture in a setting that relies heavily on the consumer. It is ironic since the items being sold are consumable, but shows that there is a sense of quality that is put into the product, almost as if the emphasis was put onto the – *textile* portion of the word *geotextile*.

Through implementing this solution, the architect illustrates the problem. This kind of approach has the potential to be very planar and thus reduces the landscaped environment to a mere subset of the building's material façade. As *MassStudies* states in their interview with *Mark: Another Architecture*, "As in most of our projects, the decision for the building surface came later."²⁷ It is as though the living plants were a sort of finish, simply applied to the building and a subservient partner in a still-dysfunctional relationship. Buildings that use the approach of vegetation as façade demonstrate that what is happening on the exterior is often disconnected from what is taking place inside. Perhaps through this fault of disconnect, one can exploit its potential by taking it a step further, and attempting to transform the vegetation once more and bring the experience of the it to the architecture.

27 Alexandra Onderwater, "Massive Attack: Attack #1," *Mark* April/May 2008. 122.



FRANCISCO CALCEOLARI'S MUSEUM IN VERONA (1622)



Wunderkammer, or cabinet of wonders; a collection of natural and technological marvels similar to those that became popular in Renaissance Europe, as merchants and explorers brought home almost unbelievable souvenirs from uncharted corners of the earth.

28 Francesaco Fiorani, "Reviewing Bredecamp in 1995," *Renaissance Quarterly* Spring 1998: 268- 270. 268

29 Trudel, Jean. "The Imagination as an Object of Curiosity" *Parachute* January, February, March 1990: 62 - 65.

Wunderkammer

A *wunderkammer*, which translates to "room of wonders", the original cabinet of curiosity, started as personal collections of items cherished or picked up along travels by rulers, monarchs and aristocrats. These *wunderkammer* have come to be seen as the precursor to the modern museum. Members of the merchant class and early practitioners of science in Europe also started cabinets of curiosity. The *wunderkammer* is an encyclopedic collection of types of objects whose categorical boundaries were, in Renaissance Europe, yet to be defined. Modern terminology would categorize the objects included as belonging to natural history, geology, ethnography, archeology, and religious or historical relics. It "was regarded as a microcosm or theater of the world, and a memory theater. The *Kunsterkammer* conveyed symbolically the patron's control of the world through its indoor, microscopic reproduction."²⁸

The concept of the cabinet of curiosity has interesting parallels to the idea of botanic gardens. There is a great degree of imagination and wonder that is required. As chief curator of the Louvre Museum (1951 – 1965) Germain Bazin describes, the cabinet of curiosity, "also referred to the compartments of gardens separated by partitions of greenery." The cabinet of curiosities is thus a physical site, "...in which an individual's curios are stored."²⁹ One may not understand a cabinet of curiosity at first but the experience of its revealing can be intriguing. The botanic garden can have the same sense of mystery being discovered. While the cabinet may seem ordinary at first, with movement one notices that it is more than just a cabinet. There are layers to it; each movement revealing another layer, each displaying



CABINET EXPERIMENT NO.2. DETAIL.
FITTONIA VERSCHAFFELTII C. MENDOZA.



CABINET EXPERIMENT NO.2.
FITTONIA VERSCHAFFELTII C. MENDOZA

30 Nadine Monem, ed., Botanical Gardens: A Living History (London: Black Dog Publishing, 2007).

31 Lawrence Weshler, Mr. Wilson's Cabinet of Wonder (Toronto: Random House Canada, 1996).

more items. Each item holds a meaning or representation, and collectively they possess a narrative or a theme. One item might continue or end the experience, with other items left undiscovered or in hidden compartments, allowing for numerous encounters. The botanic garden can operate the same layering effect, even though the site of the cabinet is comparably quite small. The large-scale layers of botanic gardens can allow for visitors to have varied experiences of the space each and every time they come to the site. The mystery associated with this concept could create curiosity that would perhaps inspire the research that goes into a botanic garden.

Introducing the cabinet of curiosity to the idea of the botanic brings the botanic garden back to its origins. Just as the cabinet of curiosity started because certain people were curious about the world around them,³⁰ the botanic garden has its roots firmly planted in the expeditions and travels of the wealthy. They collected items that piqued their interest and desired to have a piece of the exotic at home³¹.

As people traveled to previously inaccessible destinations, their collections grew. Plant expedition finds could no longer be housed in one or two greenhouses; collected items needed several places to be housed. As the collections grew, they moved beyond display cases and into the scientific research realm when medicinal qualities began to be discovered. Later, these collections helped to conserve plant life that had become endangered.

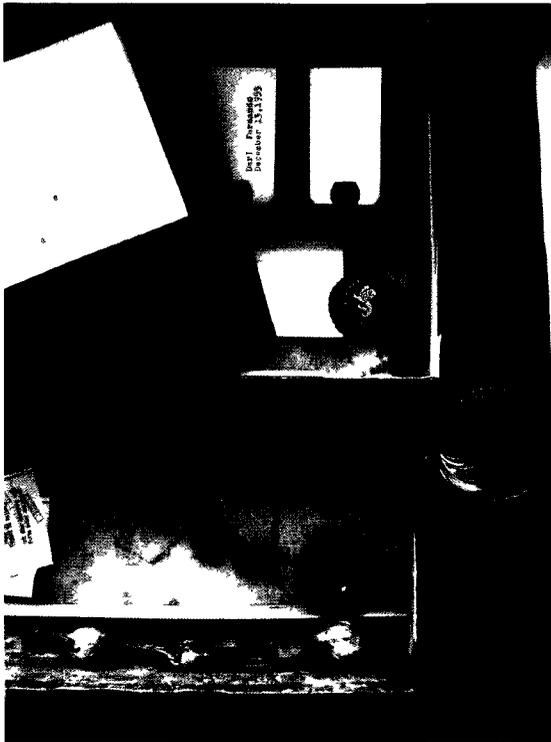
The cabinets started to take on a life on their own, becoming part of the journey of the objects that were kept safe inside. The cabinet started out empty and gradually it

was manipulated and added to in order to hold more. The cabinet became just as important to the collection as the collection itself. The cabinet of curiosity was the keeper of all things precious. It held artifacts, fossils and trinkets and memories of discoveries from distant lands and local places.

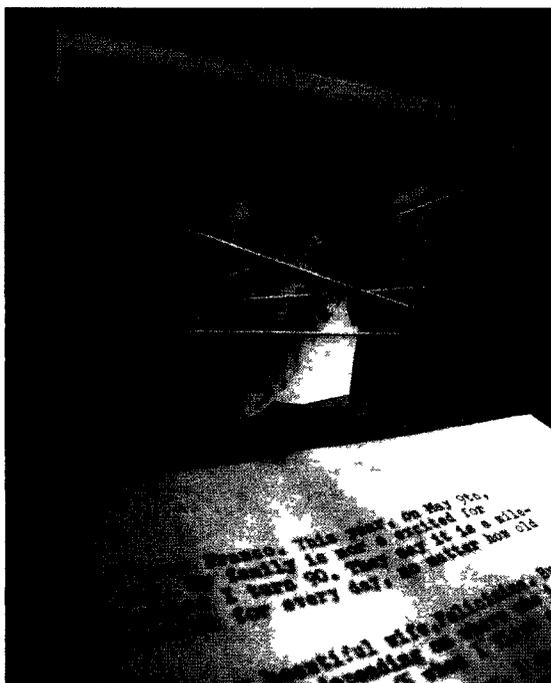
Perhaps you can remember finding a box filled with pictures of people that you did not recognize, or a locket of hair, a dried flower or a yellowing piece of paper with indecipherable writing because of the fading ink. It was in a spot where you were not supposed to be hiding. Later, you showed it to your mother or father, expecting to get a scolding, but instead heard stories that they could only tell together because it was so long ago.

The cabinet became an item that was passed down from generation to generation, continuing the forefather's legacy and story. The cabinet carried heirlooms and pictures and pieces linked to each family member: a remembrance of key moments in life such as births, marriages and deaths. The cabinets were usually quite small – easily tucked away in a quiet spot – despite all they held in terms of history and priceless heirlooms. The beholder could take in all of the history at once, placing themselves within that timeline and perhaps seeing where they could take this cabinet of curiosities next.

By drawing parallels between the cabinet of curiosity and the botanic garden, one starts where it all began; human nature, and man's inquisitiveness about the unknown. Both the cabinet and the botanic garden can seem intimidating: the cabinet because of the first act that is required to open it, and the botanic garden because of the rigorous scientific



CABINET EXPERIMENT NO 1
CABINET FOR TATANG C MENDOZA



CABINET EXPERIMENT NO 1 DETAIL
CABINET FOR TATANG C MENDOZA

and academic background that can be seen in its layout, set up and maintenance can be overwhelming.

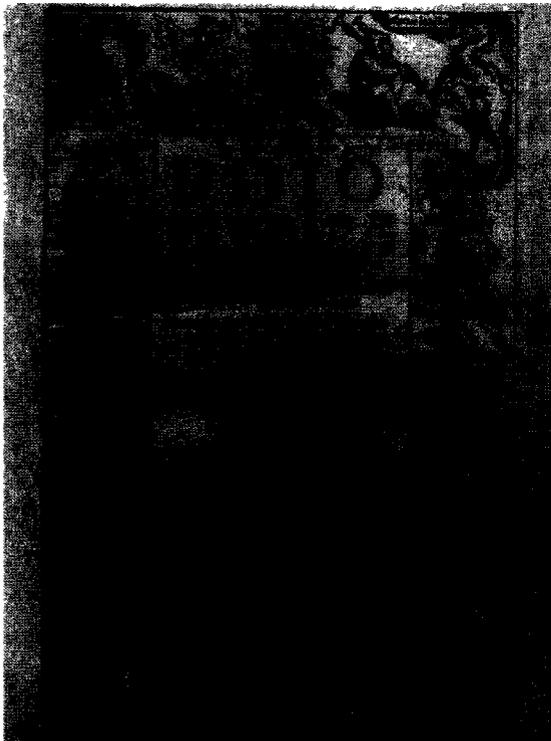
The garden cannot be placed just anywhere; it needs a place where it can tell a story together with the site. The architecture is the structure that helps tell the story of the site, similar to the cabinet, being manipulated and added to in order to display and the viewer may interact with the collection. The garden cannot exist without the site, as they form a symbiotic relationship to tell their stories and continue them. A collection can be influenced by where it is held and at the same time, a cabinet is chosen because of what it has the potential to hold.

| The Botanic Garden |

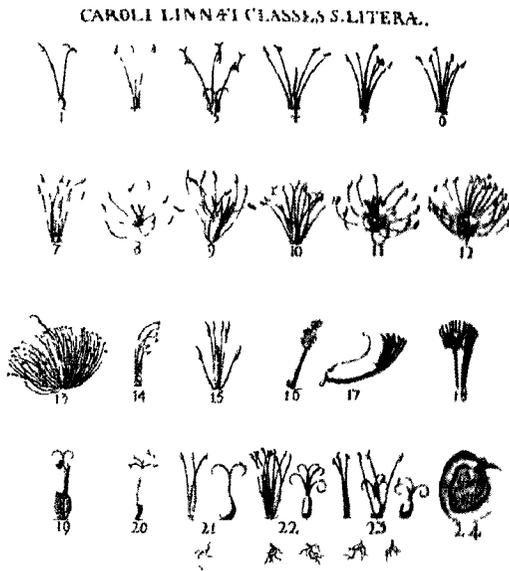
The existing relationship between landscape and architecture described above are examples of distinctions between the two (inside/outside; natural/artificial). In view of it as a carrier of cultural meaning, it is a wonder that natural landscape has not been able to carry on its role as keeper of personal, political and situational identity in the urban setting. However, the relationship between architecture and landscape has come closer together in the development of the botanic garden. The origins of the botanic garden date back to the 1st Century, to the Roman physician Dioscorides and his writing *De Materia Medico*, and to Ibn al-Baytar of 1179 and his writings: *The Ultimate in Materia Medico and Simple Medicaments and Nutritional Items*.

Before there was a 'botanic garden', apothecaries included experimental gardens for growing ingredients to sell as remedies. In addition, Christian medieval art started to depict flora that held symbolic value, such as the rose or the lily, which are representative of the Virgin Mary. Monasteries also contained gardens with collections of medicinal herbs. However, until Renaissance Humanism revived a comprehensive and categorical Aristotelian approach to natural history, there was little impetus to create botanic gardens as ordered collections of plants.

Later, doctors and their physic, meaning "healing arts," gardens replaced the apothecary. With the advent of the idea of an enclosed paradise, factors outside of the didactic, such as astrology, cosmology and the Bible, began influencing the design of gardens. Astrology, with its circles, squares, and triangles, inspired forms that were intended to channel positive radiating energy and to increase



TITLE PAGE OF DE MATERIA MEDICA DIOSCORIDES
(STRASBOURG, GERMANY, 1529)



SYSTEMA NATURAE CAROLUS LINNAEUS
(STOCKHOLM, 1735, FACSIMILE EDITION, 1907)



ATMOSPHERE OF THE PALM HOUSE, ROYAL BOTANIC GARDENS, KEW
DECIMUS BURTON AND RICHARD TURNER 1844-1848

healing powers. The cosmos influenced design through the cardinal directions. Botanic gardens should also be understood as an outgrowth of the gardens of princes and wealthy individuals whose collections of rare plants were outdoor extensions of their *wunderkammer*. The concept of the botanic garden as an ethnographic and natural history museum can be traced back to this period.³²

The 18th Century Botanic Garden

Until the 18th century, identical plants had different names, depending on their country of origin. During this period, Carolus Linnaeus contributed to the Latin Binomial system that still exists today, in which each new plant, fungus or other biological discovery is given a unique name for its genus and species.³³

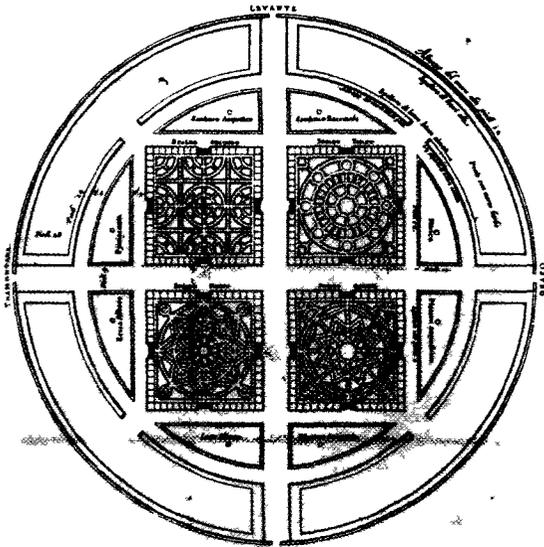
Apothecaries began expanding on herbal knowledge and would regularly make exploratory trips to find new medicinal herbs. At the same time, botany became a force in commerce, as the trading of coffee, sugarcane, tobacco and dyes such as indigo and cochineal became lucrative.

Many items that are taken for granted today, such as tea and coffee, are due to the explorations of the apothecaries of the past. At the beginning of the 18th century, coffee plantations were established in Java, Sumatra, and Bali. Scientists from London's Crystal Palace on plant expeditions shipped seeds from Java to Amsterdam for conservatory propagation: producing seeds that were then sent to other conservatories throughout Europe. From this source, the French used coffee seeds to start plantations on Martinique in the West Indies. The Portuguese brought seeds from

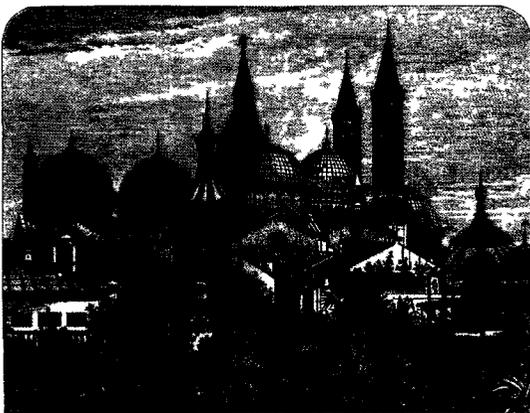
32 Nadine Monem, ed., Botanical Gardens: A Living History (London: Black Dog Publishing, 2007). 14.

33 Nadine Monem, ed., Botanical Gardens: A Living History (London: Black Dog Publishing, 2007). 14.

PIANTA DELL'ORTO DEI SEMPLICI DI PADOVA



PLAN OF THE SIMPLE GARDEN AT PADUA
PREST 1988



BOTANICAL GARDEN AT PADUA CIRCA 1545
THE GARDENER'S CHRONICLE (LONDON, 1876)

their colony in Goa to Brazil, while the Spaniards brought seeds from Brazil to Cuba. This demonstrates how the plant explorations were not just for the expanding botanic gardens or for the pleasure of the upper class, but also led to commerce and trade and was important in everyday society.

The 19th Century Botanic Garden

By the nineteenth century, European botanic gardens, most notably the Royal Botanic Gardens at Kew, were sending botanists on plant-hunting expeditions. They had established colonial botanic gardens as outposts to hold and propagate plants that were to be sent back to their founding institutions. It was on these expeditions that many of the plants we know today were named. Plants were commonly named after those who discovered them, such as the Douglas Fir of northwestern America for David Douglas, and William Forsyth, whose expeditions are eternally remembered by the name of the shrub Forsythia.³⁴ These plant-hunting tours stimulated the nursery industry and introduced unusual and exotic plants to private gardens.

At the same time, there were advances in building technology, particularly in the application of iron and glass, permitting the construction of large-scale conservatories and allowing gardeners to house and protect tropical plants in northern climates. Decimus Burton and iron founder Richard Turner built the Palm House at Kew in 1844; it was 363 feet long, 100 feet wide and 66 feet high. Architecturally striking structures soon became centerpieces of many botanic gardens and parks.³⁵

34 Lois Hole, Lois Hole's Favorite Trees and Shrubs (Edmonton: Lone Pine Publishing, 1997) 177

35 John Hix, The Glasshouse (New York: Phaidon, 2005). 148.



Montreal Botanical Garden. Historical Image.

Urban parks- An urban park, is also known as a municipal park (North America) or a public park or open space (United Kingdom), is a park in cities and other incorporated places to offer recreation and green space to residents of and visitors to the municipality. In the late 19th century, large tracts of land on the outskirts of cities were purchased by city governments to create “pleasure grounds”: semi-open, charmingly landscaped areas whose primary purpose was to allow city residents, especially the workers, to relax in nature.

36 Soderstrom, Recreating Eden: A Natural History of Botanical Gardens (n.d.). 176.

37 Norman T. Newton, Design on the Land: The Development of Landscape Architecture (Cambridge: Belknap Press of Harvard University Press, 1971). xxi.

The popularity of the botanic garden coincided with the growth of the public parks movement. As botanic gardens became places of recreation as well as learning institutions, collections were arranged and displayed in redesigned grounds of a picturesque and park-like nature. Parks also became more like botanic gardens with the planting of exotic trees and the addition of flower display beds.

The Contemporary Botanic Garden

The botanic garden has progressed from a place of collection for scientific and medical purpose to a place for conservation research. In the past 50 years, a component just as important as scientific research has been added to botanic gardens, and that of education. Simultaneously, the garden has weaved its way into the lives of those in the city.

During the Industrial Revolution, cities in Europe and the United States rapidly expanded and the economic explosion drew rural dwellers and immigrants looking for jobs and a better standard of living to urban areas. The cities that new urban residents called home were crowded, giving rise of the urban parks movement in the nineteenth century. The park became an important element of successful cities; “public parks, providing green refreshment for the bodies and souls of city-dwellers, were becoming a necessity for every well-run city.”³⁶ New York City’s Central Park is a prime example of the movement, as it became one of the most important parks in the United States. Its designers, Frederick Law Olmstead and Calvert Vaux, would become the force behind the emergence of landscape architecture as a profession.³⁷ It is the development of Central Park that led to the separation of landscape and architecture.

Several years would pass before North American society would turn its attention back to parks and landscape. Over the past several decades, communities have turned their attention to a defining issue of the modern era; the global environment. The planet is facing unprecedented challenges such as a loss in biodiversity, deforestation and climate change, all of which are linked to societal practices. Summits are arranged for world leaders to gather and discuss potential solutions, while think-tank organizations have increased to provide resources, experience and expertise to environmental decision-making.

Architecture in the Botanic Garden

For a botanic garden, research priorities are based on the local situation, government support and cultural concerns. Most botanic gardens engage in three areas of activity to some degree: environmental education, science and research, and *ex situ*, literally “off-site”, conservation projects³⁸. These activities strive to preserve plant life information so that the next generation has the knowledge to continue conservation efforts in the future. A botanic garden tackles the conservation issues as they continue the developing botanic garden for the future, helping to preserve a history of the planet and of society.

Originating from the garden of the apothecary, botanic gardens have been sites for inquiry into the natural world and plant development, evolving into environments in themselves. However, in championing all things plant-like, they have largely done to architecture what architecture did to landscape. The buildings within botanic gardens

38 Nadine Monem, ed, Botanical Gardens. A Living History (London Black Dog Publishing, 2007) 79



FIRST NATION'S PAVILION MONTREAL BOTANICAL GARDEN
SAUCIER& PERROTT. 2009



FIRST NATION'S PAVILION MONTREAL BOTANICAL GARDEN SAUCIER&
PERROTT 2009



FIRST NATION'S PAVILION. MONTREAL BOTANICAL GARDEN.
SAUCIER& PERROTT 2009

are placed as elements of a master plan and end up being secondary objects. One example is architects' *Saucier and Perrotte's* First Nation's Pavilion at the Montreal Botanical Garden. Placed in the first half of the First Nation's section of the botanic garden, the canopy is supposed to echo the topography of the pathway that it intersects, but what it copies from the surrounding landscape is the curvilinear motion of the path.

In cases where the landscape is joined with the First Nation's Pavilion, there is no celebration of the action, such as the two cuts that are made into the earth. The first and more successful of the two is a wooden feature wall that appears to be emerging from the ground. Here, the demonstration of the force and the act of slicing are not present. If it were not for the dirt that was beside it, it would be no more than a freestanding wall. The second feature is a ramp that goes underground; however, it does not provide a sense of descent into the wetness or darkness of the ground, and the area it leads to has no sense of real purpose. Instead, the pavilion relies on a heavily planted area for its integration, but rather than being *with the land*, it is only hidden. By evading a model of integration between landscape and constructed environment, it fails to give us clues as to how a hybrid could exist in the modern city.

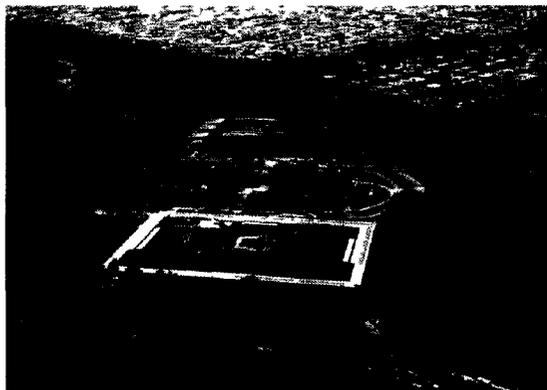
A recently completed case study and precedent of integration between architecture and landscape in the contemporary city is Renzo Piano's California Academy of Sciences in San Francisco, California. The museum consists of several existing pavilions that have been joined by a rolling canopy, which is also a green roof. As stated by journalist Nicolai Ouroussoff of the *New York Times*, the choice of material



CALIFORNIA ACADEMY OF SCIENCES SAN FRANCISCO NEW YORK
TIMES 2008



CALIFORNIA ACADEMY OF SCIENCES SAN FRANCISCO NEW YORK
TIMES 2008



CALIFORNIA ACADEMY OF SCIENCES SAN FRANCISCO NEW YORK
TIMES 2008

gives the project an “impression of weightlessness and lightness. This lightness is present even though made of a “steel frame that rests amid the verdant flora like a delicate piece of embroidery,” and is “accentuated by the wafer thin canopy above that creates the illusion that the room is only millimeters thin.” The canopy “swells upward as if the entire room were breathing.” In reality, since the canopy is a green roof, the structure must be more substantial than a few millimeters thick to support the weight of the green roof. The structural choices demonstrate that it was understood that the building was one of several objects placed within the landscape and therefore needed to be light-footed in its connection. The museum in its entirety can suspend one between the organized and the disorderly; the “idea is to create a balance between public and private, inside and out, the Cartesian order of the mind and the unruly world of nature.” The building has the capability of placing visitors both within the museum and the larger world outside, reinforcing the power of its connection to its natural backdrop. The building “serves as a ‘specimen case’: a framework for pondering the natural world while straining to disturb it as little as possible.” The notion that man must triumph over nature fades away and is replaced by the thought that we are all part of the same whole. Nonetheless, within the contemporary garden the relationship between ecology and construction remains wanting.

| A Botanic Garden for Ottawa |

A national botanic garden has been a Federal Government objective since the Central Experimental Farm was established in 1886. In 1929, the National Research Council again made a proposal for a national botanic garden.³⁹ Every decade since 1949, an effort has been made to establish a botanic garden at the Central Experimental Farm.⁴⁰ Government councils, commissions and special interest groups have proposed a botanic garden eight times for the Central Experimental Farm. In 1999, the Ottawa 2000 Committee selected the Ottawa Botanical Garden Society's vision for its Regions' Millennium Park Project.⁴¹ Most recently, a landscape architecture firm from outside of the province was selected as project manager to realize the Ottawa Botanical Garden Society's business plan for the proposed garden.⁴² However, in spite of all these attempts to bring a botanic garden to Ottawa, it has not been made a reality.

The project at 75 Nicholas Street proposes a botanic garden in the National Capital Region dedicated to a diversity of plant life and the expansion of our knowledge of plants and their cultivation. The 75 Nicholas Street Botanic Garden would contribute to the conservation and exploration of the world's northern botanic heritage and provide a place for reflection and gathering in the downtown core of Ottawa.

The area that focuses on nature is Ottawa's Central Experimental Farm. Owned and operated by the Government of Canada, the Experimental Farm is actively engaged in plant and agricultural research, including crop engineering, crop cultivation, fertilizer, crop cycle and many other scientific pursuits.

39 Ottawa Botanical Garden Society, Vision, Ottawa's Botanic Garden (Ottawa, 2000)

40 Ibid

41 Ibid

42 Ottawa Botanical Garden Society, "Introducing the Glenn Group," Ottawa Botanical Garden Society Newsletter March 2010



SITE MAP OF 75 NICHOLAS STREET

Paired with the Experimental Farm is the Ottawa Arboretum. A collection of local and international tree life, this public park is located between Dow's Lake and the Experimental Farm. It is a green haven within the city and a connection point for bicycle paths and pleasure craft. The City of Ottawa is responsible for cultivating and preserving the trees within the Arboretum, which, like the Experimental Farm, provides an alternative to the downtown bustle.

The downtown core of Ottawa represents the inverse of the Experimental Farm and Arboretum; an almost unbroken surface of concrete, dense in people and scarce in greenery. The disconnect between architecture and landscape is felt, though there are several important avenues of connection in the forms of paths, transit way and roads that facilitate travel between the two realms. The most prominent connection is the city's landmark Rideau Canal, a United Nations Educational, Scientific and Cultural Organization Heritage Site. A bicycle and pedestrian path runs alongside it with a planted buffer between the path and the road. Otherwise the segregation between soft and hard is significant; structure and nature coexist but in no way constitute a hybrid environment. Somehow the two never quite connect in to their full potential; the way that this thesis suggests they should.

Site: 75 Nicholas Street

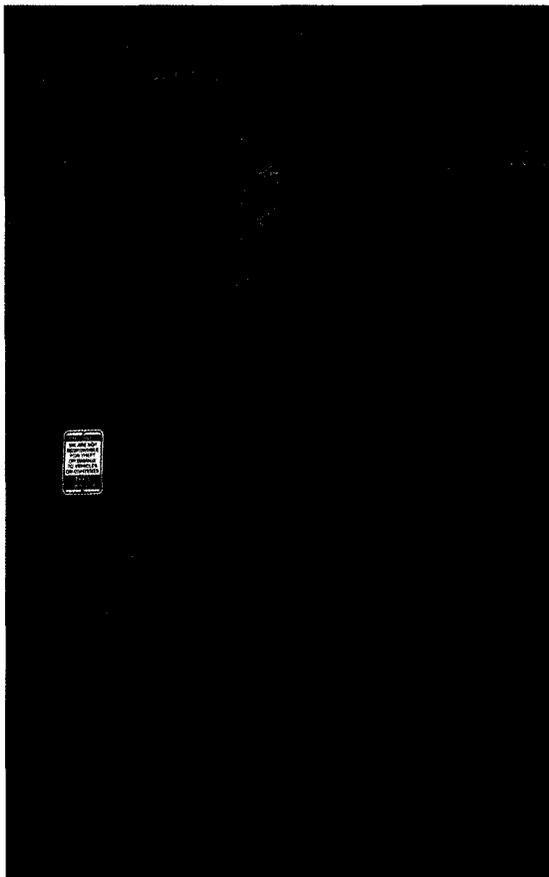
The proposed site for Ottawa's botanic garden is 75 Nicholas Street. The courtyard offers the greatest potential for the development of a botanic garden. It would be an optimal place to promote the mission and the values of the

Ottawa Botanical Garden Society, allow for the expansion of knowledge of plants and their cultivation and enable the conservation of the world's botanic heritage. The proposed garden would be easily accessed by visitors and would work with existing city attractions. Its accessibility would ensure its longevity; appealing to visitors and residents, thereby making it financially feasible. This section will discuss the physical properties of the proposed site as well as the historical attributes associated with it. Finally, the reasons why this site was chosen over any other in the city will be discussed.



75 NICHOLAS STREET OTTAWA. C. MENDOZA 2009

75 Nicholas is in a very accessible location. It is near the University of Ottawa, the Department of National Defense and the Rideau Centre, a major shopping centre in the downtown area. Just beyond is the Byward Market, another significant tourist attraction. It is a three-minute walk from three major transportation hubs, and less than one kilometer from the Parliament buildings and the Supreme Court of Canada.



75 NICHOLAS STREET EXISTING COURTYARD. OTTAWA. C. MENDOZA 2009

Due to its proximity to all of these significant components of the city, the development of the site could be a crucial step towards enhancing existing city attractions and providing a place for new connections. Drawn lines on a map between the most important parts of downtown Ottawa would naturally converge at this point, which shows the site's potential to bring citizens together.

This environment of community and convergence is already present in the site, fostered by the Arts Court, Saw Gallery and the Hi-Ottawa Jail Hostel. The development of a botanic garden would bring the different demographics

together at different times of the day and year. The 75 Nicholas Street Botanic Garden would appeal not only to the tourist or visitor, but also to families, students and teachers from nearby schools and those working in offices within walking distance of the site. The 75 Nicholas Street Botanic Garden would be a space to continue the gathering of community and reinforce the idea of public gathering. In a chaotic corner of Ottawa, the Botanic Garden could be a place of calm and internal reflection.

History of the Site

On the existing site lie the former Governor's Mansion, and the Carleton County Courthouse and Gaol with its walled exercise yards to the south. A tunnel still connects the Courthouse and the Gaol.

The Carleton County Gaol first opened its doors in 1862. Designed by H.H Horsey on the principles of *19th Century Prison Reform*, it was built to be imposing and monumental. "It is simple and in a symmetrical Georgian style, the building's solidity is accented with minimal detailing, and is placed on level with the courthouse – representing an equally important component of the law."⁴³



COURTHOUSE AND JAIL. WILLIAM JAMES TOPLEY. 1870.
LIBRARY AND ARCHIVES CANADA.

43 *Carleton County Gaol Heritage Centre*, 2007, February 2010 <<http://carletoncountygao.com/content/history/heritagectr.shtml>>.

44 Ibid.

The number of prisoners sent to the gaol after the new building's construction appears to confirm the role it played in deterring crime. According to the 1863 annual report of the Board of Inspectors of Asylums, Prisons "...the total number of prisoners last year in the new gaol was 232, as against 416 in the year 1861 in the old gaol." The report goes on to say that "...at Ottawa, as elsewhere...the prisoners all objected to the new gaols; they liked the old gaols much better!"⁴⁴

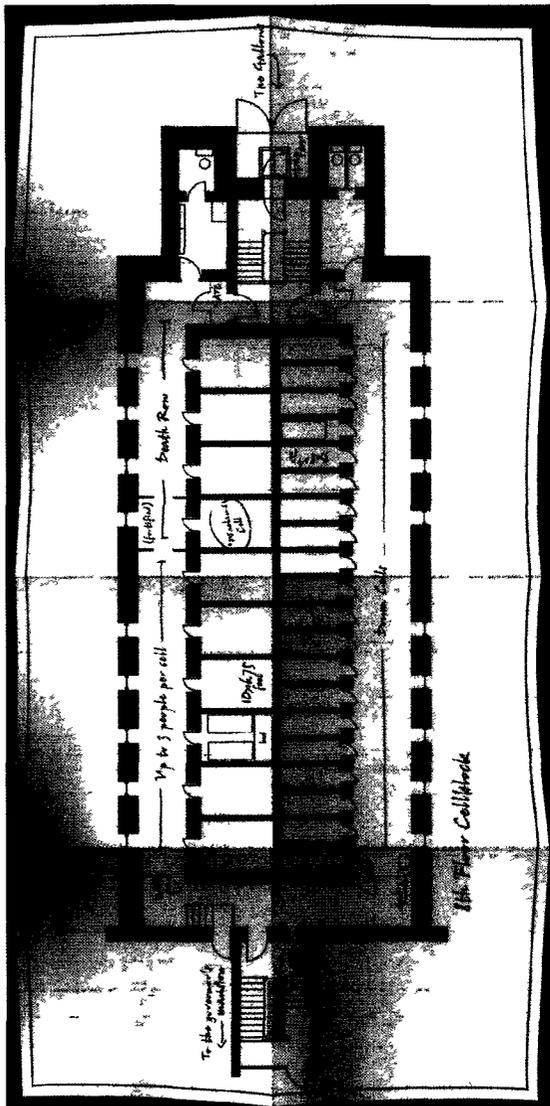
The Carleton County Gaol was considered a “model gaol” at the time of its construction. Nonetheless, little was done to rehabilitate the prisoners, and they only rarely got a chance to perform even menial tasks such as clearing snow or chopping wood. With no duties to be performed, all the prisoners could do was wait for nightfall.

Throughout the period when 75 Nicholas Street functioned as a jail, inhumane conditions persisted; the cells were small and had no heating, lighting, toilets or ventilation. In 1972, the Carleton County Gaol was closed and, the prisoners were transferred to a local detention centre. Regardless of the unsuitable conditions for prisoners, the gaol was at the top of the list of potential sites for a new hostel in the City of Ottawa. “It was believed that with some imagination and renovation, it could be turned into a friendly and welcoming youth hostel – and in 1973 the Canadian Youth Hostel Association decided to do just that.”⁴⁵

The proposed site for a botanic garden is in the former main exercise yard directly south of the Carleton County Gaol. It is surrounded by the stone wall of the Gaol building and the original boundary walls. A new concrete wall runs along the south side, constructed in 1998 along with a bridge, built as part of the McKenzie King Bridge Rehabilitation Project. From the inside of the courtyard, the concrete wall is almost three stories high.

The Current Use of the Site

The site consists of one large and one small courtyard, both originally used by the inmates of the Carleton County Gaol. In the past, the courtyard was closed off from the public



CELL BLOCK FLOOR PLAN CARLETON COUNTRY GAOL HERITAGE CENTRE

45 Carleton County Gaol Heritage Centre, 2007, February 2010 <<http://carletoncountygao.com/content/history/heritagectr.shtml>>

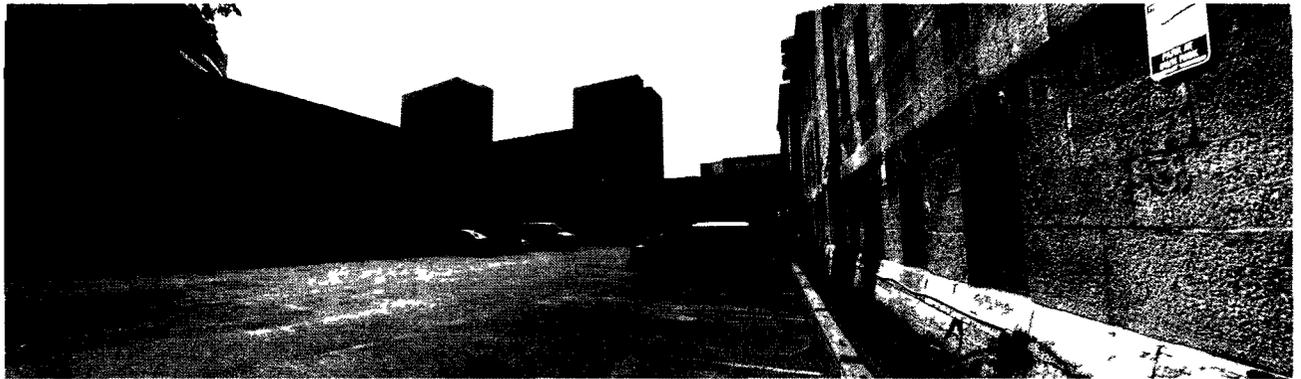
with heavy metal doors mounted in the large stone archway facing Nicholas Street. Currently, wooden doors separate the smaller courtyard from the more substantial courtyard with the latter being used as a private parking lot that holds around 30 automobiles. The site also acts as a point of access from the Gaol to the dumpsters located just off of Nicholas Street. On the west wall there are vines that grow on the original stone wall, and to the east, there are a few trees located at the back of the yard, close to the entrance of the secondary courtyard. The trees do not appear to have been intentional, but rather grew spontaneously. Other than those trees, there is very little vegetation located in the site. The site is exposed to the southern sun and very open to the elements. Today, the secondary exercise yard is part of the jail tour and is closed off from the larger courtyard, which can be accessed by the public. It is in the secondary courtyard that one encounters the built-in gallows where public hangings took place.



75 NICHOLAS STREET COURTYARD EAST FACING VIEW C MENDOZA NOVEMBER 2009



75 NICHOLAS STREET COURTYARD NORTH WEST CORNER C MENDOZA JANUARY 2010



75 NICHOLAS STREET COURTYARD NORTH EAST CORNER R MOK AUGUST 2010



75 NICHOLAS STREET COURTYARD MACKENZIE KING AVENUE + WALLER STREET WEST FACING VIEW
C MENDOZA NOVEMBER 2009

I Program I

The proposed garden will continue the tradition of scientific research in botanic gardens as well as the display of plants, but this is where the traditions will end. The garden will display existing and new hybrids that are being developed in botanic research laboratories. Through a recombination of the elements of the past, the botanic garden will showcase the potential of the new. This spirit of adaptation will extend to the garden's layout, taking their cue from existing site conditions to influence new programmatic elements.

The gardens will be more than a place for individuals and families to view the exhibition of plants; they will also be a place of gathering for different demographics surrounding the site. The botanic garden will provide a place for people who would normally only cross paths for a brief moment on the sidewalk or street, perhaps turning the briefest moment into a memorable encounter. The high walls that delineate the property line would lend the 75 Nicholas Botanic Garden qualities similar to the Abbey courtyards and Monastic gardens. These gardens were also fully surrounded by walls, mainly to ensure seclusion for the monks or nuns from secular life. In order to appreciate the history of the gaol, it is important that visitors and employees of the gardens get a sense of enclosure as well as sense of arrival when first encountering the garden. Insular and tightly limited by the history of the site, the Carleton County Gaol is a complementary contrast to common perceptions of the sprawling botanic garden of past and present. The condensed and focused design of the garden could demonstrate the richness and potential that exists even in the smallest of seeds that are contained within its walls.



The design for the 75 Nicholas Street Botanic Garden consists of three parts. The first and main focus is the Botanic Garden. The second component is the Dialogue Zone where the educational portions of the botanic garden's mission would be fulfilled. The third is Linnaeus Laboratory where the botanic research would take place, including laboratories for the promotion of hybridization through cross-pollination and trial and error. Though the emphasis is on the botanic garden, the three programs are complimentary to each other.

A typical botanic garden is devoted to the study and public display of native and foreign plants and trees. It usually includes greenhouses for the cultivation of plants that cannot be grown easily in the local climate, and often houses areas for scientific study to be conducted on the premises. Many botanic gardens house research laboratories that are driven by the needs of the gardens. Complementary educational programs ensure that the mission of the botanic garden reaches the public. The three parts would work together to create Ottawa's own *cabinet of curiosity*. The proposed botanic garden will maintain these programmatic essentials at an intensified scale, focusing on the principles of community, cooperation, research and social and environmental education. This combination creates a hybrid body of collected purposes that will, like any hybrid should, bring together the best aspects of all its originating elements. The garden will cultivate not only Canadian and botanic plants, but will also foster a Canadian multicultural meeting place designed for the dispersal of research knowledge through local educational programs and lectures.



The garden's education section will be a place where the Ottawa Botanic Garden Society can fulfill the social outreach component of its mission. There will be a portion to house a small congregation of students holding presentations and seminars. This would also be big enough to house public forums. Some examples of events for the educational portion are: class trip presentations, seminars and lectures regarding the Botanic Garden and more diverse public gatherings for musical productions or public and commercial meetings.

The research portion of the garden, with a total space of 406m², would house a laboratory large enough for two visiting researchers/ scientists. Research taking place there would not conflict with the research of the Central Experimental Farm. The scale of the research will be kept small in order to make it more accessible to the public. The small scale of the laboratory will keep with the proportions of the site and will help maintain a balance between all of the three programmatic elements.

Although priority would be given to Canadian studies, laboratory research would be open to international northern studies. It would also be important to overlap the change of researchers, allowing for exterior sources of input, expansion of knowledge and communication, and encouraging research partnerships and collaborations.

I Operations and Strategies I

According to James Corner, a landscape architect is a key figure in the new field of landscape urbanism. Landscape urbanism is an interdisciplinary approach that amalgamates a wide range of disciplines including landscape architecture, urban design, landscape ecology, engineering and architecture, and that addresses the many challenges that face a contemporary city.⁴⁶

In his text, *Terra Fluxus*, Corner sets out four themes which are used in the practice of landscape urbanism and have been adopted as a method to connect architecture and landscape:

~~Processes over time is a~~ theme guided by the principle that the processes of urbanization – capital accumulation, deregulation, globalization, environmental protection – are much more significant for the shaping of urban relationships than are the spatial forms of urbanism. ~~The staging of surfaces,~~ deals with spatial forms and the phenomenon of the ground plane. This theme revolves around the “field” of action - a wide range of scales, from the sidewalk to the street to the entire infrastructural matrix of urban surfaces. ~~The operational or working process~~ reconsiders traditional conceptual, representational and operative techniques in an attempt to understand how the local plight makes vast shifts across time and space. It compares and contrasts cinematic and choreographic techniques to spatial notation, manipulating digital space while messing around with paint, clay and ink, and engaging developers and engineers alongside highly specialized imagineers and poets of contemporary culture. Finally, ~~the imaginary~~ theme asserts that any creative endeavour must continue to be motivated by the informed and stimulated experiences of the material world.

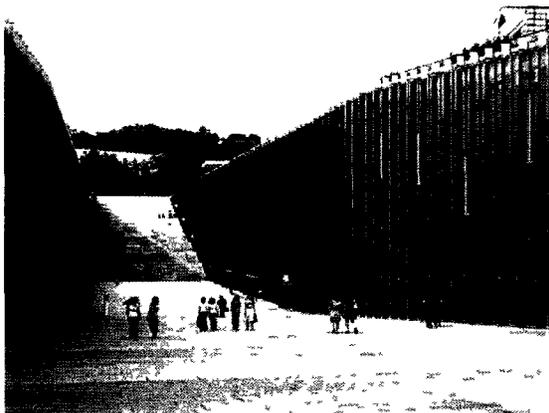
46 Graham Livesey, “A Look at Landscape Urbanism”, *Canadian Architect*, November 2009: 45.

These themes are taken into account in the design of the 75 Nicholas Street Botanic Garden creating *architecture: landscape*. By incorporating these themes, aspects that are essential to the development of a project that connects architecture and landscape are acknowledged. The themes are present in both disciplines; demonstrating how closely related the two fields are.

In the exploration of how architecture and landscape are related, Anita Berrizbeitia and Linda Pollack found that certain themes have emerged and blurred the boundaries. They outline these in their publication *Inside Outside: Between Architecture and Landscape*. This blurring brings the two disciplines closer as well as brings into focus how they are related. The themes that bridge the gap include: *reciprocity*, the precise practice of exchanging things with others for mutual benefit; and *materiality*, taking matter from its traditional position or form to become significant content of the work. *Insertion* involves engaging a space with its surroundings such that it becomes part of an urban continuum, while initiating a break from the continuum and rejecting the idea that new architectural and landscape architectural projects should be designed to blend in seamlessly with their surroundings. *Infrastructure* is an operation that combines different kinds of spaces and activities within its domain and is able to sustain a program beyond its own logistical requirements. Finally, *threshold* refers to a place where transformation begins, and exchanges between unlikely things occur. As a theme, *threshold* is the most important and has two meanings, which are significant: it is the point at which a stimulus is of sufficient intensity to begin to produce an effect. Secondly, from an ecological standpoint, it is the edge between two



EWHA WOMAN'S UNIVERSITY, SEOUL, SOUTH KOREA
ARCHITECTURAL RECORD 2008



EWHA WOMAN'S UNIVERSITY SEOUL, SOUTH KOREA
ARCHITECTURAL RECORD 2008



EWHA WOMAN'S UNIVERSITY SEOUL, SOUTH KOREA
ARCHITECTURAL RECORD 2008

47 Anita Berrizbeitia and Linda Pollak, *Inside Outside: Between Architecture and Landscape* (Massachusetts: Rockport Publishers, 2003).

48 Anita Berrizbeitia and Linda Pollak, *Inside Outside: Between Architecture and Landscape* (Massachusetts: Rockport Publishers, 2003). 36.

ecosystems, the zone of highest exchange and diversity and the most important part of the overall system.⁴⁷

Parallel to how the exterior of a cabinet of curiosity can be deceiving and have undiscovered compartments, the following precedent demonstrates some of the themes that Berrizbeitia and Pollack discuss in *Inside Outside: Between Architecture and Landscape*. It displays how it is different from other structures that join to the landscape and similar to the idea of the cabinet of curiosity, especially in consideration that in the first instance a viewer might have no knowledge of the building's presence and would need to navigate the site in order to discover what the location contains.

In Dominique Perrault's Ewha Woman's University, the exploration of some of the themes that Berrizbeitia and Pollack discuss can be seen - notably reciprocity, insertion and infrastructure. This project goes against the grain with the building adding to the landscape rather than taking away from the surroundings. The site's original topography was restored in order to introduce the new construction. Like Piano's California Academy of Sciences, Perrault uses a green roof, but instead of displacing the greenery into the air, it continues into the surrounding terrain. Through the use of the green roof, as written by Robert Ivy for *Architectural Record*, he is able to "conceal the foot print of the building," and therefore make it possible to "dissolve the perimeter of the school so that it is interwoven with its context."⁴⁸ The University takes a different approach to the idea of inserting a structure in the landscape because the object itself is not seen, but the scar left by its insertion catches the eye. This leaves a trace on the landscape that breaks its continuity,

allowing one to acknowledge the urban surroundings that lie beyond the vegetation. With this clever insertion into the ground, the scar allows for one to rethink landscape because the manipulation of the material occurs on the roof.

In the EWHA Womans University project, insertion is closely related to infrastructure as a way to connect to the landscape. This is a “skillful crafting of the underground structure into the topography,” “blurring the line between construction and topography.”⁴⁹ Because of the placement of the infrastructure, the building creates the required programmatic elements for the University. In addition, an informal amphitheater and passage are built into the scar left by the insertion of the building, creating a space for social gathering and interaction. What Perrault and the University have done “is a bold step, specifying a scheme that goes not up but down. No less dramatic or memorable than the towers dotting the Asian landscape, the campus centre makes a strong statement of the institution’s commitment to the future, to its heritage, to its place in the environment.”⁵⁰

Anita Berrizbeitia and Linda Pollack come to an understanding similar to Ellin’s, they state that the:

“...disciplinary and professionally boundaries of architecture and landscape architecture have conditioned the perception of what is possible within a project, upholding Enlightenment ideas that each discipline represents a consolidated and exclusive territory of concerns.”⁵¹

In this instance, the goal is to perform an operation that combines different kinds of spaces and activities within the project’s domain and can sustain programs beyond its

49 Anita Berrizbeitia and Linda Pollak, Inside Outside: Between Architecture and Landscape (Massachusetts: Rockport Publishers, 2003). 36

50 Robert, FAIA Ivy, “EWHA Womans University Campus Center,” Architectural Record November 2008: 148-155.

51 Anita Berrizbeitia and Linda Pollak, Inside Outside: Between Architecture and Landscape (Massachusetts: Rockport Publishers, 2003). 10.

own logistical requirements, expanding the threshold where transformation begins and exchanges between unlikely things occur.

Site: The Opening Cabinet

It would be difficult and rare to find a more spatial “cabinet” in the city of Ottawa. By design, as a gaol, and by location, beside the recently renovated MacKenzie King Bridge, the courtyard for the Botanic Garden is the cabinet; a walled garden and meeting place that is at the heart of this design. Walls of stone and mortar face walls of reinforced concrete, where windows peer out through wrought iron bars. Countering and softening the hardness of the site, this design introduces an opposing gesture away from the existing palate. Maintaining the site’s current materiality would be very overwhelming. By including materials other than concrete and stone, a balance is achieved with a unifying element - the garden’s vegetation. In this instance, the differences in materiality will signify the differences in the site. The concrete and the stone of the gaol building will remain to show what already existed on the site prior to the development of the botanic gardens. Different materials, such as wood and glass, will highlight the new elements of the site resulting from the inclusion of the botanic gardens. Any new material will suggest to a visitor at the botanic garden what programmatic elements lay beyond the façade. The new material will provide contrast throughout the site as well as complement the existing architecture, allowing the site to still read as one in spite of the presence of several different elements. Like *Ivanko the Bearlet*, the logic of the placement of diverse objects throughout the botanic garden means that the resultant effect is not this or that, but both and much more.

The Garden Structure

The pleasantries of a new environment and the re-awakening of the site are gained with the reciprocal relationship of converting the courtyard of the gaol into a botanic garden. The whole site is able to move beyond the youth hostel parking lot. Placing the botanic gardens next to the former Carleton County Gaol creates an interaction between two entities that would not normally have the chance to be so close geographically. This project supports a unique relationship that is mutually beneficial.

The mutual exchange between the gaol and the botanic garden suggests the idea of threshold. The gardens do not alter the structure of the gaol, and in fact provide a pleasing enhancement to the courtyard, contradicting its history. Currently, the courtyard is inactive; only when people come to get their cars in the morning or park for the night is there movement, along with the few times a day that garbage is taken out the side door of the goal building. It has become a space similar to the dark alleys between buildings or, closer to 75 Nicholas Street, the places between the ByWard Market restaurants that are hidden from the public even though they are in plain sight. These hidden-in-plain-sight alleys use decorative doors to distract what lies behind them; the courtyard struggles to continue the path of the existing courtyards surrounding the Market.

By inserting the botanic garden into an empty space, the site is engaged to have the potential to become a culturally beneficial public space; for currently it accommodates vehicles instead of people. The city's public space is brought to another level by adding a program to the

courtyard. The botanic garden program is an insertion into the urban structure of the city, which in Ottawa's case is very unexpected. New York's Central Park lies within the city limits, although it was created during a period when the city boundaries were still being defined. Adding the programmatic elements of a botanic garden to a city during such a time is rare, and illustrates *insertion* on two separate levels; the physical insertion of buildings in and around the site as New York City continued to develop and the introduction of a novel program.

The proposed placement of the infrastructure at 75 Nicholas Street creates a landscape that provides space for the botanic gardens as well as a passage through the site and its different elements. The new landscape will also become the surface where vegetation will be planted. If, in the future of the site, the botanic gardens no longer exist, the spaces for public or private use, inside or outside, would still be present and could be grafted onto the next site program, preserving the intention for the spaces. While new spaces are provided for the public, a new element is added to the city in a place where it is least expected.

Through staging of surfaces, the existing spatial qualities of the site can be engaged with any new ones placed there. 75 Nicholas has a strong vertical aspect that will be emphasized by the design. The design will create an illusion of horizontality because of devices put in place to aid one's journey through the space. 75 Nicholas Street is a favourable site because it has the advantage of having two surfaces; the typical horizontality of a landscape and the verticality of the surrounding concrete wall.

“This suggests contemporary interest in surface continuities, where roofs and grounds become one and the same, and this is certainly of great value with regard to conflating separations between landscape and building”⁵².

As this project is a product of time, global factors cannot be ignored and local influence is also important. It is crucial to plan for the botanic garden’s future in order to secure its longevity. While the building of the botanic garden is important, it is the means by which the program will sustain itself – the people that will volunteer, work, and visit the site – that will ensure it withstands the test of time.

Resultant Space: The Meeting Place

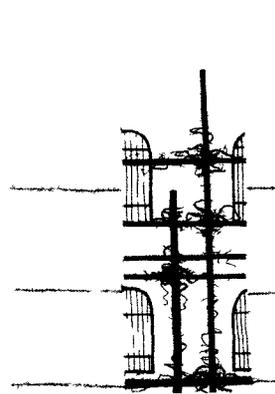
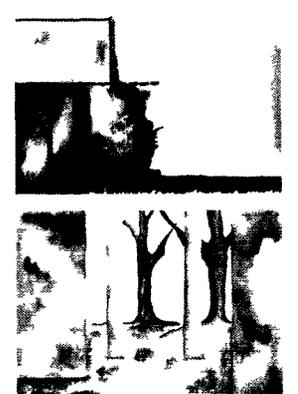
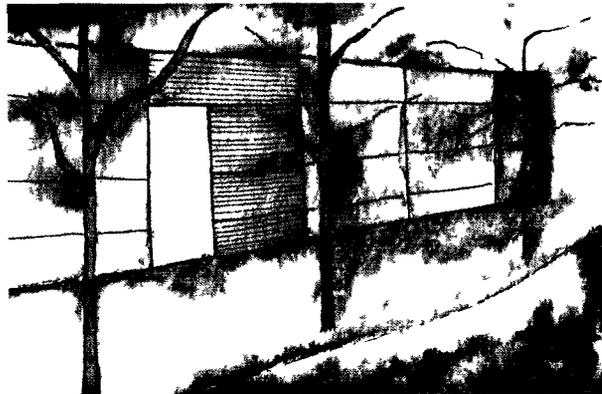
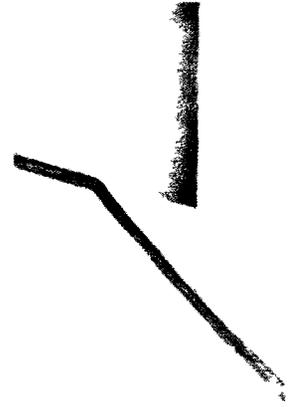
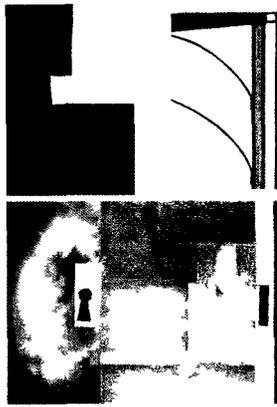
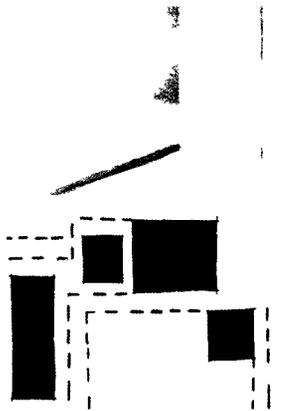
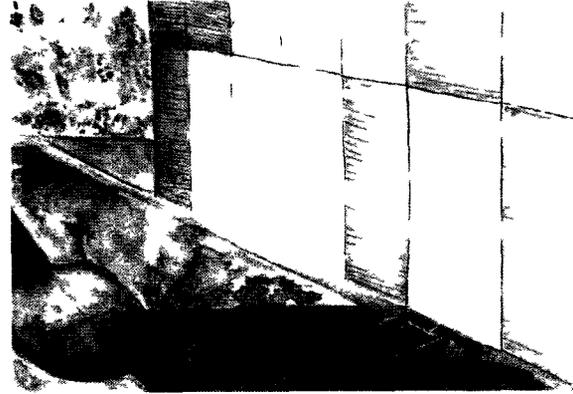
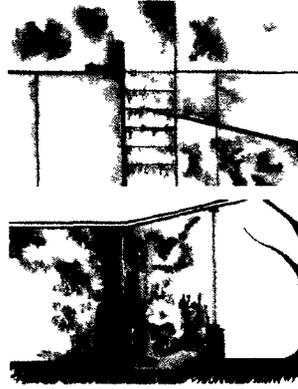
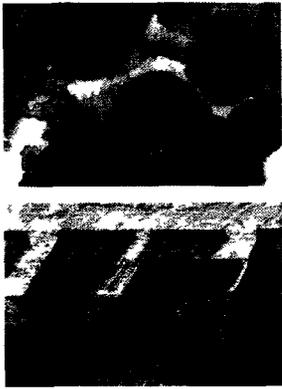
The 75 Nicholas Street Botanic Garden is intended to generate a meeting of values, peoples, research, and knowledge; a meeting of different materials with the meeting of different structures. Scottish architect William Chambers stated in his *A Dissertation on Oriental Gardening (1772)* that, “The Gardeners are not only Botanists but also Painters and Philosophers.” Without imagination, the 75 Nicholas Street project would not uphold the rethinking of the botanic garden. Without imagination, no site in Ottawa would be large enough, and the nuances of the cabinet of curiosity as a design aid would not be considered. Because of the imagination, connections are made where it appeared there was none. Also, the simple idea of trying to combine the two elements of architecture and landscape would be nonexistent. Inspiration and influence come from several and different sources, therefore, this “meeting” of diversity should be celebrated.

52 James Corner, “Terra Fluxus,” The Landscape Urbanism Reader, ed Charles Waldheim (New York Princeton Architectural Press, 2006) 30

“The lyrical play between nectar and NutraSweet, between birdsong and Beastie Boys, between springtime flood surge and the drip of tap water, ... and between all matters and events that occur in local and highly situated moments, is precisely the ever-diversifying source of human enrichment and creativity.”⁵³

53 James Corner, “Terra Fluxus,” The Landscape Urbanism Reader, ed. Charles Waldheim (New York: Princeton Architectural Press, 2006). 33.

**I Designing the 75 Nicholas Street
Botanic Garden I**

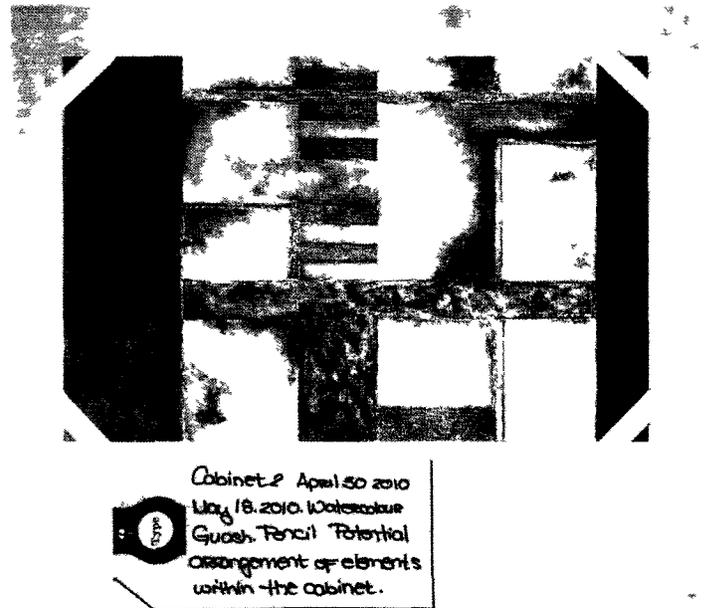
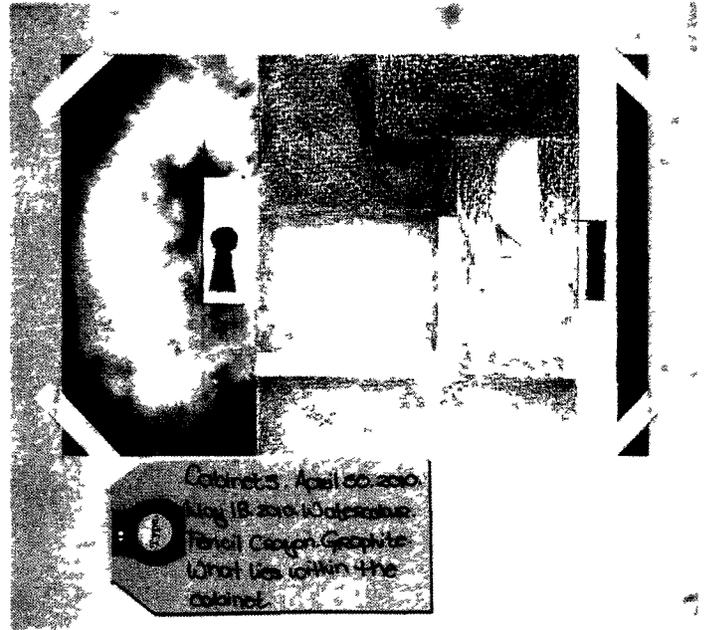


I. Vignettes

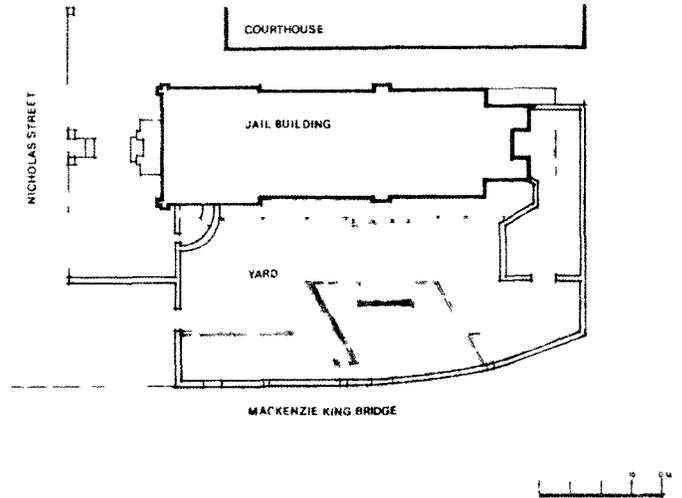
Vignettes created over the course of the development of this thesis are a method of testing ideas. This method allows for free exploration due to its size (4"x6") and the medium of watercolour. The subject matter of the vignettes ranges from close up framing of site documentation, to conceptual ideas regarding space management, and proposed perspective views. The vignettes test the small details that would arise during reading, research and site exploration. They are also used as a way of summarizing development in the project and preserving the initial essence of various project details. The vignettes give either an abstract view or a perspective that cannot be revealed plans, sections or elevations. The vignettes also relate to the concept of the cabinet of curiosity, as interesting pieces for the cabinet and as glimpses into the development of 75 Nicholas Street Botanic Garden. Each vignette is a drawer in the cabinet of curiosity that conveys a piece of the 75 Nicholas Street Botanic Garden which can then be put together to tell its story.

II. Drawings

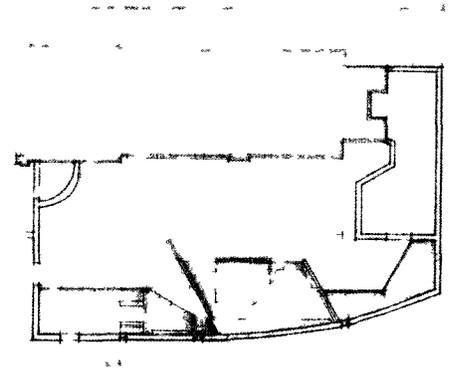
The first step in the project was to create drawings that explore site development. Different scales were used to test different movements through the space so that the integrity of the design intention was maintained.



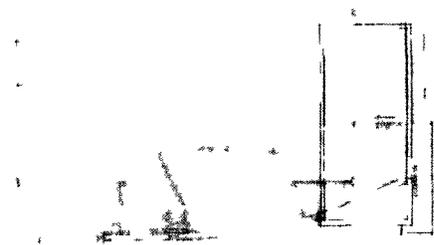
The first iteration of drawings focused on the placement of pavilions that are to hold the three main components of the botanic garden. It was determined at this stage which movement through the site would work best, resulting in the welcome center's placement at the west of the site at Nicholas Street, the education portion to the south on MacKenzie King and the research portion to the east end of the site facing Waller Street. The first draft of the design focused on the internality of the site, with no access points other than those that already exist.



The second iteration of the design included a slope that runs the full length of the south wall. The slope is a key feature in the new design of the botanic garden since it houses the welcome and education portions of the program. It also provides space for a green roof that will function as a walking path so that visitors can access the gardens from MacKenzie King.



Angles that are used to create intimate spaces and accentuate large places within the site were chosen because the same angles, 30° and 60°, are already in use. Angles are used to show the visitor how to navigate the site, by inviting them to interior spaces or pointing them in the direction of an exterior space. Along with the angles, water is used as a device to point to the lingering finish of the site, the source of the water. The water runs along the walls inside the gardens, guiding the visitor from the new

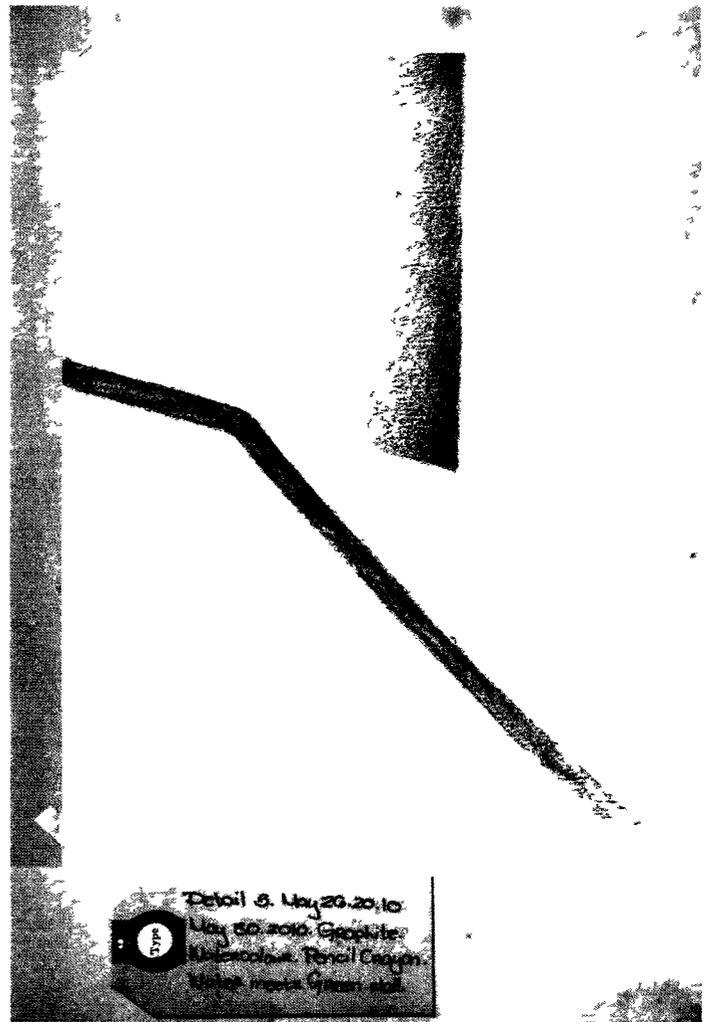
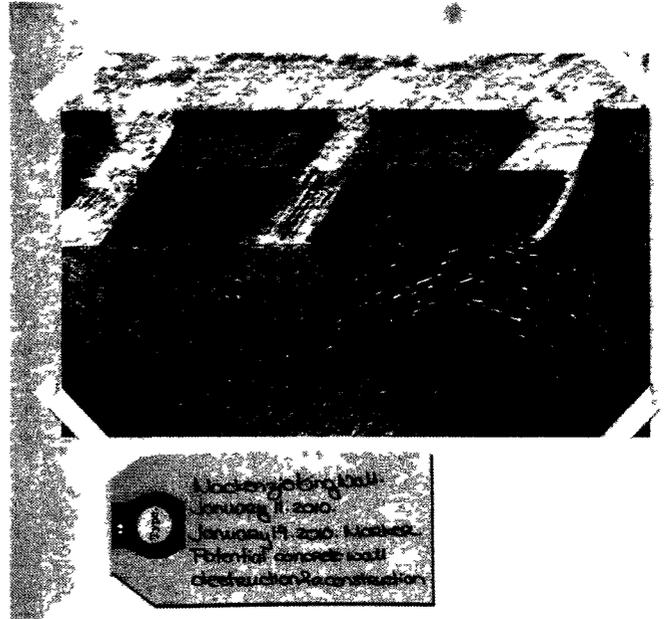


designs of the botanic garden to the existing forms of the gaol building. It is along this journey that one experiences the gardens and sees how the lines of the old building influence the new building. The angles and the use of water both have an effect on the garden layout and planting.

Discovering the Cabinet of Curiosity

The idea of the cabinet of curiosity was the inspiration of the design of the 75 Nicholas Street Botanic Garden. Its inherent principle of organization has a recurring role in how the site is to be used and experienced. It is important to realize that there are several nested iterations of the cabinet idea in the design; it is explored and used in ever-diminishing scales.

The existing site boundaries form the rigid outer case of the first level of cabinetry. The stone walls and reinforced concrete that define the perimeter inform much of the logic and geometry of the new design. From existing lines and heights, protrusions and recesses are created; the internal ordering of the site is generated as a complementary extension of its boundary conditions. These lines serve to subdivide the shell of this cabinet site, which breaks down the existing nature of the materials: stone, concrete and asphalt. The new changeable nature of the site becomes a highly varied and intensified tactile experience;

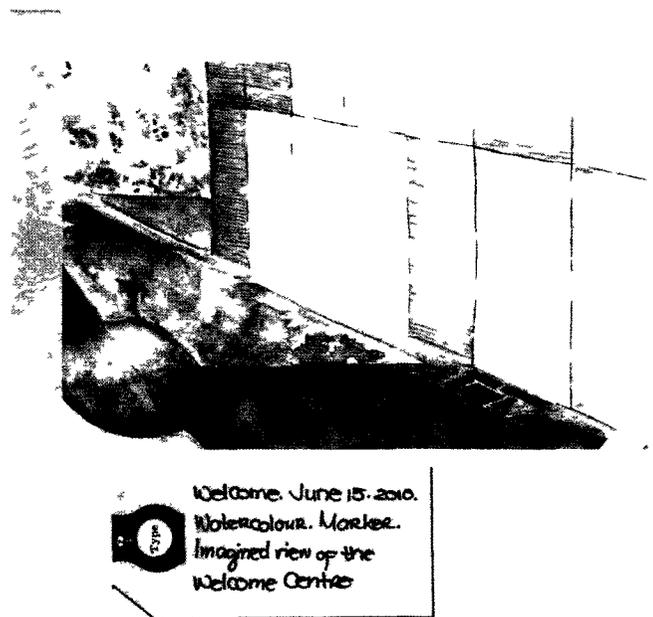


planting beds below. They would descend from the landing to the site atop what would be experienced as a long ramp. This would lead them away from the bustle of the street and below the level of the Mackenzie King Bridge.

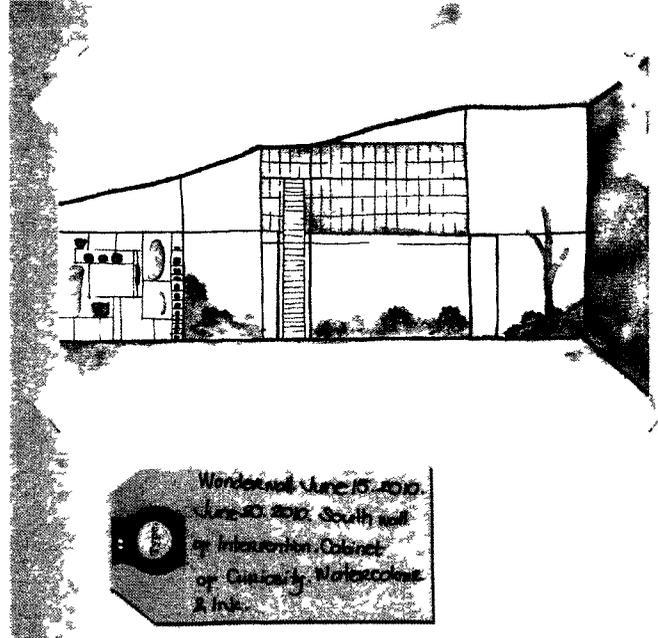
During the descent, the visitor might notice that the planting beds are not simply aesthetic arrangements, but are divided in logical groupings to benefit botanic research. One planting bed would be of perennials while another might contain herbs and medicinal ingredients that have been arranged and noted by the ailments they treat. One planting bed, encouraging interaction, would be for tactile experience and to research plant growth strategies from thistles to succulents in the Canadian environment, with the last planting bed arranged for edible fruits and vegetables.

These planting beds are miniature cabinets of their own; each seed or bulb placed in the dirt an ever-changing artifact contained within. Reaching the bottom of this ramp, the visitor would be among these plantings and would notice above them the suspended structure of the Botanic Laboratories that oversees the site.

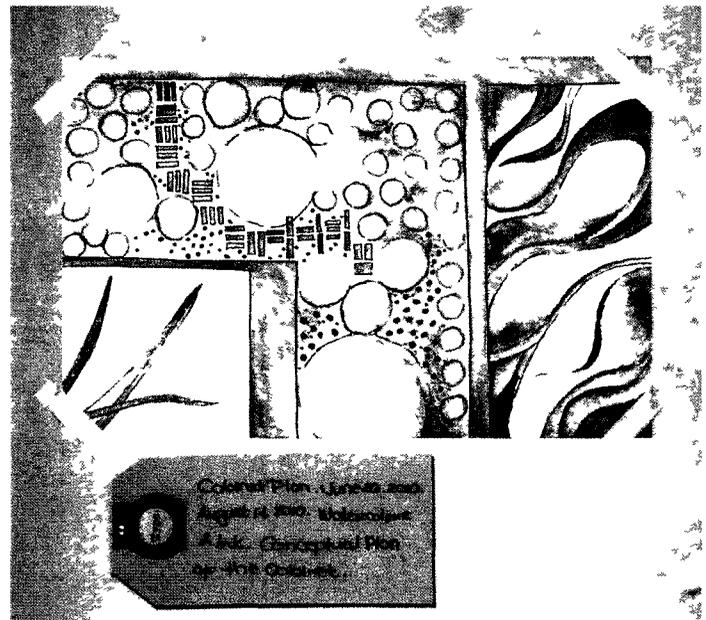
Moving past a secluded entrance, which would perhaps go unnoticed, and toward the Nicholas Street exit, the visitor would begin to notice that the ramp from which they descended was no mere sidewalk, but a structure rising



up and opening to the gardens. Nearing the exit and en route to Nicholas Street, they would see clearly that this was the Welcome Centre to the Garden. It would rise invitingly to the casual visitor and passing pedestrians on Nicholas Street. This circuitous path of the casual passing visitor is not an unexpected or artificial one. There is currently no way for a family with strollers, wheelchairs, or disabled persons to move down from Mackenzie King Bridge to Nicholas Street. The ramped path would provide a welcome alternative to the steep concrete stairs and the danger they pose in the winter months.

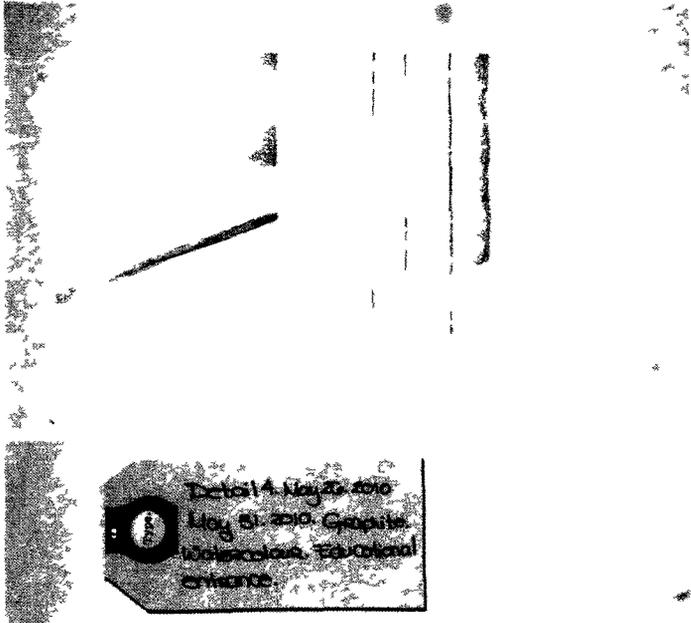


The community visitor, coming to 75 Nicholas Street Botanic Garden as a destination or for an event in the Meeting Place might experience a very different interaction with the site. Entering perhaps from Nicolas Street, the community visitor would pass through the gate and be greeted immediately by the Welcome Centre on their right, and the Gardens on their left. Entering the Welcome Centre, they would experience an area of richness that the casual passerby might have missed. The Welcome Centre is the most rich and obvious expression of the cabinet, and the community visitor is greeted by an exterior green wall and detailed displays for parents and children to read about the current research that is going on at the Laboratories.



The community visitor would notice that these are more than passive displays, that the walls are highly articulated with drawers, shelves and miniaturized hot-houses for plant incubation. Moving inward through the information displays, the visitor could enter a space between two walls — a narrow crevasse opening upward to the light. Suspended between these two walls, contained and protected, numerous seed banks would project through openings in the concrete, inaccessible to touch. The community visitor might notice movement above as botanic researchers carefully store and select specimens from these banks for study.

Following this exploration, the community visitor would then move into the Meeting Place, used for sitting, resting and botanic educational presentations during typical days, providing a venue for community meetings, presentations, concerts and engaging events of all kinds. The natural green walls of this space provide an audible hush as they absorb the echoes from the hard surfaces of the structure and provide a natural acoustic buffering from the outside. As the community visitor sits and engages in the performance of the day, they can recline and allow their eyes to move over the natural setting of their environment, hopefully realizing that a deeper integration of society and nature is not so unnatural a thing after all. As performances trail off, the Meeting Place opens outward to



the Garden, and the community visitor can spill forth into the rich planting beds and varied grass and stone surfaces of the garden, moving between garden structures and the trellised framework affixed to the gaol building and under the hanging laboratories that observe silently from above.

The circulating community visitor would notice that the water flowing throughout the plant exhibits and toward the exit all emanates from a single source. Tracing the water from any of its numerous outlet points, the visitor would be led to an opening into a yet — unnoticed part of the Gardens. Entering through a small portico, they would find the source of the water, a place of great seclusion from the rest of the site and the city. This secluded garden is not so meticulously planted or planned as the rest, but is simply a space for reflection. Sitting within, the community visitor might reflect on the culture and the history of the site and on promise of adaptation, as they understand that this special place from which the life-giving water flows is the former Gaol gallows and the setting for so much death. At the source of the water, the wonder that it brings is the intrigue of human life and for a brief moment, the visitor becomes a part of the cabinet.

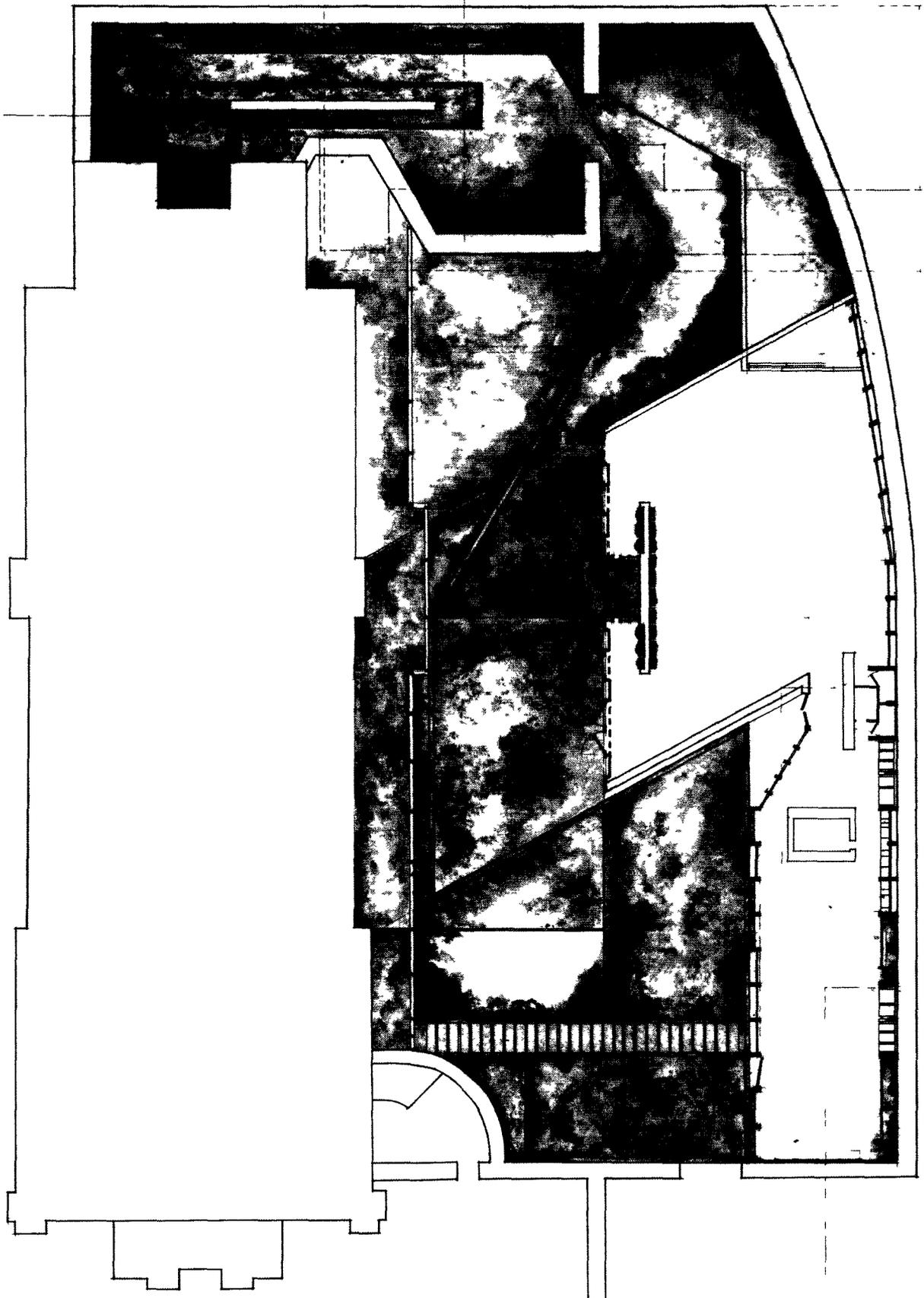
The Botanic Gardens are not simply for public consumption, but are also a highly important part of developing education and research.

The botanist enters the site from the corner of MacKenzie King Bridge and Waller Street – the most easterly section of the botanic garden – taking the stairs that run along the outside of the concrete boundary wall of the botanic gardens. As the botanist moves upward, she is able to get a unique view over the city while entering the botanic laboratory. Suspended above, the modern and technical facilities are removed in order to reinforce an environment of quiet intensity. The view from the laboratories to the gardens below reinforces the role of the botanist as a viewer of the miracle of living growth, referencing her work under the microscope.

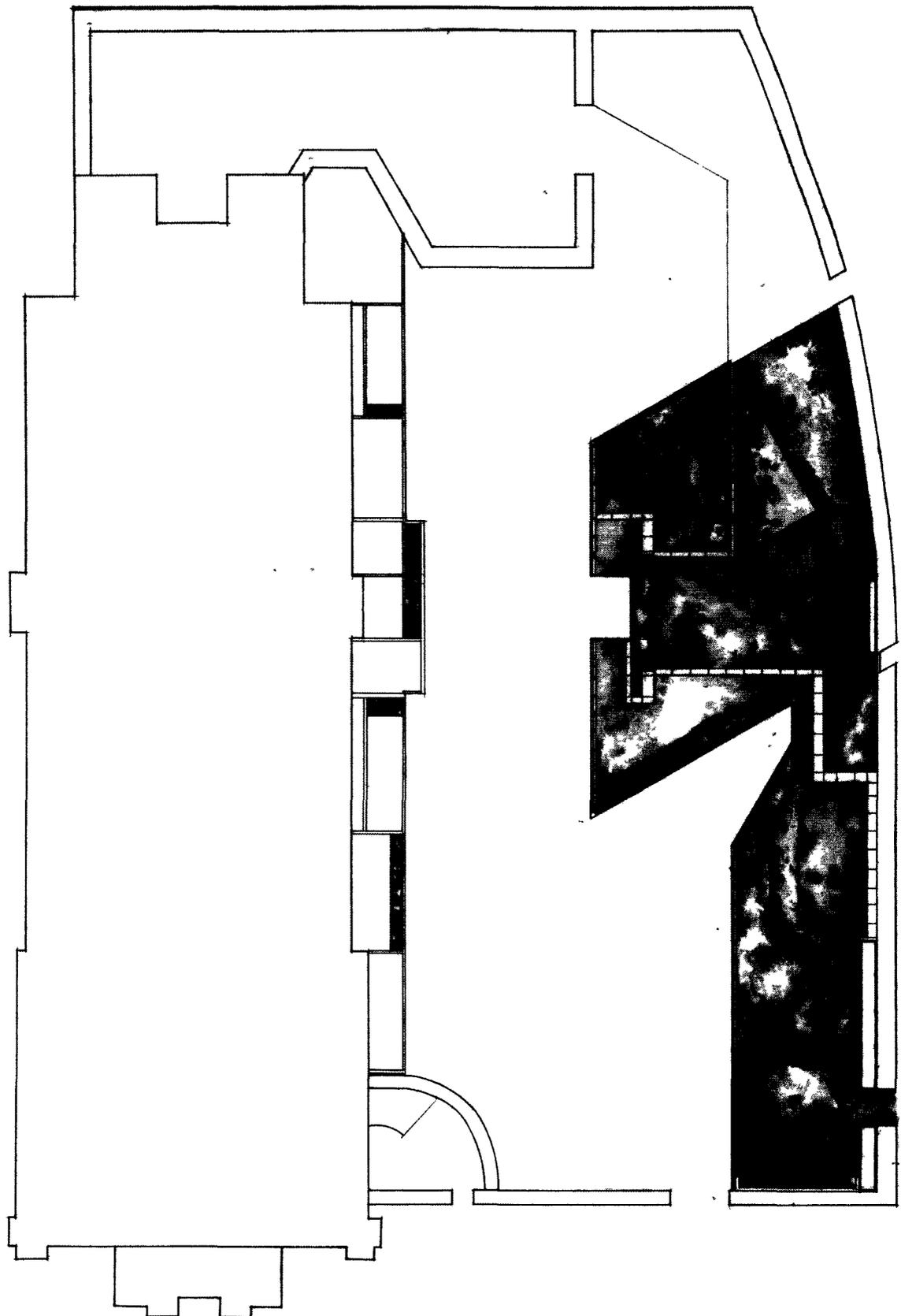
The meaning of the botanist and the nature of plants are linked, and time is needed to understand how the seed transforms to a mature specimen. Working inside the laboratories, the botanist is not removed from the Gardens or the Welcome Centre, but uses materials from them daily. A small manual service lift is located at the rear of the laboratories for garden specimens to be brought up for study, or for seedlings to be taken below for plantings. As the botanist is lowered to the Nicholas Street level, he is able to take in the full view of the gardens, monitoring them while walking through the gardens to the Welcome Centre. Using an unfrequented entrance to the Welcome Centre, the botanist has full access to the same cabinet of curiosity as the visitors;

it is within the cabinet that the seed banks of new hybrid species are opened and sealed for storing, or samples of endangered species to be withdrawn, cultivated, multiplied, and returned.

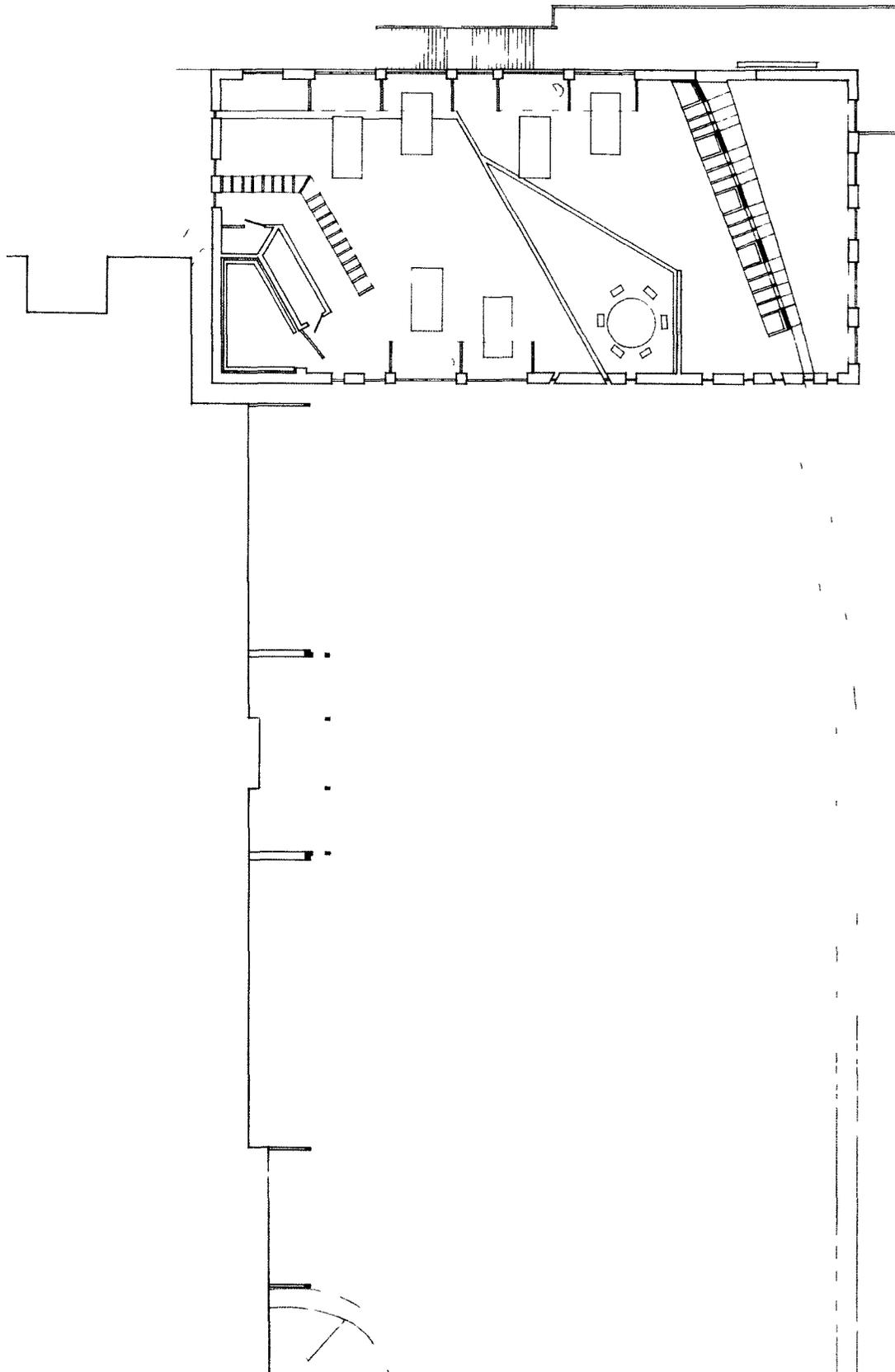
The activity and movement of people within the botanic gardens and passers-by, coupled with the seasonal transformations that occur allow for this cabinet of curiosity to be an ever-changing display. Rather than speculating, the botanists within the 75 Nicholas Botanic Garden research the important needs of their community and society, and play an active role in developing new species for Canadian environments. In this living cabinet, time is not frozen and the artifacts are not a rigid repository. This cabinet is a seed, giving life to new ideas and new species, spreading its own nature forward for the benefit of all.



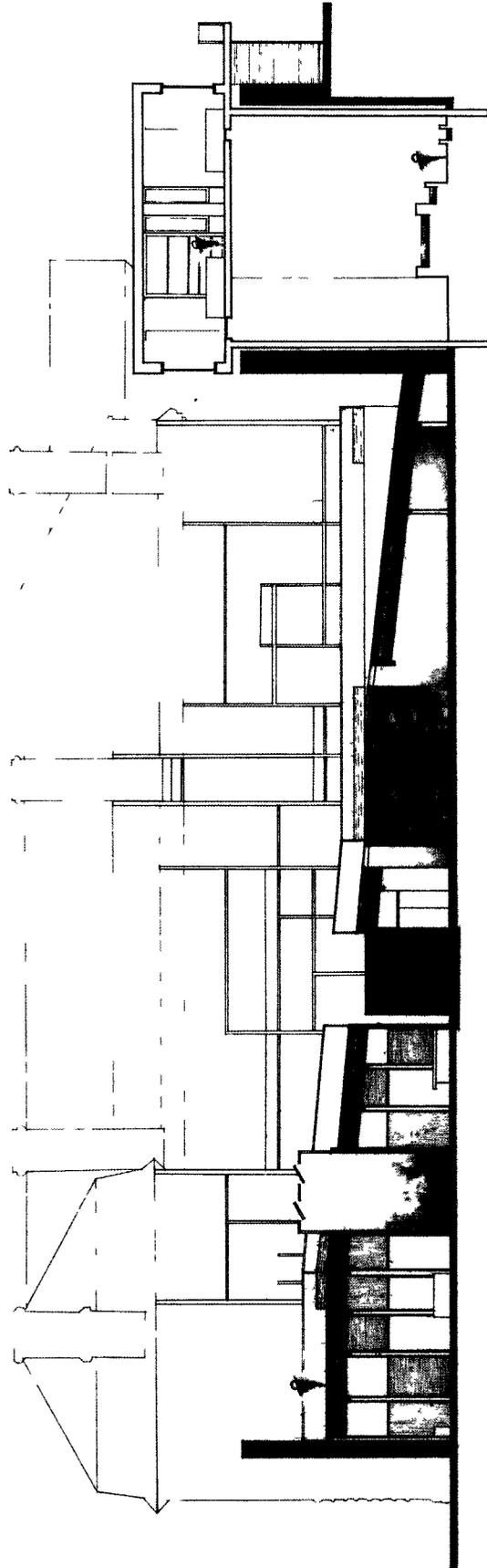
NICHOLAS STREET PLAN



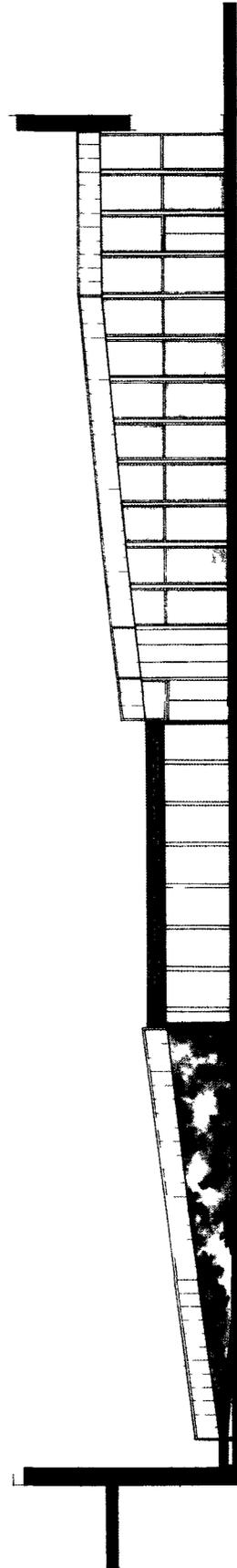
MACKENZIE KING PLAN.



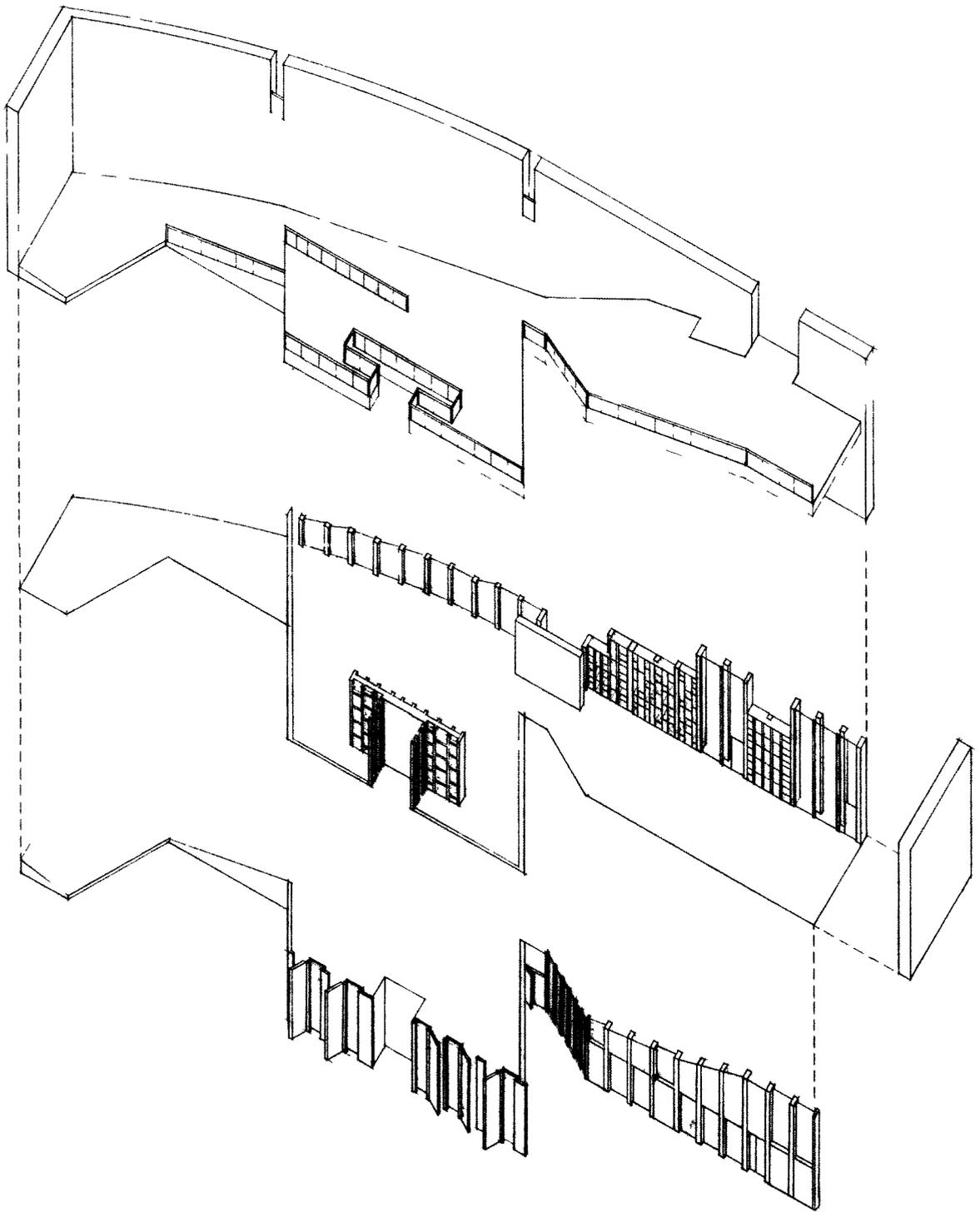
RESEARCH PLAN.



EAST - WEST SECTION. FACING NORTH.



EAST - WEST SECTION. FACING SOUTH.



EXPLODED AXONOMETRIC.

III. Model

Conceptual Model

There are two concept models that were developed during the process of this thesis. The difference in scale is to ensure that different qualities could be explored, one model is at 1:500, and the other is at 1:200.

The 1:500 scale model explores the idea of the connection between architecture and landscape. The 1:500 scale also determines movement about the site; how the people move, the flow of the water, the changing of the seasons. The cuts in the trace material that runs along the model demonstrate the thought in how each piece works individually, yet is part of a whole. Without the individual pieces the same movement would not be acquired. It is similar to how either the plants, or programmatic elements work, the effect would not be the same if there were only one specimen planted rather than a grouping. The research laboratory also requires collaboration with the gardens and the Welcome Centre.

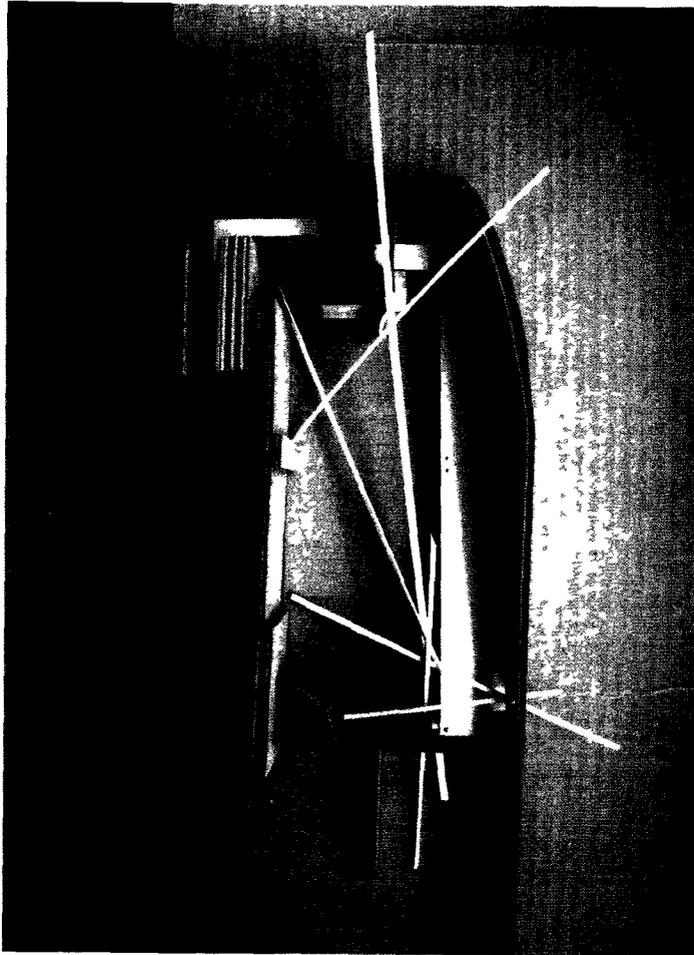
The 1:200 scale model demonstrates the joining together of the different aspects of the site, followed by a connection to the city. Because of the change in scale, the space required for the ramp was fully grasped and inclines were finalized. When designing the model, the



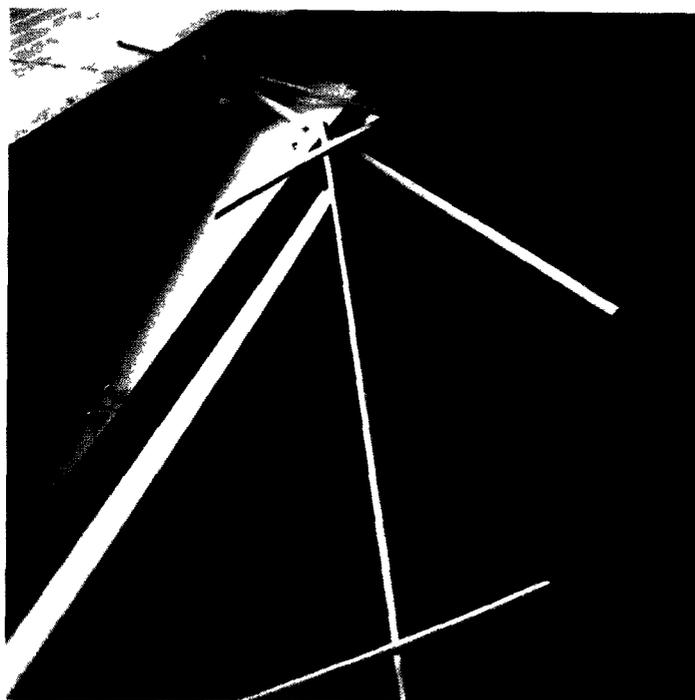
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CONCEPTUAL MODEL 1 500 2010

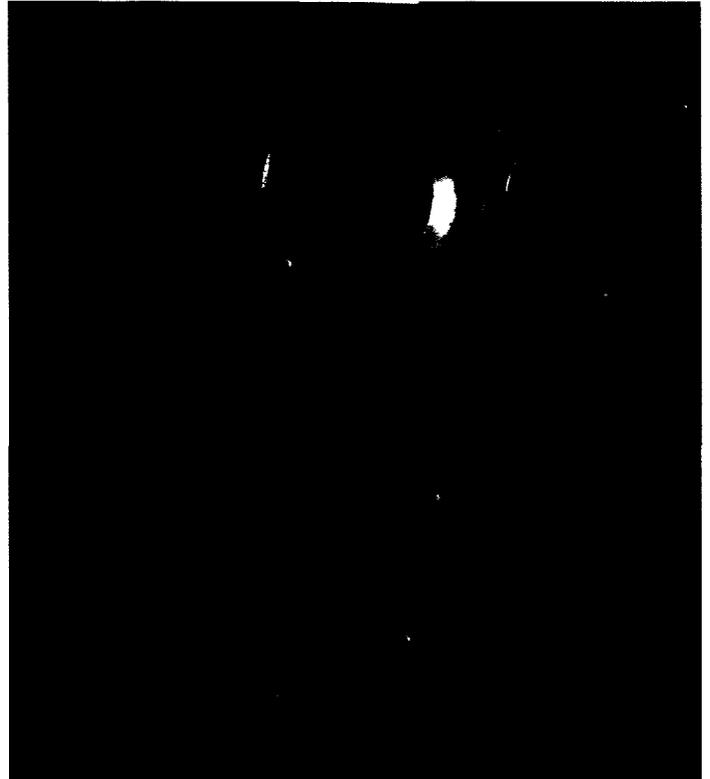


CONCEPTUAL MODEL 1 200 2010



CONCEPTUAL MODEL 1 200 2010

questions of who, what, where and when also came into play. With this project there is more that needs to be linked together. This model became about the connecting of the people around that site, and about how this particular site would be able to bring together pieces of the city. The terrain of the city of Ottawa varies, as demonstrated by the location of the 75 Nicholas Street Botanic Garden; there are two potential entrances only meters from each other, but there is a difference of six meters in height between them. This model illustrates parallels that would connect the different ideas revolving around the botanic garden.

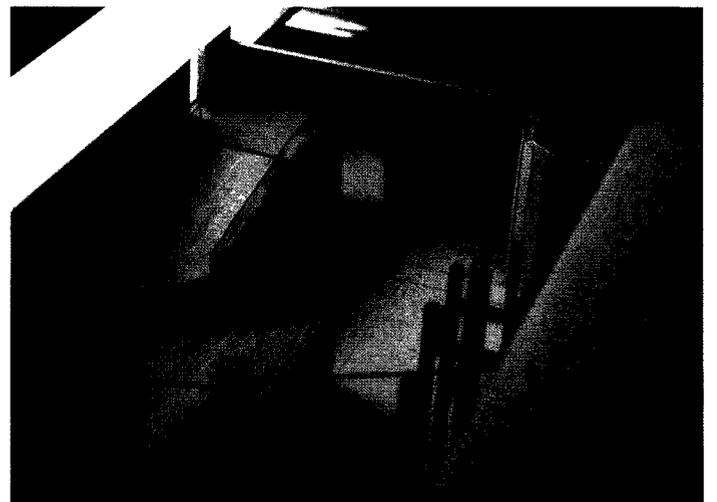


Project Model

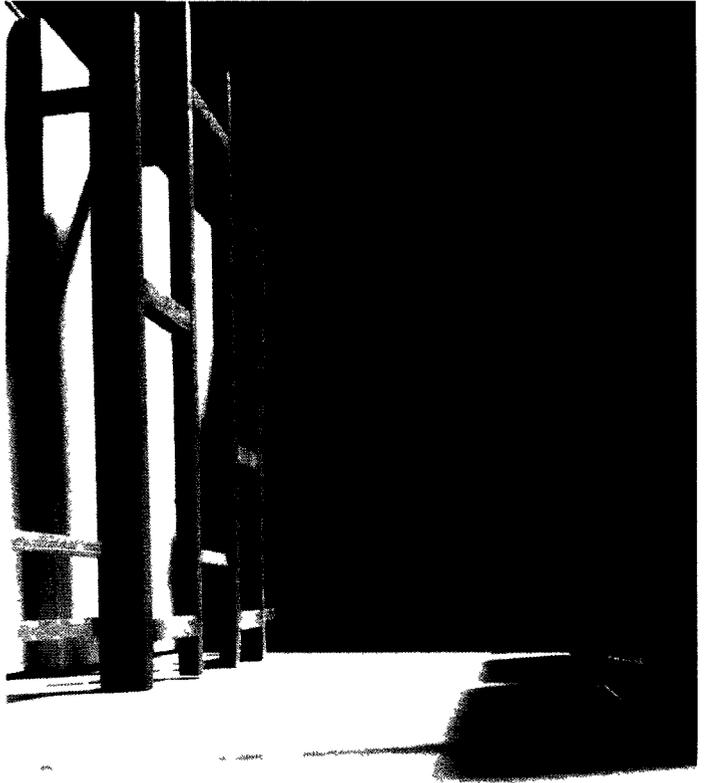
The role of the physical model is to work in conjunction with the vignettes and drawings to portray qualities that cannot be demonstrated in the other two forms of representation. There is a different understanding of materiality in the model because one is able to physically handle the model and one's eye can actually view into the space to see the potential for the prescribed spaces. With the project model, one is able to recognize spatial qualities that are not as aptly represented in the form of drawing. It is possible to anticipate how one may perhaps feel when inside the spaces because the texture of light on the different surfaces is registered and one may experience how heavy or light a space can feel. One can grasp the influence of the sun's movement more clearly with the physical model. Unlike a drawing where cuts are created to make specific views possible, the reasoning behind the arrangements of elements in the project model is shown, as only what the visitor is intended to view is evident.



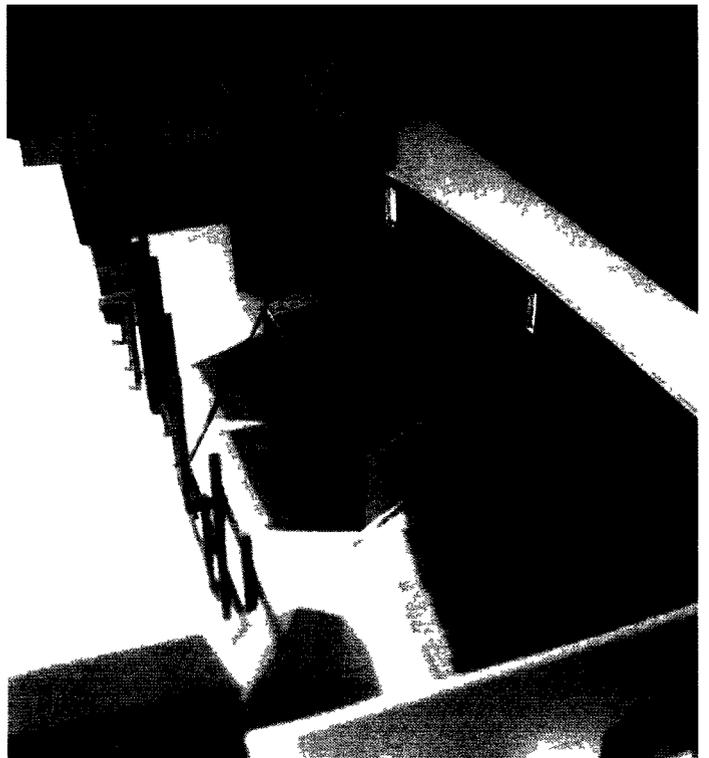
AERIAL VIEW OF FINAL PROJECT MODEL 1 150 2010



FINAL PROJECT MODEL 1 150 2010



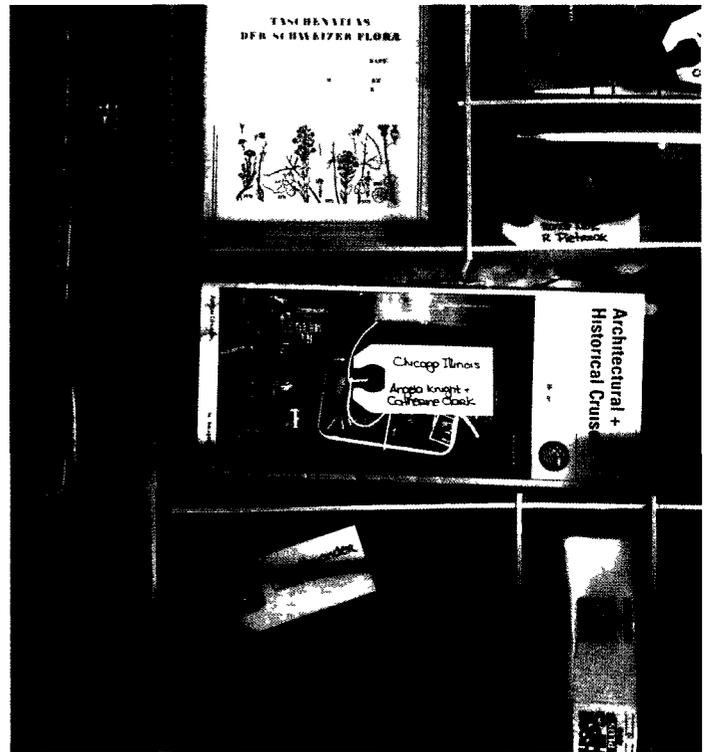
FINAL PROJECT MODEL 1 150 INTERIOR COURTYARD VIEW 2010



FINAL PROJECT MODEL 1 150 INTERIOR COURTYARD VIEW 2010



FINAL CABINET MODEL 2010



FINAL CABINET MODEL DETAIL 2010

I Conclusion I

By focusing on a design for the botanic garden, perhaps this thesis will encourage the long delayed process of establishing a botanic garden in the city.

The concept of the cabinet of curiosity draws together elements that might seem out of place, but are related in their importance and mystery. The cabinet gathers together diversity and the welcoming of focused thought and reflection. The cabinet is related to the botanic garden in that the cabinet collects fragments of what existed before or of a foreign culture, while the botanic garden gives birth to something new and is fully engaged in the present and the local. Where the cabinet is insular and limited, a botanic garden, especially the 75 Nicholas Street Botanic Garden, explores an outward relation between the living and its environment, between the past and the hybrid.

James Corner reminds us that landscape is in constant motion along with various forces that impact it that dealing with architecture implicates landscape. Architecture and landscape can start to integrate and return to each other's space, both physically and academically, through the study and development of complimentary themes and strategies, such as those outlined by Berrizbeitia and Pollack.

It is not impossible to create an *architecture: landscape*. As Berrizbeitia and Pollack have shown, it requires a conscientious effort to join the two. Several themes such as *materiality*, *reciprocity* and *threshold* have been laid out, and now follow-through is required.

Architects must strive towards combining architecture with its surroundings, to make our surroundings whole and cohesive and representational of our own practices.

In this way one can create a space of architecture [*this*] and [*+*] landscape [*that*], of which is, *both, and*.

I Post Script I

I began my thesis with a story. In reality, I had two loves, architecture and landscape, that were encouraged by this story. What I did not expect is a journey that has helped me to discover a process and a way of thinking that I can take with me in practice.

I mentioned how we cannot ignore the environmental issues that plague our world, and I see this thesis as a prototype for a method of building, and as a catalyst in thinking of how we may join architecture and landscape in a consistent manner. I am optimistic, that this thesis project can be the start, and that one could ask, "Why don't we build like that?" I want this process of combining architecture and landscape to be taken into consideration by those that have a hand in a new construction. Ideally, people would look to my prototype for inspiration for various types and scopes of projects that they would be involved in.

With this project, it was important for me to be able to make my ideas accessible to everyone; it does have its roots in my grandfather's garden, but I also know how much he loved to share it with those he cared about. The 75 Nicholas Street Botanic Garden is intended to be the main garden of several that could be located in the city that would compose the Botanic Gardens of Ottawa; in this method, the Botanic Gardens would be available to the residents of Ottawa in their own neighbourhoods. Also the gardens could act as a connector for the residents to be woven into their city.

This thesis has allowed me to bring my two passions together. They do not seem as disconnected from one another, as before. And now, I eagerly await the challenges they will present me with in the future.

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