

Fashion & Architecture

Camouflaging the Architectural Body



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By

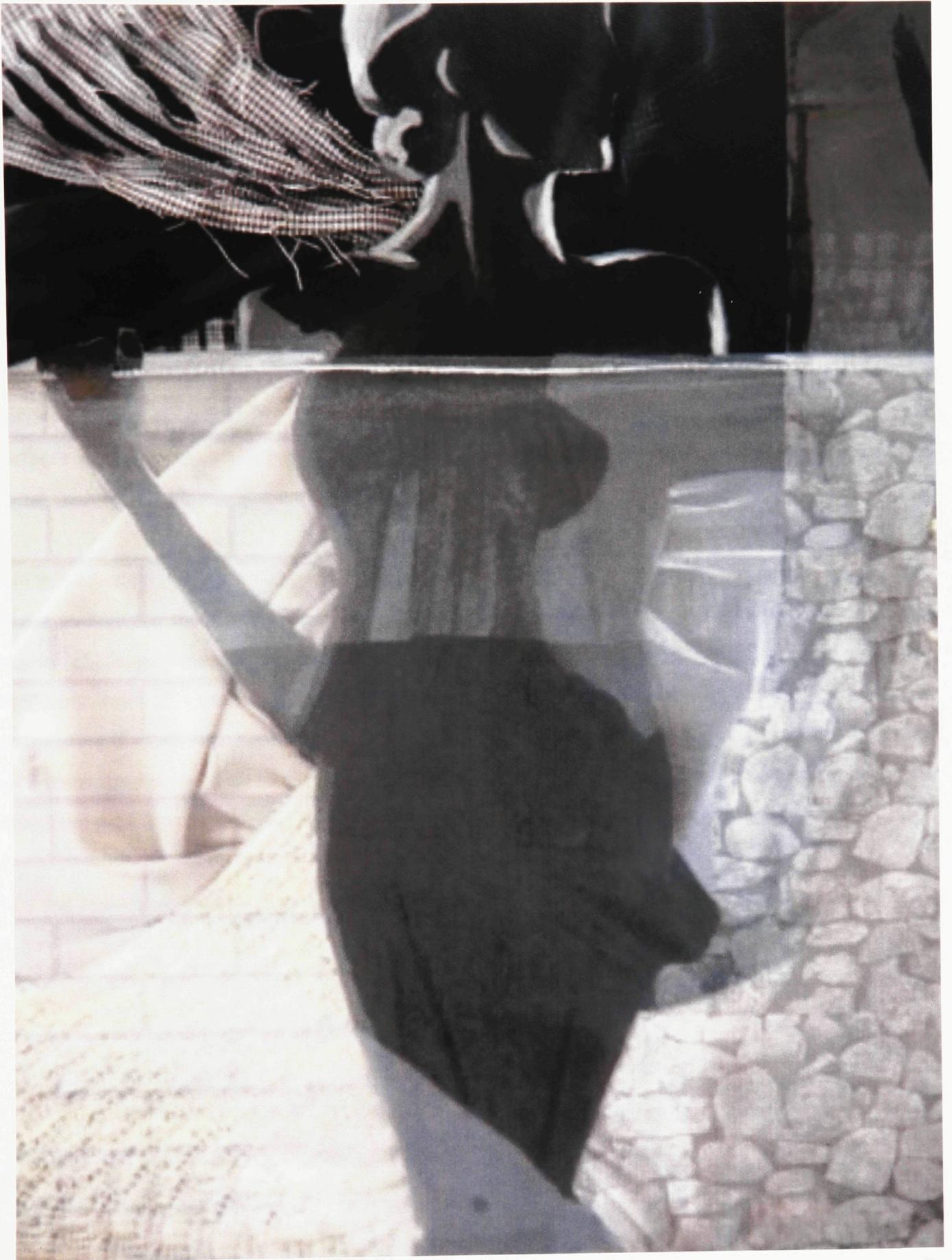
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A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs in partial fulfillment of the requirements for the degree of

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ABSTRACT

Through assimilation and surface play, *camouflage* is not to disguise, rather it provides a medium through which to identify with the other and engage with it by blending and becoming one with an environment. Neil Leach, author of the book *Camouflage*, states that this visually adaptive process operates as a form of connectivity by relating the self to the world through the medium of representation. Subsequently, fashion can be considered a contemporary form of camouflage. Conforming to the human body, *dress* can transition an individual between the events of life and time by manipulating the surface of our bodies to blend in or stand out within an environment, *re-presenting* ourselves. Through the aesthetic realm, the reciprocal dialogue between surfaces concealed and surfaces revealed has actively assisted humans in survival within un-static environments caused by social, cultural, environmental, and technological permutations.

Can this adaptive strategy be applied to the architectural body*? This thesis speculates how the process of camouflage and the strategies of fashion can inform an adaptive method for architectural design. The inquiry challenges current methods of conservation and rehabilitation, which already stress the significant role of surfaces by preserving them. Fashion conforms to the human body, visually assimilating through representation as a tool to adapt. Perhaps this concept can be extended towards an architectural body, such as the Sunnyside Library located in Ottawa, conforming and concealing to reveal the depths of its surfaces; reaffirming its past through surface play and representation.

Can the architectural body be camouflaged to adapt from the past to the present, and possibly the future?

Fig. 01 Frontispiece
Technique:
Acrylic on canvas,
Collaged fabrics, Photoshop

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PROLOGUE

Impermanence

In the book, *The Eyes of the Skin*, Juhani Pallasmaa makes the argument “that the current industrial mass production of visual imagery tends to alienate vision from emotional involvement and identification, and to turn imagery into a mesmerizing flow without focus of participation.”¹ He refers to Federic Jameson’s notion of ‘contrived depthlessness’ to describe this contemporary cultural condition and ‘its fixation with appearances, surfaces and instant impacts that have no sustaining power over time’.² This issue is a result of humankind’s innate tendency to privilege the visual.

Stemming from this natural condition, the *aesthetic realm* plays an integral role in human existence. Aesthetic expressions influence all aspects of human life generating trends which we are governed by because of our behavioral compulsion to conform as a mass.³ Society progressively seeks new aesthetic expressions, such as fashion and architecture, as a way to adaptively define individual identities; as a person, as a city, or as a nation. Unfortunately, as pointed out by Pallasmaa, this process invokes the issue of impermanence.

The point of departure for this thesis is that I believe that Pallasmaa discredits the fact that the human body is in fact able to survive and prosper within impermanent environments because of our ability to assimilate through the visual realm. We change our hairstyles, mannerisms, personal behaviors, and most importantly, we change our bodily perception through dress. The field of fashion is propelled by a fixation on appearances and surfaces becoming a tool which allows individuals to adapt by re-presenting their identity and body.

While Pallasmaa’s argument is directed towards the design of new architecture, it brings to light a similar issue found in the practice of architectural conservation. Unlike the human body, an architectural body cannot as easily adapt or transition between the past and present, nor should it. In fact, the field of

¹ Pallasmaa, Juhani. *The Eyes of the Skin*. London, England: John Wiley & Sons Ltd., 2005. Pg. 22

² Ibid pg. 30

³ Maslow's Hierarchy of Needs is a theory in psychology that categorizes the fundamental needs of human existence and considers social acceptance as a need

historic preservation is a reaction to impermanence and exists as a tool which documents social aesthetics formulated through cultural evolution. Unfortunately, the issue is that current methods for conservation designs revolve around the retention of existing surfaces of a building, and sometimes spaces, thereby treating the architectural body like a shell and superficializing the role of surfaces. Façadism, the term given to this type of architecture retains the physical surface of a building to appease heritage preservationists. It has been claimed to prevent new architectural styles from evolving and reduces buildings to 'mere elevations or self parodies'.⁴ It is perceived as being depthless because it divorces a building's interior and exterior, reducing the substantial role of surfaces in the design and engagement of a building. In fact, it thwarts the underlying principle of the practice which is to promote awareness to its role in the history of its surroundings.

This thesis will seek to counteract this issue in adaptive design by confronting and reevaluating the seemingly impermanent visual realm. The adaptive process of camouflage and strategies of fashion will be explored to conceive architectural strategies which can help a building purposefully adapt. Through a surface informed design we are able to conform to the concept of embracing impermanence to help a building adapt instead of just being conserved.

⁴ Richards, Jonathan. *Façadism*. New York, NY: Routledge, 1994. Pg. 2

As aforementioned, camouflage is not to disguise, but rather through assimilation and surface play, provide a medium through which to identify with the other and engage with it by blending and becoming one with an environment. This visually adaptive process operates as a form of connectivity by relating the self to the world through the medium of representation.⁵ In his book, *Camouflage*, Neil Leach speculates on the human desire to assimilate both physically and mentally within un-static surroundings and its implications for architecture. He deduces that through *self-re-presentation*, the process of camouflage is socially driven as a mechanism for constituting identity.⁶

The process of camouflage occurs within two dimensions: the physical (visual) dimension and a psychological (mental) dimension. The most apparent one is the physical. Commonly associated with chameleons and many other animals as a survival tactic, this form of camouflage involves visual concealment and obscurity to blend in or stand out against a background. Humans also exhibit this urge to visually blend into surroundings exhibited by military camouflage. Through optical strategies⁷, military camouflage is designed to blend the human body in with surroundings in times of combat, concealing them from enemy surveillance. From a contemporary standpoint, *fashion* can be viewed as an alternate form of camouflage. Through *dress*, we project an individual expression on our bodies as a way to engage with the world by visually assimilating to permutations in our environment⁸ in order to perceptibly adapt to the un-static social realm and physical world.

Mental assimilation occurs when we consciously make the decision to either blend in or stand out within our surroundings. Through surface perception, camouflage simultaneously reveals and conceals, but remains interconnected and symptomatic of the 'other'. Mental assimilation occurs when we 'think' ourselves into an environment consciously engaging with it through the visual realm. Referring back to the example of dress, the conscious decision of how we want to be perceived by others through

⁵ Leach, Neil. *Camouflage*. MIT Press Cambridge, MA. 2006. Pg 247

⁶ Ibid. pg. 247

⁷ Four optical strategies employed in camouflage: cryptic, disruptive, mimesis, and counter-shading

⁸ Permutations in our environment can be physical or social. Examples include various events of life such as work, leisure or combat.

employing fashion is a way in which we identify and engage with our environment, subsequently defining our identity and establishing our existence.



The body of work of Francesca Woodman playfully demonstrates this natural urge to assimilate to adapt within our surroundings through dress. Her photography insightfully captures the primitive instincts of camouflage for survival, resembling that of a chameleon. By playing with long exposures to capture and blur the act of merging with their surroundings she demonstrates how dress can enable the human body to blend in or stand out within a given environment. The intention of blending the body with our physical surroundings proposes a unique statement about how we engage with our world. It links the primitive instincts of camouflage for survival to the modernized version of dress by projecting it in a modern context.

Fig. 02 Photographs by Francesca Woodman

Within contemporary society, aside from food and shelter, human survival revolves around social acceptance and conformity. Therefore, as a way to adapt, we physically and mentally camouflage our bodies within a given environment by identifying and engaging with it through the visual real. Thus the concept of camouflage becomes a medium to relate the self with the 'other' through an interactive process of becoming which is the active shuttling between *becoming one* with surroundings and *becoming distinct* from it.⁹ Leach uses camouflage to emphasize the important role of the aesthetic domain and infers to how it may pertain towards architecture. One implication suggests that our engagement with the built environment, such as architecture, is never a given, static condition, but an on-going process of constant adaptation and impermanence.¹⁰ Essentially, architecture is our built environment and overtime, because of our visual nature, we assimilate to their surfaces becoming familiarized with them. By identifying with the surfaces of our environment, our identity becomes inextricable to its existence as we have unconsciously associated such structures as a home, a city fabric,

⁹ Leach, *Camouflage*, pg. 245

¹⁰ Ibid. pg 7

or a cultural identity. We become one with a building when it has become a consistent element in our lives and memory thereby culminating as our identity and heritage. However, what happens when a building surpasses its pragmatic and aesthetic prevalence?

Can camouflage in turn be applied to the architectural body similar to the way fashion is applied to the human body as a strategy to adapt? The critical role of surfaces exhibited in the process of camouflage is predominant in the *design*, as well as the *employment* of fashion. *Fashion's* prevalent and ephemeral nature is intrinsic to technological, social, and cultural changes. It is an aesthetic *expression* of the *body*, prevalent to a time, fabricated by interpreting and manipulating properties of materials and textiles to strategically control *surfaces* revealed and concealed. The final product, the *garment*, is a tool that can subtly obscure deficiencies of the human body by enhancing attributes, shifting the focus through employing strategies of *surface play* while conforming to the body.

Buildings are commonly reappropriated to accommodate to social needs. In *The Architecture of the City*, Italian architect Aldo Rossi understands architecture not merely as the visible image of the city and its different architectures but architecture as a construction of the city overtime.¹¹ This process of construction links the past and the present, thusly addressing the collective creation of environments and the substantial role of memory and identity of a building. The practice of historic preservation and architectural conservation has similar intentions and has emerged as a reaction to the impermanent aesthetic realm. It seeks to preserve, conserve, or restore buildings which are considered critical to the identity of a place. Unfortunately, this practice is stagnant whereas Rossi promotes that through reappropriating a building, its respective surfaces should be determined by the realities of construction at a specific time and place.¹² To support his own theory, Rossi designed anonymous buildings emphasizing a distinction between building type and its concrete manifestation endorsing that its identity is an ongoing process.¹³ Instead of conserving a building's existing condition to preserve heritage, he advocates that it should be reaffirmed as memories rather than just a physical artifact. Essentially, a body of architecture should undergo changes overtime, both pragmatically and

¹¹ Rossi, Aldo. *The Architecture of the City*. Cambridge, MA: MIT Press, 1984. Pg. 21

¹² Ibid. pg. 21

¹³ Mostafavi, Mohsen and David Leatherbarrow. *Surface Architecture*. Cambridge, Massachusetts: The MIT Press, 2002. Pg. 210

aesthetically, reappropriating by adapting to the changes of time, life, society and subsequently enriching the urban city fabric.

By emphasizing the role of the aesthetic domain and representation, camouflage proposes an alternate framework to view adaptive design through which alludes to the potential to both preserve the building and reaffirm its identity without divorcing its past, present, interior and exterior. This thesis argues that through the representation, the architectural body can become *one* with its future (reappropriated pragmatic and aesthetic conditions) and become *distinct* from its future (acknowledging its past condition/heritage) adapting to impermanence. Essentially, the aesthetic realm offers a way to work with impermanence rather than against it. The concept of camouflage aligned with fashion's layered and conforming strategies of surface play allude to the potential for surfaces to inform a method for design. A surface informed design shall encompass the two critical aspects of architecture: the design and the experience of space. Through concealing, revealing, and obscuring, the depths beneath a buildings surface can be reaffirmed rather than just preserved as a physical artifact.

The thesis is separated into two counterparts titled **Camouflag[e]** and **Camouflag[ing]**, respectively the research and project of this architecture proposal. In **Camouflag[e]** the concepts and implications of camouflage within architectural design are assessed through observing historical and modern methods of fashion and architecture; primarily in the effort to merge the two fields through surface play. **Camouflag[e]** is further divided into *three* major sections: *surfaces*, *illusions*, and *representation*.

surfaces introduce the two surface and aesthetically oriented fields of fashion and architecture with insight into their interwoven origins and development. It will become apparent that their evolution revolves around the constantly changing role that surfaces embark which inform the identity of the body and building through the communicative capacities of a surface.

illusions discusses how surface play and camouflage operate based on concealment and obscurity as a result of the interchangeable nature of surfaces, allowing it to simultaneously reveal and conceal. Fabrics and how they are employed by fashion designers to manipulate the surfaces of the body creating illusions are also analyzed. The strategies of surface play are broken down into three components (scale, disposition, and tectonics), which will be interpreted from an architectural point of view focusing on two building materials (stone & glass). Informed by these strategies, fashion and architecture can be merged through surface play exhibited by the contemporary *dematerialized wall*. The dematerialized wall permits the architectural surface to operate independently from structure, reconfiguring the role of an architectural surface.

representation looks at current methods of architectural conservation by exploring how the dematerialized wall, paired with the tectonic of wrapping, conform to an architectural body, which inform strategies to camouflaging a building. Furthermore, various fabric studies were conducted to exercise the spatial and formal implications of the tectonic tactics of wrapping and layering which will later inform the project of architecture.

The subsequent section called **Camouflag[ing]** applies the research attained from surface, illusions, and wrapping on to an architectural body, attesting the capacities of a surface informed design. The 'architectural body' which this thesis will *camouflage* in an attempt to revitalize by connecting its past to the present and possibly the future, is the Sunnyside Library located on Bank Street in Ottawa. Currently, this library lacks the presence as a public library due to its outdated façade and interior spaces. Although it is not designated as a heritage building, its significant role within the community makes it an important component to the identity of the neighborhood and therefore should be retained. By addressing the questions of how and why we assimilate to our surroundings, we can begin to imagine what this adaptive strategy can imply for adapting the architectural body by looking to the deeper rooted reasons for why we should preserve buildings, but also how it can be done in a more progressive manor. Through interweaving the two fields of fashion and architecture from the perspective of camouflage, architectural conservation can more effectively achieve its social purposes, engaging the public with the undeniable process of constant adaptation within impermanent environments.

surfaces

Exposing the Past

An Interwoven Past: Origins

Gottfried Semper/
An Ideal Expression/
Coco Chanel/
Modernists

Communicative Potential of Surfaces

The Immortal Tailor/
Eberswalde Library

Fashion and architecture are two aesthetically driven products of social expression which facilitate impermanent social and physical environments. These two fields are interrelated through their visual and tactile natures, their sensitivity towards the human body, and most dominating role of surface perception and creation. Fashion manipulates the surfaces of our bodies by creating illusions through layering fabric, strategically revealing and concealing. Architecture employs various materials to generate spaces which multiple bodies inhabit through identifying their surfaces and subsequent forms. There has long existed an inadvertent relationship between the fields of fashion and architecture, therefore it is no surprise that the two fields are interconnected in various ways and have influenced each other's evolutions.

An Interwoven Evolution

Please also refer to Appendix for more information.

architecture

The German word *Wand* [wall] *Gewand* [dress] is derived from a single root which acknowledges the textile origins of architecture linking it to the body and dress.¹⁶ The significant role of surfaces in architecture has existed for many years. Perhaps the most influential contributor to the topic of architectural surfaces can be traced to German born architect, art critic, and architectural theorist Gottfried

¹⁶ Semper, Gottfried. *The Four Elements of Architecture*. New York, NY: Cambridge University Press, 1989. Pg. 104

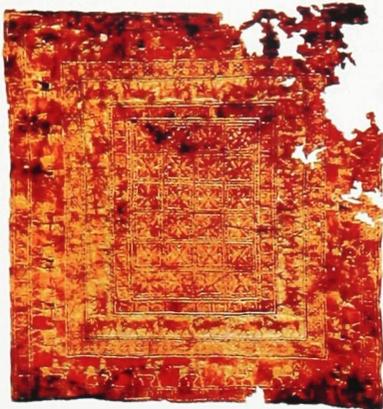


Fig. 03 ¹⁴Oldest surviving carpet called Pazyryk (Persian Assyrian Carpet)

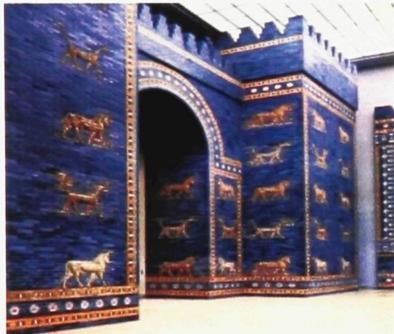


Fig. 04 ¹⁵ Ishtar Gate, from Babylon, c.575 BC. Facades demonstrate textile influences

Semper. In his book *The Four Elements of Architecture*, published in 1851, Semper pursued to establish the origins of architecture from an anthropological perspective which lead to the conclusion that architecture was made up of four irreducible elements: the hearth, the enclosure, the roof, and the terrace. Semper went on to elaborate on the theory of enclosure (the wall) more than any of the other elements because he defined that the essence of architecture is its covering rather than its material structure.¹⁷

“Hanging carpets remained the true walls, the visible boundaries of space. The often solid walls behind them were necessary for reasons that had nothing to do with the creation of space; they were needed for security, for supporting a load, for their performance, and so on.”¹⁸

By calling attention to woven fabrics, Semper did not favor surface over structure. Instead, he was emphasizing that structure should be made ornament by linking it with the process of production similar to the nature of textiles. His theory proposed that ornament and surface play were the essential acts of architectural creation and an important aspect of human and social expression, therefore surface play should be woven into the design process. This concept manifested in architecture as ornament. Styles such as Gothic and Baroque architecture were based on heavy ornamentation of both the exterior and interior of a building. Facades were heavily ornamented with exquisitely handcrafted historical or religious motifs which communicate its method of production, in turn expressing the spirit and identity of a building.

¹⁴ <http://www.christiansofiraq.com/assyrianhistoryandpalaces.html>

¹⁵ <http://www.westcler.org/gh/curlessmatt/arthistory/2a/timeline2a.htm>

¹⁷ Wigley, Mark. *White Walls, Designer Dresses*. London, England: THE MIT Press, 2001. p. 11

¹⁸ Semper, Gottfried. *The Four Elements of Architecture*. New York: Cambridge University Press, 1989. pg. 104

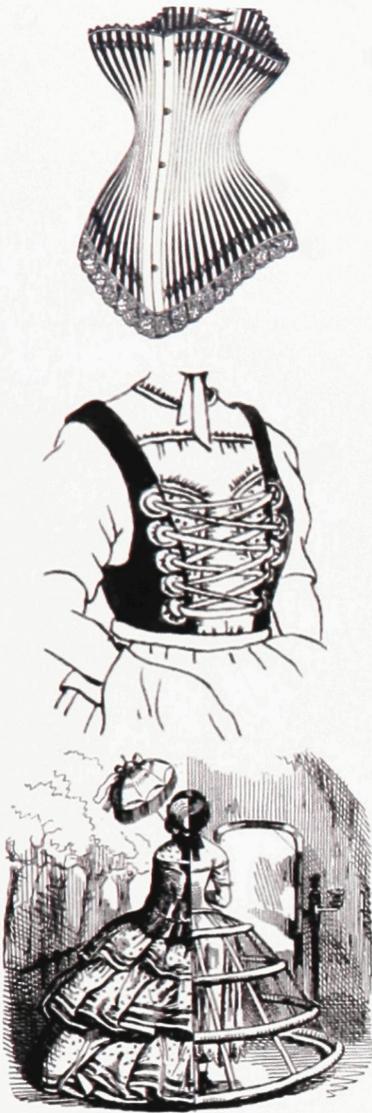


Fig. 05 Three examples of supplemental apparel
Corset¹⁹, bodice²⁰, underskirt²¹.

The social conception of *fashion* is associated with ‘current’ and ‘popular’ clothing trends that are mass-produced and mass-marketed through media and commercial institutes. Ironically, the modern day ‘fashion industry’ is a product of the industrial age and a complete transformation of what it once was. Prior to innovations such as sewing machines and factory production systems, clothing was traditionally handmade and tailored custom fit to a specific individual. The 20th century transformed fashion into a capitalizing business that prioritizes economic output. Regardless, the underlying principle of fashion stems from human being’s predisposed nature to pursue an *ideal expression of the body*. Originating with decorating the body, the pursuit began during the primitive times with painting the skin and overtime evolved into using apparel to conform to aesthetic standards.

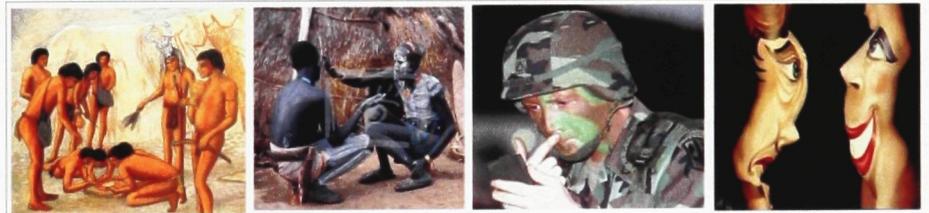


Fig. 06 Types of Body Painting
Primitive body painting (Artist Reeda Peel)²², tribal body decorating²³, military body camouflage²⁴, contemporary body painting²⁵

¹⁹http://1.bp.blogspot.com/_zjBRtqypXxw/TVOdHMzqZ9I/AAAAAAAAAGE/D9WjLs3gW8/s1600/Corset1878taille46_300gram.png

²⁰[http://en.wikipedia.org/wiki/File:Bodice_\(PSF\).jpg](http://en.wikipedia.org/wiki/File:Bodice_(PSF).jpg)

²¹<http://commons.wikimedia.org/wiki/File:1856crnl.gif?uselang=fr?uselang=fr>

²²<http://www.texasbeyondhistory.net/kincaid/images/peel7.html>

²³<http://body-paint-body-art.blogspot.com/2009/04/african-tribal-body-art.html>

²⁴<http://myartinitiative.blogspot.com/2009/03/body-paintings.html>

²⁵<http://bodypaintingandtattooalas.blogspot.com>

The integration of apparel redefined decoration because it addressed both the *surface* of the body, as well as its *shape*. Fashion evolved thriving on radical manipulations that have occurred as part of the continuing evolution of the concept of beauty.²⁶ More evident in women's fashion, areas of the body have been constructed, padded, truncated, or extended to achieve specific fashion goals through subtle visual adjustments of proportion.²⁷ The final outcome is an attempt to convey the prevalent expression of beauty by obscuring the illusion of the real body beneath through reconstruction.



"Nothing is more beautiful than freedom of the body".

– Coco Chanel

Fig. 07 Mademoiselle Coco Chanel²⁸

Eventually, society out grew the practice of reconstructing the body during the modernist period because garments became so complex and restrictive for the body of movement. French fashion designer **Coco Chanel** is credited for revolutionizing women's dresses in the 1920's by popularizing clothing that permitted the female body's comfort and movement. Her intentions were to give the body freedom by recreating desired shapes by manipulating comfortable and efficient materials to obscure imperfections by creating an illusion.

²⁶ Koda, Harold. *Extreme Beauty: The Body Transformed*. New York: The Metropolitan Museum of Art, 2008. Pg.1

²⁷ Ibid. pg. 1

²⁸ <http://cestjoile.blogspot.com/2011/05/icon-coco-chanel.html>

At the same time Modernist architects noticed this transformation of aesthetics in fashion and subsequently applied it to architecture by removing ornament. By embracing new materials of the time (such as glass and steel) and exercising their potentials, rather than being stuck in the past, the independent and expressive role of surfaces is more successfully revealed in both fields transforming the perception of the ideal body and architectural body. Where fashion embraced the natural body shape, architecture embraced material expressions which lead to buildings characterized by simple forms and minimalistic surfaces.

The aesthetically driven evolutions of both fields inadvertently infers about the substantial and communicative role of surfaces in the constitution of identities of a spaces, buildings, individual and body.



Fig. 08 Timelines of Architecture and the Ideal Body.

Communicative Potential of Surface

Although predominantly visual, surfaces unconsciously evoke a secondary awareness towards the tactile realm. This visual yet tangible nature of surface renders their communicative potential substantial by implicating their perceptive disposition. Antonio Darnasio, in his book *The Feeling of What Happens*, states that it is “only along with the advent of a sense of self” that the internally directed feelings produce the externally directed emotions.²⁹ The act of dressing is the ultimate exhibit of one’s sense of self because individuals do not dress their self unless they can perceive their self. Sense of awareness is implicated through the act of dressing. While dressing, the contact between hand and garment permits one to manipulate and make decisions regarding personal preference. This act can be applied onto a method for design to help a body of architecture adapt while reaffirming its emotionally charged surfaces through the tactile engagement of architectural elements.

“Every object has a skin. Thick or thin, smooth or rough, porous or impermeable, the skin is the line between a hidden interior and an exterior we experience.” – Skin, Surface, Substance, + Design



Clothing is the most *intimate* object to our body, yet simultaneously it is the most *exposing*. Although it appears to physically conceal, its nature to conform to surfaces of the body is extremely revealing. This interchangeable relationship between reveal and conceal encapsulates the communicative capacities of surfaces. “The Immortal Tailor” epitomizes this powerful role of surfaces and dress. The artist, Alba D'Urbano, took photographs of her naked body

²⁹ Darnasio, Antonio. *The Feeling of What Happens*. New York, NY: Harcourt Inc., 1999. Pg. 144

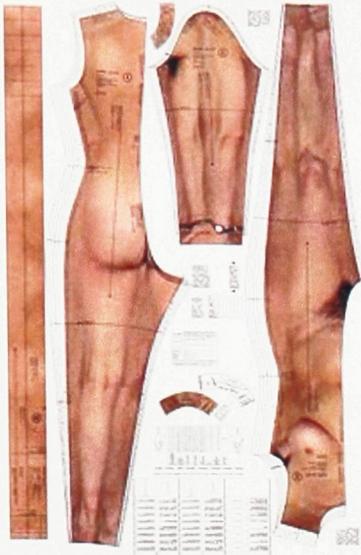


Fig. 09 ³⁰ Il Sarto Immortale, Alba D'Urbano, 1995-2000

which she printed onto fabric to create a complete line of garments. When worn, the garments conceal the wearer's actual body. However, the graphic nature of the print of the fabric renders the outfit extremely revealing. This work makes the statement of the powerful role of clothing by placing emphasis on the effectiveness of representation. The perception of the individual and body wearing the garment is altered by the clothing which conceals it. Simultaneously however, the clothing that is concealing body is also altered by the shape of that body. The interchangeable nature demonstrates the reciprocal dialogue between surfaces revealed (the garment) and surfaces concealed (the individual).

This implicit nature of a surface is also predominant in architecture. From observing the historical uses of carpet and their evident influences on ornamentation of buildings, Semper theorized that surface play, weather woven or hand crafted imitations, were the essential acts of architectural creation. Architecture is no more than an effect of *surfaces*, an effect that is facilitated by the structure that props the surfaces up, but one that is, in the end, independent of the structure.³² Semper's theory had two implications for architecture: one for how architecture should be *designed* and the second about how architecture is *experienced*. Through surfaces.

"Wherever the need for these secondary functions did not arise, the carpets remained the original means of separating space. Even where building solid walls became necessary, the latter were only the inner, invisible structure hidden behind the true and legitimate representatives of the wall, the colorful woven carpets."³³

³⁰ <http://www.durbano.de/>

³² Wigley, *White Walls, Designer Dresses*, pg. 111

³³ Semper, *The Four Elements of Architecture*, pg 104

Walter Gropius, founder of the Bauhaus School and pioneer of modern architecture affirms Semper's surface theory years later by stating that "the 'surfaces' of architecture can be deployed in a way that produces the much needed stimulation... with which the designer can organize the psychological effects of his creations at will."³⁴

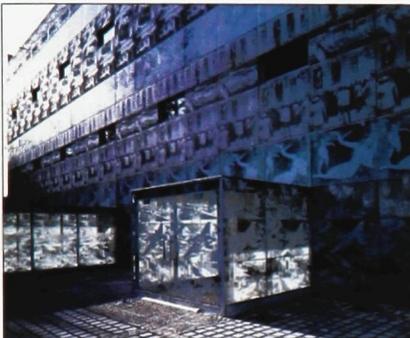


Fig. 10 ³¹Eberswalde Technical School Library, Eberswalde, Germany, 1997-1999, Herzog & de Meuron

The Eberswalde Technical School Library is a contemporary building that extends this perceptive role of surfaces into the 21st century. Architects Herzog and de Meuron have a reputation for focusing on the conditions of skins, layers, and shells for their architecture.³⁵ For the design of this library, they use the idea of a simple cube to be non-representative and have the buildings program and surfaces signify a source of knowledge and equality; tying interior with exterior. The façade, which is non structural, is covered with a skin of precast concrete and glass panels that had images, collected by the artist Thomas Ruff, pressed into the concrete surfaces and silkscreened directly onto the glass. The inscribed imagery corresponds to the theme of technology and knowledge with photographs from historic events of man and technology. The result is a tattooed skin of glass and concrete³⁶ that “compresses allusions to the depth of the interior into the surface or skin of a building.”³⁷

By playing with the conventional materials of glass and concrete, both the design process and the experience of the final building are informed by surface play. The image imprinted surfaces of glass and concrete implicitly communicate a message the production method

³¹ <http://www.flickr.com/photos/21158327@N05/2162926386/>

³⁴ Wigley, *White Walls, Designer Dresses*, pg. 103-104

³⁵ Lupton, Ellen, *Skin, Surface, Substance + Design*, Princeton Architectural Press, NY, 2002. pg.97

³⁶ *Ibid.* pg. 97

³⁷ *Ibid.* pg. 56

while simultaneously invoke what might lie within the building, subsequently tying interior with exterior through an expressive manner.

Surfaces are always symptomatic of something else, revealing yet concealing, and constantly communicating. The practices of fashion and architecture are interrelated in their pursuit of innovative surface designs with the mutual goal of a final prevalent aesthetic expression which constitutes identity. Materials inform such designs and are intrinsic to social, cultural, and most importantly technological advancements. The act of dressing corresponds to a sense of awareness because we consciously make a decision about how we wish to be perceived by others. The communicative role of this act is a medium of connection. From an architectural conservational perspective it offers the potential to utilize this ability of surfaces to reaffirm existing surfaces through the design process as well as the final experience of the adapted body of architecture.

illusions

Surface Play

The Body Obscured:
Conforming to the Ideal
Strategies of Surface Play:
Scale/Disposition/Tectonics
Implications:
Dematerialized Wall/
Curtain Wall House

John Harvey, author of the book titled *Clothes* states that “the female body and the female dress are like two partners in an astonishing dance across the recent decades, in which an important element is the exposing and hiding of different parts of the body in an irregular succession.”³⁸ It does not matter what is shown or hidden, the importance was in the electricity from the constant surprises of new hidings and new showings. In this evolutionary process, the common human body is forever restored to exciting new life.³⁹ Through *dress*, the female body and her identity can be argued to be constantly adapting to changes in her environment by conforming to socially set standards of aesthetics and beauty.

The Body Obscured: Conforming to the Ideal

“The poetry of fashion lies in the creation of illusion, you see?”
-- Coco Chanel

The adaptive process of camouflage is based on surface concealment and obscurity. Surfaces embody the dual nature to reveal and conceal as a result of an exchange between the exposed layer and suppressed element. Therefore the perception of a surface is symptomatic of what is beneath, an expression of the other. We apply fashion as a form of individual expression helping us relate and engage with our surroundings by conforming to aesthetic expressions. Individuality is expressed through the surfaces of a garment and the way it conforms differently depending on the body. Contemporary fashion embraces an eclectic variety of body types unlike its past

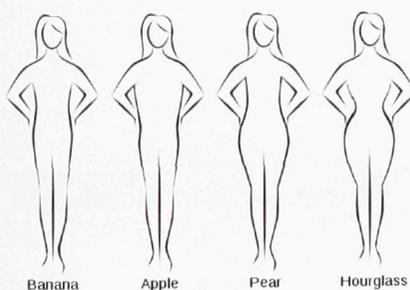


Fig. 11 ⁴⁰Varying body types/shapes: Banana, apple, pear, hourglass

³⁸ Harvey, John. *Clothes*. Stocksfield: Acumen Publishing Limited, 2008.pg. 70

³⁹ Ibid. pg. 70

⁴⁰ <http://www.calculator.net/body-type-calculator.html>

which revolved around a single and often extreme definition, only to be attained with the assistance of reconstructive apparel.

Put forward by Chanel, the underlying principle of fashion is the creation of *illusions* through materials. By embracing the natural body, fashion opted to conform to the body creating illusions rather than reconstructing its shape with corsets, underskirts, and bodices to physically attain them. The trick to attaining an ideal expression is identifying which areas need to be enhanced or accentuated, which varies depending on the body. Fashion becomes a tool that accommodates to all body types by subtly obscuring deficiencies by shifting the focus to a body's attributes through strategic revealing and concealing.

American writer and architect, Bernard Rudofsky, has marveled at the ancient Greeks who identified beauty within the folds of cloth. "For nine centuries the most beautiful garments did not belong to those who had the best tailor but to those who were most skilled at draping themselves."⁴¹ This reaffirms contemporary fashion's compliance to various body types. Fashion designers interpret fabrics and to strategically manipulate the human body by concealing deficiencies to enhance attributes.

Strategies of Surface Play

Although only temporal, a garment conceals the body while simultaneously disclosing it. Aside from the obvious artistic aspect of fashion where clothes are viewed as a form of art, fashion designers

⁴¹ Rudofsky, Bernard. *Lessons from Bernard Rudofsky: Life as a Voyage*. Basel, Switzerland: Birkhäuser Basel, 2007. pg. 247

create garments with the underlying vision to enhance the perception of the individual. Two-dimensional fabrics are transformed into three dimensional forms by utilizing techniques such as gathering, draping, folding, or wrapping which in turn alter the shape and surface of the body yet still retain a sense of individuality. This ability is made possible by a designer's knowledge sensibility to the scale, disposition, and tectonics of materials. These strategies work together to inform material selection and garment expression and are vital to the design process. These three strategies of surface play can also pertain to architecture to inform a design of a building and its respective spaces.

Scale

Material Perception
Properties
Qualities

In Fashion

Fashion designers interpret materials in order to effectively create optical effects. *Scale* plays an important role in this process because it proportionally situates the properties of fabric textiles or material in relation to the body. Characteristics such as surface qualities, opacities, flexibility, and/or densities are used differently depending on the scale of the material. Fabrics range in varieties of weaves and composition that influence the fabric's specifications such as opacity, sheen, flexibility, durability, textures and densities. In its flat two-dimensional form, differences between white fabrics are hard to decipher. Once integrated into context with the human body variances in qualities appear as a result of the manipulation of the material

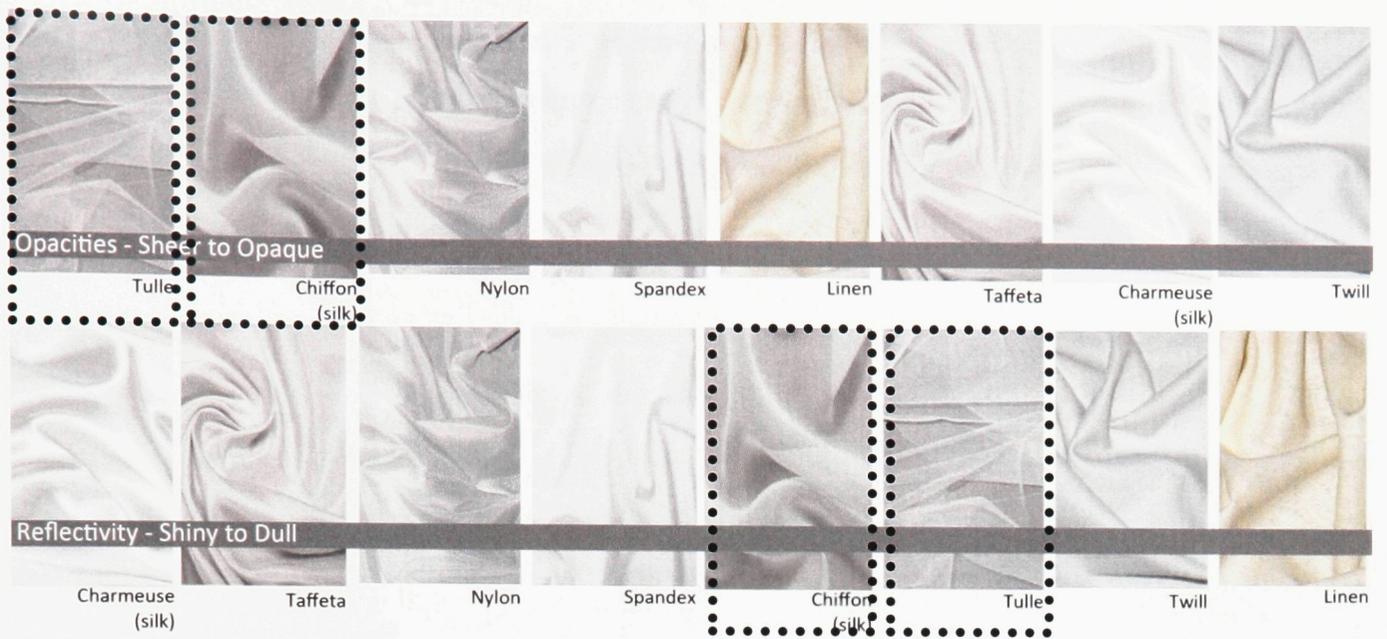


Fig. 12 Analysis of 8 different fabrics categorized in Opacities and Reflectivity.

Take for example, tulle and silk chiffon in Fig. 12 (dotted). At first glance, they appear to be two semi-transparent white fabrics. In actuality, the two fabrics are drastically different in texture, flexibility, and density. Tulle is a rigid, rough, and light fabric that keeps its rigid voluminous shape. On the other hand, silk chiffon, is very sheer and soft but has a denser body because of its weave which allows it to form soft round drapes. The varying properties are identified and manipulated by designers who go on to select fabrics that reflect their design intentions.

In Architecture

Within architecture, scale operates along the same lines as in fashion by influencing material selection which informs the perception of a building and its corresponding spaces. Different materials in context with the human body, influence the relationship the building has with its surroundings which in turn inform how inhabitants experience that space. Typically, this applies to the degree of separation between interior and exterior, openness and

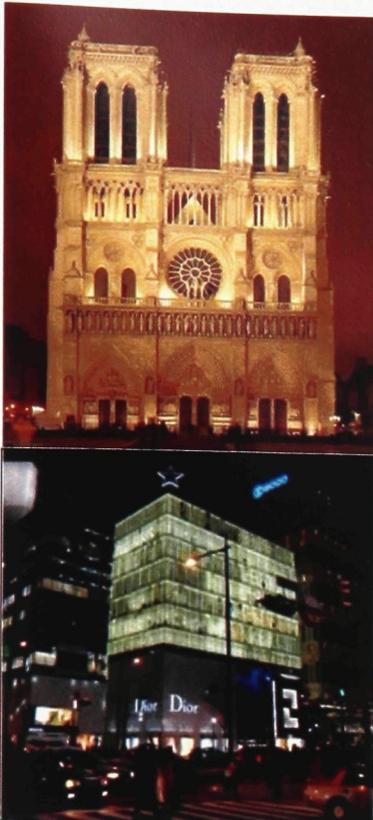


Fig. 13 Scale and Stone
 Notre Dame Basilica in France
 (1341) and LVMH Flagship Store by
 Kengo Kuma, Osaka Japan (2004)

enclosure. In the history of architecture, this inference is informed by technological advancements and material innovations which have transformed the architectural wall over time.⁴²

The progressive elimination of ornament and cladding for thinner walls during the modernist era transformed both the perception of a building as well as its performance. New building materials such as iron and steel construction prompted the innovation of full glass walls which separated a buildings surface from its structure. Since they became separate entities operating independently from each other this allowed designers to use and view materials for expressive qualities. The interior and exterior separation had dissolved and now sustains a coherent interconnected relationship which is informed by the scale of the material that separated the two sides. Modern materials and modern perception of a building's interior exterior relationship encourage construction materials to be manipulated through scale to inform spatial conditions and formal expressions that were previously impossible.

Disposition

Material Expression
 Character
 Performance
 Behavior
 Tendency

In Fashion

The disposition of a material refers to the natural behavior and character of a material which determines the revealing or concealing nature of a garment. A materials disposition determines the degree of exposure and suppression of the body based on its conforming ability

⁴² The architectural wall has undergone drastic changes in its role in architecture. Beginning from aesthetic and social expression identified by Semper, this role became merged with the secondary structural purpose. Heavy ornamentation of both the exterior and interior of pre-modernism architecture, the production methods and materials of that era demonstrated separated intentions for the engagement of a building's exterior façade and its interior space. The disjointed engagement between the heavily ornamented with exquisitely handcrafted façade of a gothic church had no reflection towards the internal space which it enclosed because due to the scale of the concrete or masonry load bearing walls. The interior of such buildings are internally oriented based on program, unassociated to its exterior.

that ranges from form-fitting to form-alluding. Properties such as sheen, rigidity, texture, color, and elasticity are all contributing factors that the designer works with to make decisions on the final effect and form a garment will take on.



Fig. 14 Interpretations of Women's Dresses and analysis of the expressions conveyed.



Fig. 15 Herve Leger Form Fitting Dress

To demonstrate the effects of a material and its disposition, the dresses by *Herve Leger* (Fig. 15) and *Tahkoon* (Fig. 16) will be examined. These two dresses demonstrate two forms of concealment and obscurement. The *Herve Leger* is a form fitting dress that contours the exact shape of the body by using dense and flexible materials such as spandex and nylon. This dress would typically be worn by a woman who is confident with her physique since it reveals more than it conceals with its tight fit. However, with the right body type, this dress would flatter in all the right places as it uses white lines and tension of the fabric to accentuate the curves of the bust, waist, hips, and derriere. The overall look of this dress is formal with seductive overtones.

On the opposite side of the spectrum, *Tahkoon's* bold colored silk top and dress outfit is much more accommodating to more body types. The fluid disposition of silk drapes the body shape and obscures it by



Tahkoon



Chiffon
(silk)

Fig. 16 Tahkoon Body Obscuring Dress

loosely floating on top of the skin, shifting the perception of what is beneath. This dress is also a more comfortable garment to wear because it floats on the body and is loosely fitted. The overall appearance of this dress is casual and comfortable unlike the first.

Essentially, different fabrics and their varying qualities can create diverse forms and volumes on the body that alone may never be achieved. These two dresses demonstrate how the appearance of the body is recreated by the garment through the interplay of concealing and revealing surfaces. Certain materials conform to the body to reveal shapes and curves while others loosely float on top obscuring its perception. It is hard to deny that clothing, as our secondary skin, stands as a powerful communicator.

In Architecture



Fig. 17 Disposition and Architecture, Glass: Glass House⁴³, Philip Johnson (1948) and Stone: Sunnyside Library (1951)

Not only did the layered application of ornamental cladding further thicken the physical separation between inside and out, but it also concealed the material nature of the building masking its true material disposition. In the past, the disposition of materials typically informs the pragmatic aspect of a building. Stone's load bearing capacity and durability made it ideal for structural purposes. The transparency of glass permitted the integration of light and air into interior spaces. Once the modernists embraced material expression, materials began to be viewed from an expressive, rather than practical, perspective.

The disposition of a material is linked to its properties that can delegate spatial condition as well as form. Architects interpret their properties and creatively select materials that will help achieve a

⁴³ <http://philipjohnsonglasshouse.org/>

building's design intent. Stone's rigidity and monotonous appearance began to be used for creating undulating and continuous surface effects, which resonate a sense of monumentality. The transparent nature of glass expressed a connection rather than a separation resulting in new spatial conditions which emphasized openness.

Tectonics

Material Manipulations
Permutations
Possibilities
Reinterpretations

In Fashion

The final and perhaps more important surface strategy is tectonics. Tectonics allows designers to reinterpret and modify a material and their respective properties generating innovative methods to reveal and conceal the body. Tectonics are *fabric manipulation techniques* that can transform a fabric or textiles natural characteristics. Fabric manipulations are diverse, with origins that date back to prehistoric times. Techniques that have emerged include gathering, layering, draping, folding, wrapping, ruffling, and smocking. These are commonly applied in combination with variations of bust lines, hem lines, hem lengths, colors, patterns, or prints. Together, the tectonics of fabrics reveals new expressions of the body with innovative forms, textures, volumes, and silhouettes.



Fig. 18 Tectonics of Fashion Comparison Chart

For instance, by nature, tulle is very transparent and rigid because of its loose weave and synthetic fibers. It is most commonly used for

ballerina tutus for its lightweight and shape defying nature when densely gathered and layered. However, through tectonic permutations, its rigid appearance can be modified to become soft enough to conform to softer shapes.(Fig. 20) Or, by draping tulle, its natural transparent quality creates a mesmerizing surface effect obscuring the material beneath while also changing the shape and merging to create a new one.(Fig. 19) Between these two interpretations, two articulations of the body and for a garment are created: a *conforming* dress that reveals the body's shape and a *transforming* dress that conceals the body's shape.



Fig. 19 Valentino Dress

Fig. 20 Vera Wang Dress

In Architecture

Tectonics in architectural design is tied to technological advancements which permit that a building's surface can operate independently from its structure. Material manipulation strategies in building design alter and reinterpret familiar building materials resulting in the concept of a dematerialized wall. The availability of prefabricated construction and materials allowed architects to design in new ways, permitting freedom to transform existing technologies to

create inventive use of materials. Not only was the representational aspect of surfaces evolving, but new techniques and material manipulation also generated new formal possibilities reaffirming the Semperian theory placing surfaces as the originating spatial delineator, rather than the structure. The traditional properties of stone and glass have shifted in uses in architectural design due to manipulations which transform their dispositional character and will be further explored in the following discussion of two buildings.

GLASS Glass Pavilion, Toledo ,OH – SANAA, 2006

Located in Ohio and designed by Japanese architects, SANAA, the Glass pavilion is a remarkable celebration of glass and its history rendered through the buildings purpose and design. Commissioned by the Toledo Museum of Art, the intention was to design a building which would showcase glass making and artwork. The architects appropriately chose the material of glass and to create a space unique to its purpose. At first glance, this building appears to be visually revealing of its interior space because the entire building is essentially a glass box. However, due to the fact that its interior walls are also glass, a layered visual effect is created by the reflections of all the panes of glass. The facades dissolve into a collage of reflected and transparent images. This obscuring effect causes the onlooker to perceive an unclear view into the building which contradicts the properties of what the building appealingly should embody.



Inside the building, the program arrangement required the combining of two contradictory programs of 'rough' glass making and 'refined' museum galleries. Every wall in the building is glass and are irregularly shaped. This entices a unique experience because it forces the inhabitant to be more aware of their experience since the conventional notion of a boundary is blurred.



Fig. 21 ⁴⁴Glass Tectonics, Glass Pavilion, SANAA (2006)

Previously, the conventional use of glass in architecture was to create linear transparent surfaces that evoked openness.⁴⁶ Through the understanding of tectonics, The Glass Pavilion demonstrates the reinvention of the material expression and existing technologies permitting glass to operate as a form generator and boundary indicator. The fluid curved forms of the walls that delineate the spatial organization of the building are made possible by innovative structural engineering collaborations which resulted in a design for a light steel support structure. The normally transparent nature of glass is altered by playing with its reflective nature that obscure views through. The pavilion demonstrates an awareness of the different degrees of intimacy and isolation through manipulating glass.

“The approximate 32,000 square feet of glass originates from a batch of float glass in Austria that, prior to being shipped to the site in Toledo, was curved and laminated in southern China. Thin solid steel columns and the use of 3/4” solid plate steel wall for lateral bracing create the lightness of structure to enhance the sense of clarity.”⁴⁵

⁴⁴ [arcspace.com. Glass Pavilion. 12 December 2005. 4 May 2011](http://www.arcspace.com/architects/sejima_nishizawa/glass/glass.html)
<http://www.arcspace.com/architects/sejima_nishizawa/glass/glass.html>.

⁴⁵ Ibid.

⁴⁶ The capacities of glass have surpassed that of the glass Philip Johnson employed in the Glass House. Johnson’s use of glass was dependent on the structural limitations of steel frame which limited the resultant form.

STONE Dominus Winery, Yountville, CA – Herzog & de Meuron, 1998

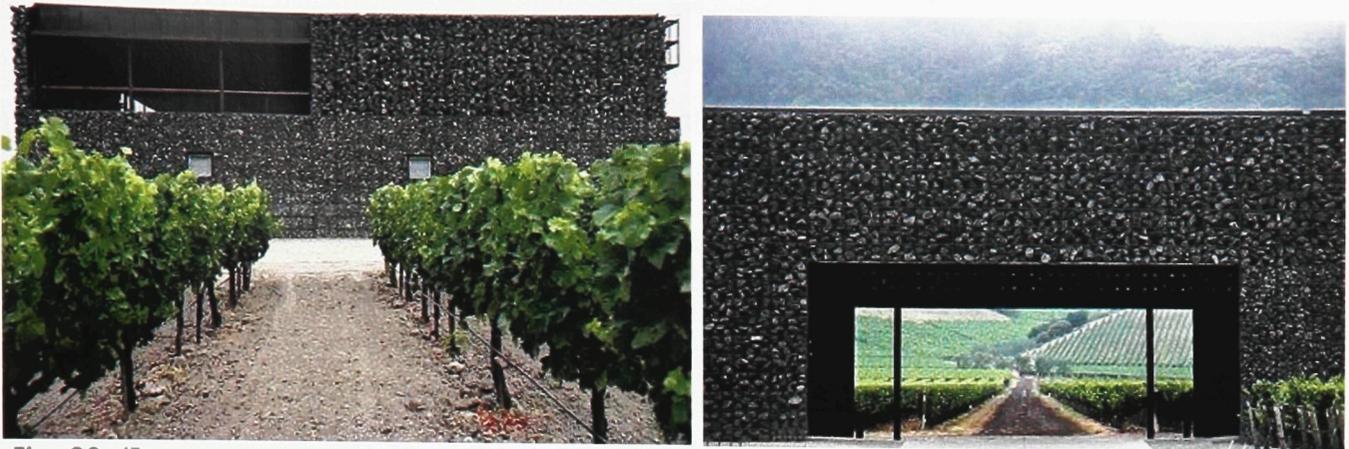


Fig. 22 ⁴⁷Stone Tectonics, Dominus Winery, Herzog & de Meuron (1998), Exterior views



Fig. 23 ⁴⁸Dominus Winery, Glass reflection

From a distance, the façade of the Dominus Winery looks to be of simple impermeable stone construction; however, the fine detailing of modular formed gabion construction is only apparent up close. The traditional use of gabions was for retaining walls typically for dams and foundation walls. Architects Herzog and De Meuron overturn the traditional use commenting that: “our use of gabions as a sort of stone wickerwork with varying degrees of transparency, more like skin than traditional masonry.”⁴⁹ The technique serves to create the solidity of brick, yet provides an exterior surface that allows light and air to permeate through to the interior, moderating extremes of temperature for the inhabitants and products within. Sunlight and daylight filter through the stones, and form continually changing light patterns dependant on the weather and the shapes of the stones.

Through material manipulation with tectonic strategies, the impermeable surfaces that conventional stone construction exhibits is transformed into a permeable surface. The gabion walls are not structural walls and operate independently as a surface which

⁴⁷ <http://www.dezeen.com/2007/09/09/dominus-winery-by-herzog-de-meuron/>

⁴⁸ Ibid.

⁴⁹ ArchitectureWeek. Herzog and de Meuron Pritzker Prize. 4 April 2001. 15 August 2011
<http://www.architectureweek.com/2001/0404/news_1-2.html>

expresses the nature of the building. In this case, being a winery, there is an inherent message about the natural environment. Through innovative strategies, the opaque nature of stone wall is now one that is transparent allowing natural elements to penetrate while simultaneously linking interior with exterior and surface with space.

Implications for the Architectural Body

DEMATERIALIZED WALL

The design of the *Glass Pavilion* and the *Dominus Winery* employ dematerialized walls exhibiting the understanding and employment of tectonics to reinterpret conventional building materials in an effort to create new spatial conditions and forms. The dematerialized wall is an architectural tectonic that is made possible by modern technology by permitting that a building's surface and structure can operate as separate entities. Subsequently, the aesthetic role of surfaces, set forward by Semper, progress within a contemporary context by successfully maintaining a coherent relationship between a building's interior/exterior and surfaces/spaces.

The normally transparent and rigid nature of glass is transformed into one that reveals and conceals by playing with reflectivity and curved forms. The conventional impermeable presence of stone is made permeable through gabion construction which permits light, air, and views to be transmitted through the loosely stacked stones. In both examples, these designated surfaces operates like a skin or covering that is independent from the structure.

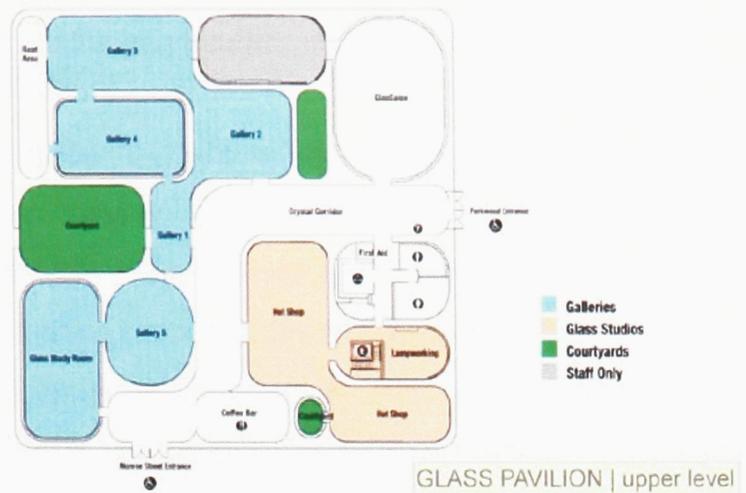
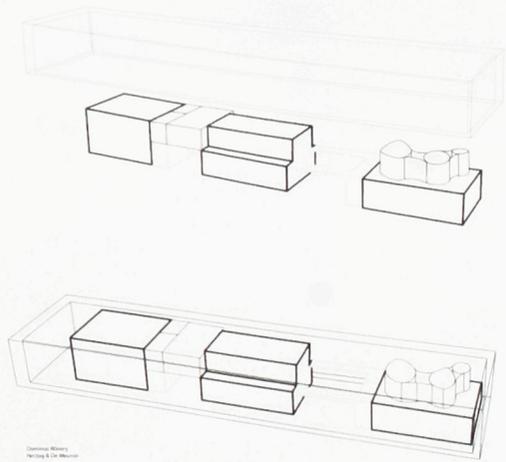


Fig. 24 Dematerialized Walls, Diagram of Dominus Winery⁵⁰ and Plan of Glass Pavilion⁵¹

This visible separation of a building's surface and structure also contributes to a revealing experience within because it does not hide its construction and therefore by exposing the separation, it invokes a sense of awareness to the building and spaces. In both buildings, there is an inhabitable space between the exterior dematerialized wall and internal structural component. It is almost like a buffer or threshold which produces a layered experience of the building truthfully exhibiting to the inhabitant information about the buildings materiality and construction, strengthening one's awareness, perception and interaction with the building.

⁵⁰ <http://www.coroflot.com/creativeinitiative/integrated-healing/2>

⁵¹ <http://archidose.blogspot.com/2008/08/building-diagrams.html>

Curtain Wall House, itabashi-ku, Tokyo – Shigeru Ban, 1995

“Mies invented the glass curtain wall, but I just used a curtain.”
–Shigeru Ban

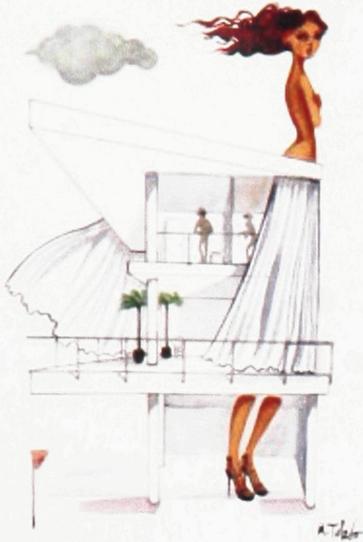


Fig. 25 ⁵²Conceptual drawing of Curtain Wall House

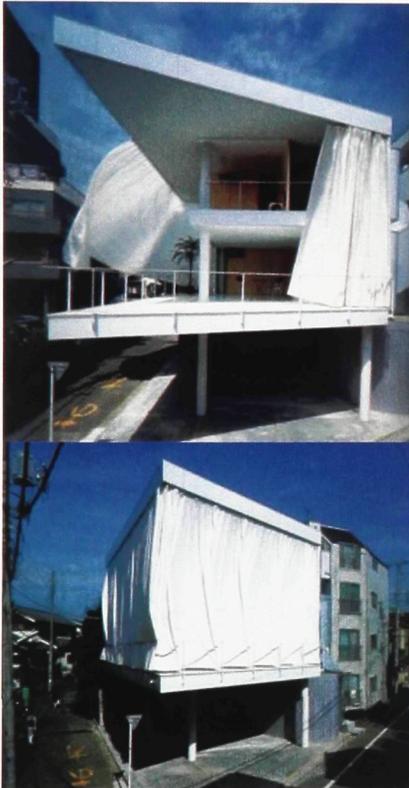


Fig. 28 ⁵³Curtain Wall House, Shigeru Ban (1995) Opened and closed states

This residential building encompasses the ideas seen in the previous two buildings in a more apparent manner. Designed by Shigeru Ban, this contemporary home poetically employs a two-storey-high curtain as a secondary skin which operates as an engaging element. It encourages interaction while blurring the boundaries between interior and exterior emphasizing a building's revealing and concealing capacities.

“The curtain hangs the length of two stories, framing an indoor loggia-type space when drawn, and revealing a picturesque outdoor patio when the curtain is pulled back. Behind the curtain, a set of sliding glass wall panels works with the curtain to create a completely insulated and private interior. The curtain as architectural element refers back to traditional Japanese design elements such as shoji and sudare screens, and fusuma doors common within the traditional Japanese house.”⁵⁴

By engaging inhabitants with a building's surface through physical interaction, this house not only reveals the material nature and construction of the building, but it also reveals the utilization of its interior spaces. The possibility to open or close the curtains to regulate the degree of transparency between interior and exterior exemplifies the implicit potential of surfaces, especially that of fabric. The option to manipulate the skin of the building establishes another strategy to heighten awareness of a building's occupants as well as its surrounding environment.

⁵² Online source that was removed

⁵³ <http://inhabitat.com/shigeru-ban-curtain-wall-house>

⁵⁴ Pilloton, Emily. *Shigeru Ban Curtain Wall House*. 22 March 2007. 15 August 2011 <<http://inhabitat.com/shigeru-ban-curtain-wall-house/>>.

Surface strategies of scale, disposition, and tectonics work together to help designer select materials which inform the design of surfaces. Analyzing the variances and similarities of fashion and architecture through these strategies provides insight towards a new treatment of a body of architecture. The dematerialized wall allows an architectural surface to operate independently from structure inferring the possibility of operating like a garment on the human body because of its ability to create one singular reading of a building.

representing

Conforming to an Architectural Body

Architectural Conservation/
Royal College/
Maison Folie

Fabric Layers:

Spatial Implications

Christo/
Wrapped Riestag/
Re-surfacing the Campus

Potential of Fabric:

Architectural Skin

Penelope Stewart/
curtain house/
Fabric Spatial Studies

Concealing and Revealing

"Fashion designers create garments for the human body, while architects create buildings large enough for many bodies to inhabit simultaneously." —skin + bones

Through the visual and aesthetic realm, camouflage is a medium which helps the individual relate, engage, and adapt within un-static surroundings. This significant role and adaptive employment of surfaces provides an alternate framework to view adaptive design through. Spawning from the field of Heritage Preservation, architectural conservation is a field within architectural design which aims to preserve heritage associated with buildings that are historically significant in a city's existence.⁵⁵ This practice has also proven to be a sustainable method for design both economically and environmentally. Unfortunately, conventional methods such as façadism, seek to retain the physical external walls of a building like a shell and injecting new spaces and programs within. While this method does pronounce the significant role of a building's surface by linking it to memories, it superficializes its role in the design and engagement with the newly reappropriated building, subsequently dissociating the truthful perception of the building. While the retention of a façade is seemingly revealing, in reality it conceal more that it reveals.

⁵⁵ It must be acknowledged that there exist two traditional schools of thought for architectural conservation. The first commonly known as Preservation/Conservation encourages measure that would protect and maintain building's in their current state, or would prevent further damage and deterioration to them. The second and often considered the more modern school of thought is the Restorationist. They believed that historic buildings could be improved and sometimes even completed using current day materials, design, and techniques. Both methods are valid methods, however, it is my belief that conservation/preservation alone is only effective for certain pieces of historically significant architectures, not all. Therefore, this thesis seeks to find an alternative approach to accommodate to those that don't fall under either categories.



Conforming to an Architectural Body

The significance of architectural conservation lies in the humanistic longing for a connection to the past. Originating from shelters, humans have dwelled and existed among buildings. Over time, the surfaces of these buildings become impregnated with memories from events and happenings which collectively generate a layered composition of the history and heritage of a place.

Although the final project of architecture for the thesis is does not involve a heritage designated building, it is important to understand why society wants to preserve buildings. As previously discussed in the introduction, camouflage implicates the interwoven relationship between identities with surfaces. Therefore, because we identify and relate with a building over time, they become significant to our identity. The final project will explore this underlying emotional attachment through a design that helps an iconic building such as the Sunnyside library adapt without disregarding its identity and existing surfaces through revealing and concealing.



Royal College of Physicians and Surgeons of Canada, Ottawa, ON – Alphonse Contant, 1923

Located behind the Sunnyside Library is a building that was once the Monastery for the Sisters of the Precious Blood. The classically inspired structure which is five stories high was originally built in the 1920's. In 1991, the Royal College of Physicians and Surgeons of Canada bought the 3.3 acre land from the congregation and transformed it into the new headquarters of the college.

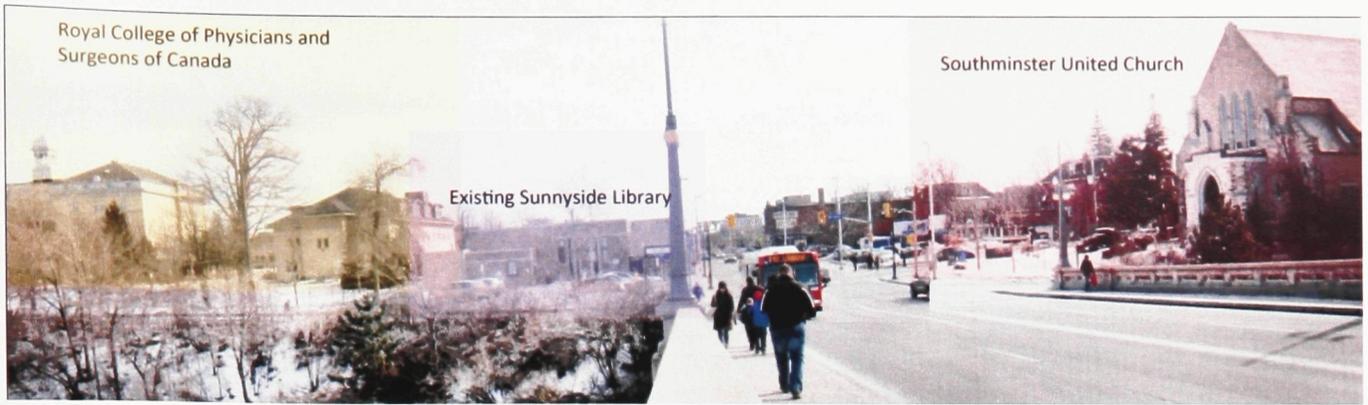


Fig. 27 Diagram of the Sunnyside Library site. Royal College of Physicians and Surgeons of Canada building is located behind.

This building is not heritage designated by the city. Nevertheless, when the College rehabilitated the building to accommodate for required facilities, it retained the facades of the original building as though it were a heritage building. They “preserved the architectural integrity of the original exterior by preserving its pale yellow brick façade and windows.”⁵⁶ However, the interior of the building had to be completely gutted and changed. There were only two spaces that were salvaged from the original building. “The tiny cells for individual nuns have made way for office space. The main chapel was turned into the College's Council Room and is one of the architectural points of interest of the College building, complete with beautiful stained glass windows and vaulted ceilings.”⁵⁷ This rehabilitation design demonstrates how an old architectural body can be manipulated and updated, to reveal new expressions of original spaces. Unfortunately, in my opinion, because they treated the facades as shells, there is a disjointed relationship between the new spaces and old surface which thwarts the identity of the reappropriated building.

⁵⁶ Royal College of Physicians and Surgeons of Canada. [Royal College of Physicians and Surgeons of Canada](http://rcpsc.medical.org/about/headquarters_e.php). 9 May 2005. 25 March 2011 <http://rcpsc.medical.org/about/headquarters_e.php>.

⁵⁷ Ibid.

Maison Folie, Lille, France – NOX, 2004

A more successful example of rehabilitated building is the Maison Folie in Lille, France. Maison Folie was previously the site of an old textile factory which was reappropriated in 2004 into a culture and arts complex. The city of Lille was once famous for its textile industry until new trade laws limited imports.



Fig. 28 ⁵⁸ Maison Folie, NOX (2004) Exterior Views of the 'Luminous skin' during the day and night

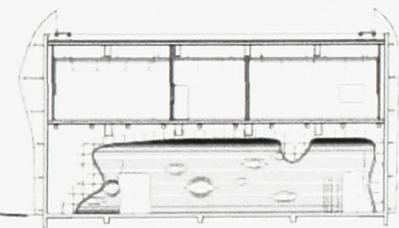


Fig. 29 ⁵⁹ Maison Folie, Section of an interior space of the complex.

The parameters of this project consisted of several buildings that the architects had to link to create a cohesive complex. NOX also wanted to create a lasting image of the site that linked the past (textile history) to the present (cultural and arts centre). This was done by creating a façade with a 'luminous skin' that appears to shimmer during the day and night, reminiscent of a fluttering fabric surface. "The articulation of the façade is generated through a continuous variation and modulation of the vertical tectonics of the façade of the

⁵⁸ <http://architettura.it/architetture/20040330/index.htm>

⁵⁹ <http://architettura.it/architetture/20040330/index.htm>

old factory: bending vertical lines in a complex pattern that produce a whole range of effects when walking or driving by, enhanced by the position of the sun.”⁶⁰ The new secondary surface is a representation that visually triggers a connection to the building’s past as a textile factory.

Unlike the Royal College, NOX successfully preserved the textile factory building’s original facades in a way that did not dissociate its past from its present, interior and exterior. Through the employment of a dematerialized wall, NOX layered the original façade with a secondary skin that expressed a message about its identity. The undulating forms were also used to inform internal spaces that played with irregularly shaped walls and surface achieving a coherent dialogue between interior and exterior while simultaneously preserving and reaffirming the identity and body of architecture.

Wrapping: Layered Potentials

The contemporary dematerialized wall provides the possibility for an architectural component to operate like a garment concealing old surfaces to reveal new spaces. By conforming to a body of architecture, the role of surfaces can help assimilate a building’s functional and visual aspects without dissociating its past from its present. This method reaffirms the historical significance by using surfaces to create a tangible experience of layers of space that communicate and unveil its past.

Fabric, like clothing or skin, is fragile. Its deformative nature translates as a unique quality of impermanence in its ability to retain

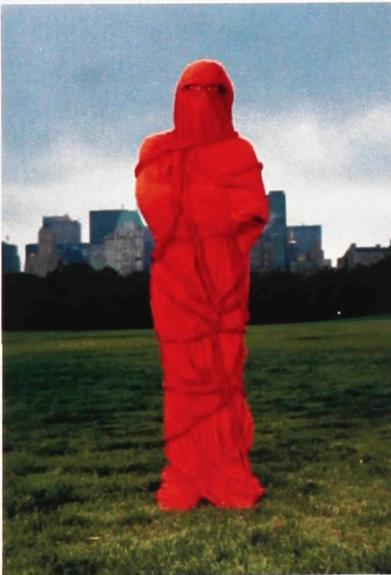


Fig. 30 Christo the Artist⁶¹,
Photograph by Annie Leibovitz

⁶⁰ Architettura. *NOX. Maison Folie*. 30 Mar 2004. 07 04 2011

<<http://architettura.it/architettura/20040330/index.htm>>.

⁶¹ <http://ngm.nationalgeographic.com/ngm/0611/voices.html>

various shapes. Typically seen in garments on a body, this deformation extends to everyday objects as well as buildings and entire environments. The work of artists Christo and Jeanne-Claude demonstrates the transformative power that the simple act of wrapping can reveal of familiar objects. When Christo began to wrap objects in 1958, he used everyday objects such as shoes, telephones and empty paint cans to make his sculptures. Once wrapped, the objects would take on a new identity.⁶² “By wrapping them, he would reveal some of the most basic features and proportions of the object by concealing the actual item.”⁶³

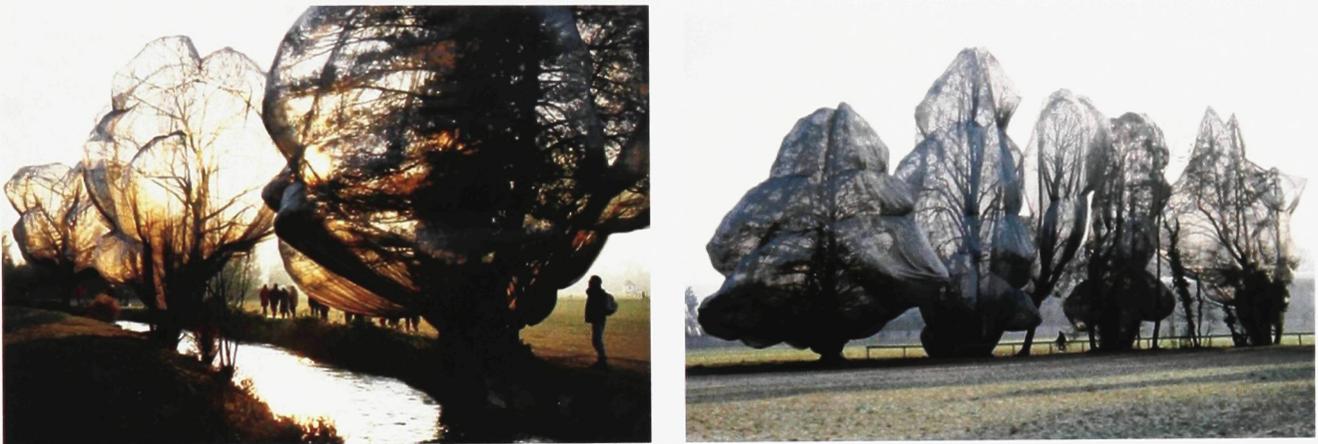


Fig. 31 *Wrapped Trees*, Christo and Jeanne-Claude, Fondation Beyeler and Berower Park, Riehen, Switzerland, 1997-98, <http://www.christojeanneclaude.net>

The branches of the *Wrapped Trees* pushed the translucent fabric outward and created dynamic volumes of light and shadow moving in the wind with new forms and surfaces shaped by the ropes on the fabric. Concealing, yet revealing, and altering its familiar perceptible nature.

The Artists proceeded to expand the mimetic powers for wrapping fabric on much larger scales in the pursuit of the true concept of their

⁶² Claude, Christo and Jeanne. [Christo and Jeanne Claude](http://www.christojeanneclaude.net/major_reichstag.shtml). 27 Jul 2011
<http://www.christojeanneclaude.net/major_reichstag.shtml>

⁶³ Claude, Christo and Jeanne. [Christo and Jeanne Claude](http://www.christojeanneclaude.net/faq.shtml#07). 27 Jul 2011
<<http://www.christojeanneclaude.net/faq.shtml#07>>

work, altering an environment. For them, wrapping is only a way to achieve an altered perception. The *Wrapped Reichstag* is a work which through wrapping, one is forced to confront its mysterious surface by acknowledging its past in the present, in order to proceed into the future.

Wrapped Reichstag, Berlin, Germany – Christo and Jeanne-Claude, 1971-95

“Indeed, this huge structure covered in silver-gray fabric remains every bit as monumental as it was before -- perhaps more so, because the wrapping forces the eye to confront the Reichstag anew. The building is shimmering where it once was solid, refined where it once was gross and heavy. But it has lost none of its power.” – The New York Times



Fig. 32 Wrapped Reichstag, Christo and Jeanne-Claude, 1971-95, Photos by Wolfgang Volz, www.christojeanneclaude.net



Originally built in 1894, the Reichstag like its country has experienced continuous changes and hardships.⁶⁵ Although scarred by its divided past, the Reichstag always remained the symbol of

⁶⁵ built in 1894, burned by arsonists believed to have been paid by Nazis in 1933, almost destroyed by allied bombs in 1945 during WWII, it was finally restored in the sixties and was physically part of West Berlin. It remained unused because it was within meters from the Berlin wall which divided the country until the 1990 official reunification. After the fall of the wall, the role of Berlin had not been established since the capital of West Germany was established in Bonn, but on June 20, 1991, the government decided that it and its parliament would return rightfully to the city of Berlin.

Democracy and a prominent icon for the city of Berlin. The wrapping occurred in 1995, right before its reconstruction in preparation for the German government to move back to its original home.

“ 1,076,390 square feet (100,000 square meters) of thick woven polypropylene fabric with an aluminum surface and 9.7 miles (15.6 kilometers) of blue polypropylene rope, diameter 1.26 inch (3.2 centimeters), were used for the wrapping of the Reichstag. The façades, the towers and the roof were covered by 70 tailor-made fabric panels, twice as much fabric as the surface of the building.”⁶⁴

“The unwrapping in the end is the symbol of the rebirth of democracy, of the awakening of our country that was supposed to have become a new country with reunification.”
– Konrad Weiss 1994

While the intricate details of the structures are hidden, the essence of the Reichstag is revealed all the while making the imposing and solid structure seem airy and nomadic. The use of real fabric also gives the work a fragile, sensual and temporary character. The application of the fabric was similar to a tailor tailoring a garment on the body: “Christo was ordering up pleats, nips and tucks in this huge object with the care of a tailor.”⁶⁶



Fig. 33 Reichstag Unwrapped State, 2009, DSA Berlin, Rebecca Han

For a period of two weeks, the richness of the silvery fabric, shaped by the blue ropes, created a sumptuous flow of vertical folds highlighting the features and proportions of the imposing structure, revealing the *essence* of the Reichstag.⁶⁷ Although temporal, the wrapping of the prominent building altered the perception of the buildings past by conforming its existing condition. The physical and fragile layer of fabric forces the familiar establishment to be confronted from a new perspective that retains its past, but symbolizes a transformed attitude of social growth, as a city and nation.

⁶⁴ Claude, Christo and Jeanne. Christo and Jeanne Claude. 27 Jul 2011

<http://www.christojeanneclaude.net/major_reichstag.shtml>

⁶⁶ Goldberger, Paul. Christo's Wrapped Reichstag: Symbol for the New Germany. 25 June 1995. 15 August 2011

<<http://www.nytimes.com/1995/06/23/arts/christo-s-wrapped-reichstag-symbol-for-the-new-germany.html>>.

⁶⁷ Claude, Christo and Jeanne. Christo and Jeanne Claude. 27 Jul 2011

<http://www.christojeanneclaude.net/major_reichstag.shtml>

Terminal, Art Installation, Buffalo, NY – Penelope Stewart, 2006

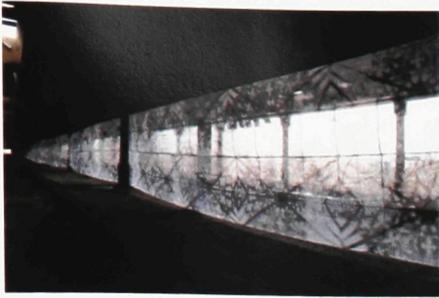


Fig. 34 Terminal, Penelope Stewart, 2006, photoscreen on organza, abandoned train platform
http://penelopestewart.ca/a_terminal.html

Fabrics and textiles already have a spatially significant history in architectural design. Technological advancements have further pushed the representational and spatial possibilities of these soft surfaces. The works of art of Penelope Stewart focuses on the reconfiguration of existing spaces through the creation of temporary mobile architectural interventions by using translucent fabric on which she imprints traditional architectural images as her matrix and superimposes new ephemeral structures within the existing.⁶⁸

“The contradiction between materials, the organza and the iron coupled with the residue of abandonment create a tension, a destabilizing effect on our perceptions and expectations of the architectural site. Architecture transforms the history of our relationship to space. By clothing the platform the site is re-activated with a dynamic energy that invokes the chimeras of the imagination... We confront an unknown relationship between distinct spaces, real and imagined. The body's perception is re-sensitized to the architectural meanings and the temporal installation is just an apparition, the afterlife of a visual memory.”⁶⁹

– Penelope Stewart

The employment of fabric envelopes and binds the space to create a unity documenting presence while confirming absence. The mimetic cloth is loosely attached and engages the wind to find form⁷⁰ which reinvigorates the abandoned train platform, even though temporary. Stewart's employment of organza demonstrates the communicative role of fabric surfaces as well as their formal capabilities. They are compellingly expressive because by veiling the present, the past is unveiled through concealing space to reveal new ones.

⁶⁸ Stewart, Penelope. *canopy, chora + terminal*. 15 August 2011 <<http://penelopestewart.ca/statements1.html>>.

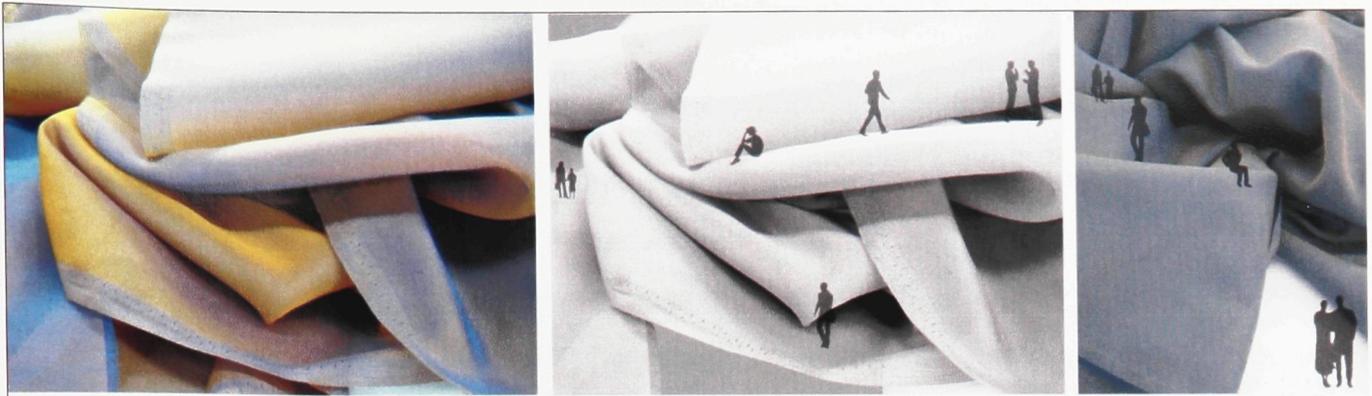
⁶⁹ *Ibid.*

⁷⁰ *Ibid.*

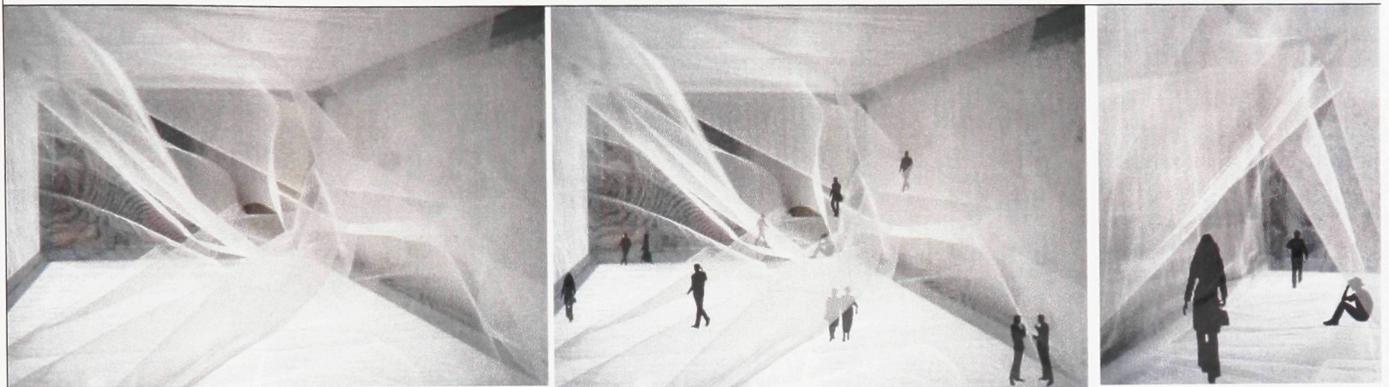
Surfaces Played: Fabric Spatial Studies — Rebecca Han, 2011

Spatial perception involves the awareness of the body and its relationship to the surroundings. Spatial perception underscores the importance of self awareness and can be influenced by materiality. This study experiments with fabrics to test the potential of fabric surfaces to inform formal and spatial designs of inhabitable spaces in an effort to push the capacities of fabric surfaces. Hypothetical spatial conceptions are generated from photographs of various fabric textiles where human figures were added to inhabit the spaces created by the various fabric textiles. The surfaces of the fabric are transformed into spaces that the human scale can begin to engage with.

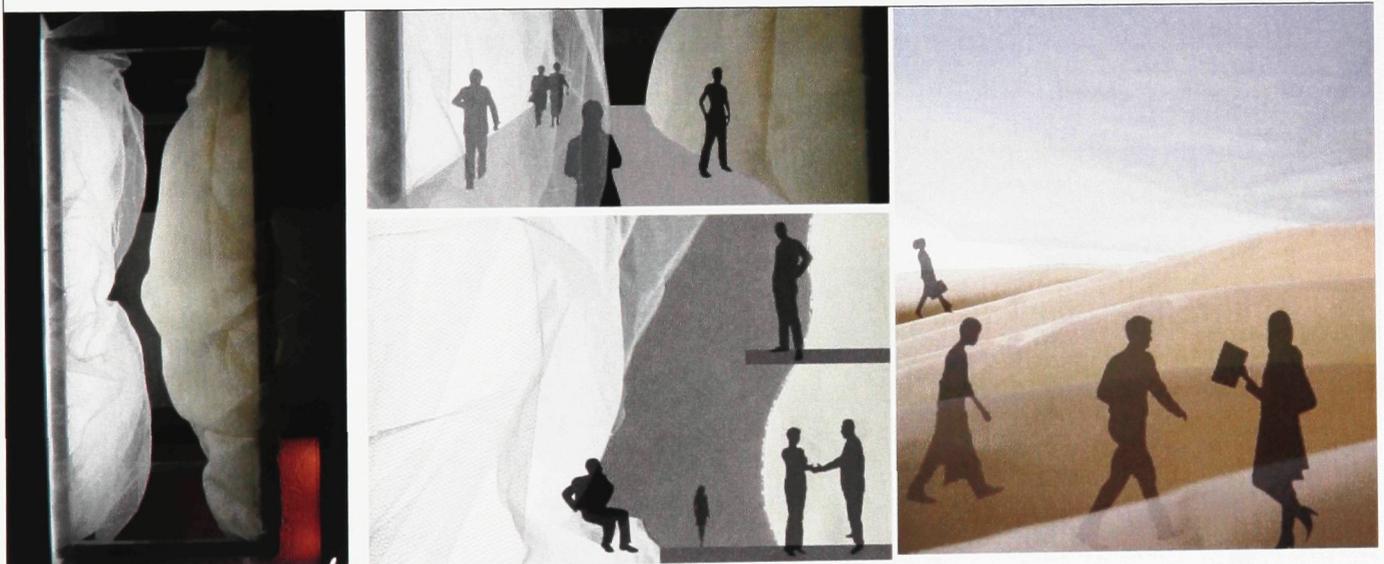
Implications What we can draw from this exploration is that the different fabrics and their unique properties can both inform conditions of space as well as configurations of space. The more transparent the surface, the more engaging the space it encloses can be because it encourages visual interaction with inhabitants that may entice informal interactions. More dense material such as taffeta can create fluid forms that suggest how the body would inhabit around its defined folds and creases which could implicate a strategy for delineating spaces. These explorations will be employed to apply onto an architectural body to help generate a surface informed design.



Iridescent Taffeta
Draped folds



White Tulle
Scrunched and wild



Organza and Tulle
Wrapped and illuminated

Fig. 35 Surfaces Played: Fabric Spatial Studies, Rebecca Han, 2011
Please Refer to Appendix B for a detailed explanation of each exploration.

Re- Skin, Re-Surface, and Re-Aestheticize, Ottawa, Becky Han, 2010

Drawing from wrapped works of Christo, *Re- Skin, Re-Surface, and Re-Aestheticize* is an experiment I conducted as part of a former studio project that investigates how layering onto familiar buildings can shift the perception of a building and its existing condition from a permanent perspective. The experiment comprised of transforming the familiar buildings of Carleton University's Campus to investigate how a new aesthetic perception could transform the engagement, interaction, and experiences of familiar spaces by the simply alteration of the surface.

Implications The results of this experiment not only exhibited that a new skin can effectively reform the perception of a familiar building, but it also demonstrated the potential to tectonically transform the experience and uses of existing spaces as well as create new pockets of space between the new surface and existing walls. From within a resurfaced building, familiar views were altered and obscured and depending on the transparency of the new skin, spaces within became more open or more private and intimate. On the outside, folds and creases created new pockets of space which defined new and different ways to inhabit and move around the buildings. By concealing a building's familiar surface, new spaces and conditions of existing spaces are revealed reaffirming the interchangeable potential between two surfaces. In this study of resurfacing, the campus buildings exhibited transformed perceptions that may or may not be an enhanced version of the existing; however, it undeniably validates the potential imbedded within the process of surface play that can alter and enhance the perception and interaction with an existing building.



Fig. 36 *Re- Skin, Re-Surface, and Re-Aestheticize*, Studio project where buildings on Campus were re-surfaced as an attempt to re-aestheticize, Rebecca Han, 2009

- Findings:**
- Re- Skin** → shifted perception/ redefined expression
 - Re-Surface** → shifted engagement/ reinterpretation of its physical surfaces/ traditional materials vs. modern materials
 - Re-Aestheticize** → shifted appearance/ updating to a more prevalent aesthetic/traditional vs. contemporary
 - Re-Condition** → shifted experiences/alter existing spaces/ private to public/ intimate to interactive/ social to contemplative
 - Re-Configure** → shifted spaces/ concealing old spaces to reveal new spaces/between old surface and new surface/thresholds between

Fabric surfaces demonstrate the ability to conform, enclose, reveal, and conceal for both the human body and the architectural body. By applying the principles of surface play as layers onto a body of architecture, an existing building can be conserved in a way that reaffirms heritage by revealing the depths of its emotionally charged surfaces through representation. Layering onto a building and conforming to its existing conditions exhibits the potential of reforming the perception and altering the performance of a building without dissociating its past from its present. The wrapped *Reichstag* and the *Resurfaced Campus* blurs the boundaries of fashion and architecture by mimicking the act of layering garments on the human body to conceal and reveal an alternate expression. Whereas the Reichstag is temporal, it demonstrates the psychological effects of a layered surface that suggest an underlying attachment to a buildings surfaces and its past. The Resurfaced Campus implicates similar perceptible suggestions but also reveals the possibility of new spatial conditions and configurations in-between a new surface and the old that can potentially be achieved by employing the contemporary dematerialized wall.

CAMOUFLAG[ing]

The Sunnyside Library: Project of Architecture

Can the architectural body be camouflaged to adapt from the past to the present, and possibly the future?

The adaptive process of camouflage and strategies of fashion discussed in **Camouflag[e]** will be further explored in a hypothetical building design that challenges the potentials of a surface informed design and its ability to contend with impermanence. Fashion is an adaptive tool for the body and potentially for a building. The dematerialized wall offers the opportunity to treat an architectural body like a garment and the human body. Through conforming, concealing, and obscuring, the depths embedded within the surfaces of an existing building can be revealed through representation.

The project of architecture for this thesis is to camouflage the Sunnyside Library transitioning its outdated spaces and surfaces into the present. Camouflage offers an alternate framework to view adaptive design through by providing a medium to connect and engage with our environment through the visual domain. Physical and psychological dimensions of camouflage affirm both the propelling role of aesthetics and the underlying significance for preserving our built environments. Through this alternate framework paired with strategies of fashion, the Sunnyside Library will attest the implications for an adaptive method of design which not only preserves a building's surfaces and respective heritage but reaffirm them through the design process and experience of the new building.

This design investigates surface play on a variety of levels with influences from both the fields of fashion and architecture. Together, the goal is to seek a design for a building that is both reflective and expressive of its former conditions and identity (aesthetic and pragmatic) through a surface informed design. As we have learned from camouflage, a surface embodies the dual ability to reveal yet conceal. It is my objective is to create a building that is informed by this characteristic, thereby communicating the influence of camouflage on this project helping the architectural body mediate its past and present condition, adapting by re-presenting.

embracing

Site Analysis/
Heritage and Historical
Context/
Existing Conditions: Building
& Space

The Architectural Body

The Architectural Body: Sunnyside Library



Fig. 37 The Architectural Body: Sunnyside Library, Rebecca Han, 2011

Site Analysis

Nestled in a one of Ottawa's most prominent neighborhoods dating back to 1814, the Sunnyside Library currently makes no claim other than the essence of what might once been a prevalent expression of monumentality. The Sunnyside library is currently situated on a remarkable site that the building appears to neglect. Located at the south foot of the Bank Street bridge on a traditional main street of Ottawa, Bank Street, this site is within close proximity to two prominent landmarks of the city of Ottawa: the Rideau Canal and Lansdowne Park. The site is a rectilinear shaped lot that is occupied by two equally divided components: the Sunnyside library and the facilities on-grade parking lot.

The atmosphere of Bank Street is a charming pedestrian friendly

street lined with variety of amenities such as restaurants, coffee shops, and boutiques. The site is perfect location for a building with significant street presence since it is surrounded by iconic buildings and landmarks such as the Southminster United Church across the street, and the Royal College behind. The site was chosen based on its submissive presence which, in my belief, discredits its vital role within the local community.



Fig. 38 Panoramic view of site, Rebecca Han, 2011

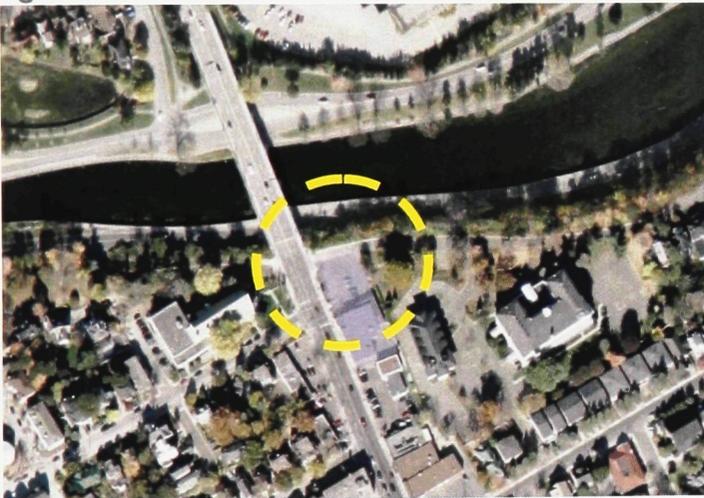


Fig. 39 Aerial view of site, image courtesy of Google Maps

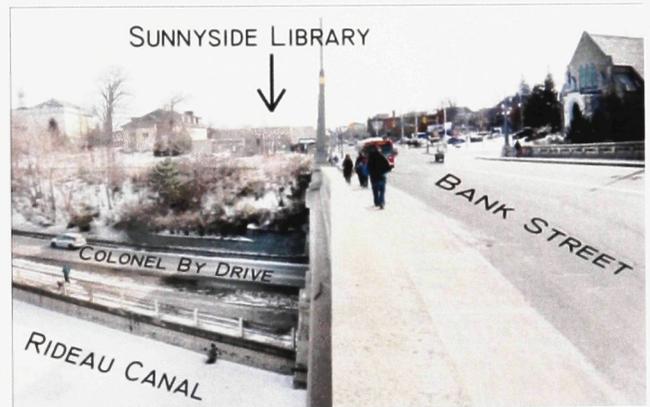


Fig. 40 View from Bank Street Bridge heading South

Heritage and Historical Context

The Sunnyside Library is not officially seen by the City of Ottawa as a designated heritage building; however, its role as a civic space renders its existence a significant piece of the community's history and identity. For 50 years it has embedded itself into the memory and urban fabric of the neighborhood. As previously

explained, Neil Leach describes mental camouflage as our natural tendency to identify with our surroundings by psychologically associating our identity with a physical environment, such as a library, creating an implicit connection. This concept can pertain to a body of architecture, and for that reason, the Sunnyside Library will be adapted through the framework set forward by camouflage in an effort to retain its memory and identity as a local neighborhood facility by conforming to its existing condition.

1. Sunnyside Library
2. Good Year Garage
3. The Royal College of Physicians and Surgeons of Canada building (Heritage designated building)
4. The Royal College of Physicians and Surgeons of Canada Headquarters (Heritage designated building)
5. Commercial Property
6. Commercial Property
7. Mayfair Theater (Heritage designated building)
8. Commercial Property
9. Commercial Property
10. Southminster United Church
11. Bank Street Bridge
12. Lansdowne Park

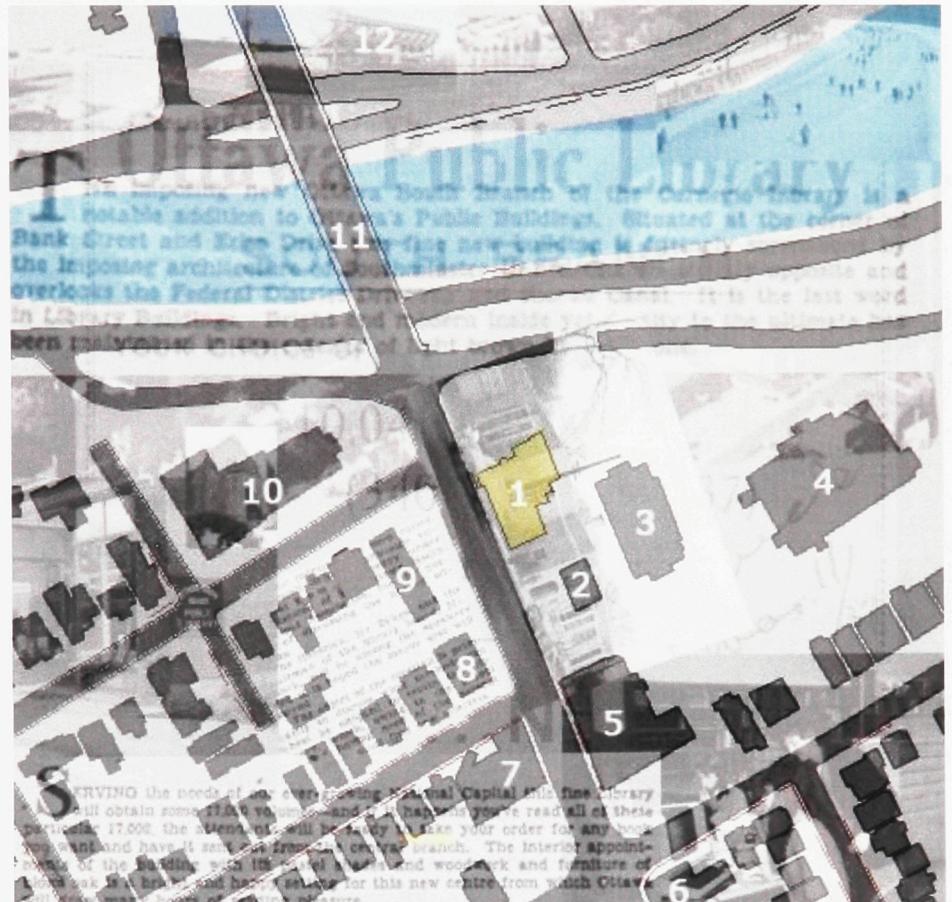


Fig. 41 Layered Site Plan, Revealing Fragments of the Past, Rebecca Han, 2011



Fig. 42 The Architectural Body's Past, Present, and possibly Future?



Fig. 43 Newspaper clipping from the Evening Citizen from Thursday, February 1st, 1951

Like many other buildings, the Sunnyside Library has been subject to the consequences and effects of time. Impermanence has rendered its aesthetic and pragmatic purposes obsolete. It has gone through two extensive renovations to improve its spaces for the community's growing needs; however, these changes remained within the confines of its original body, like a shell.⁷¹

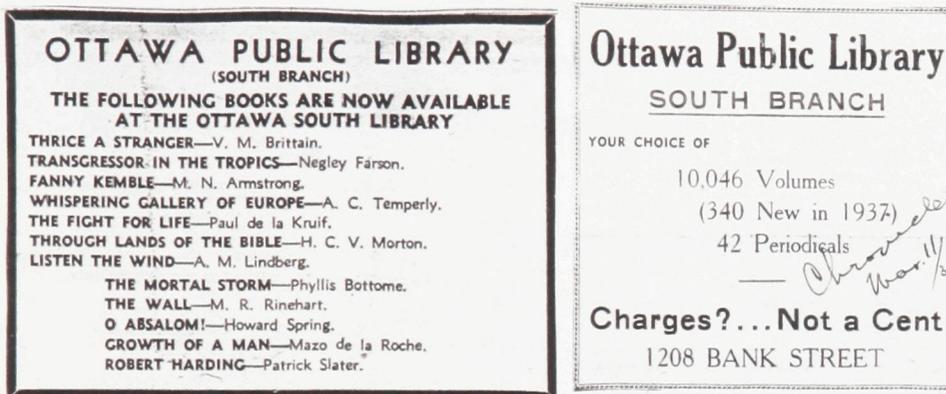


Fig. 44 Advertisements from Chronicle Newspaper from 1937 and 1939

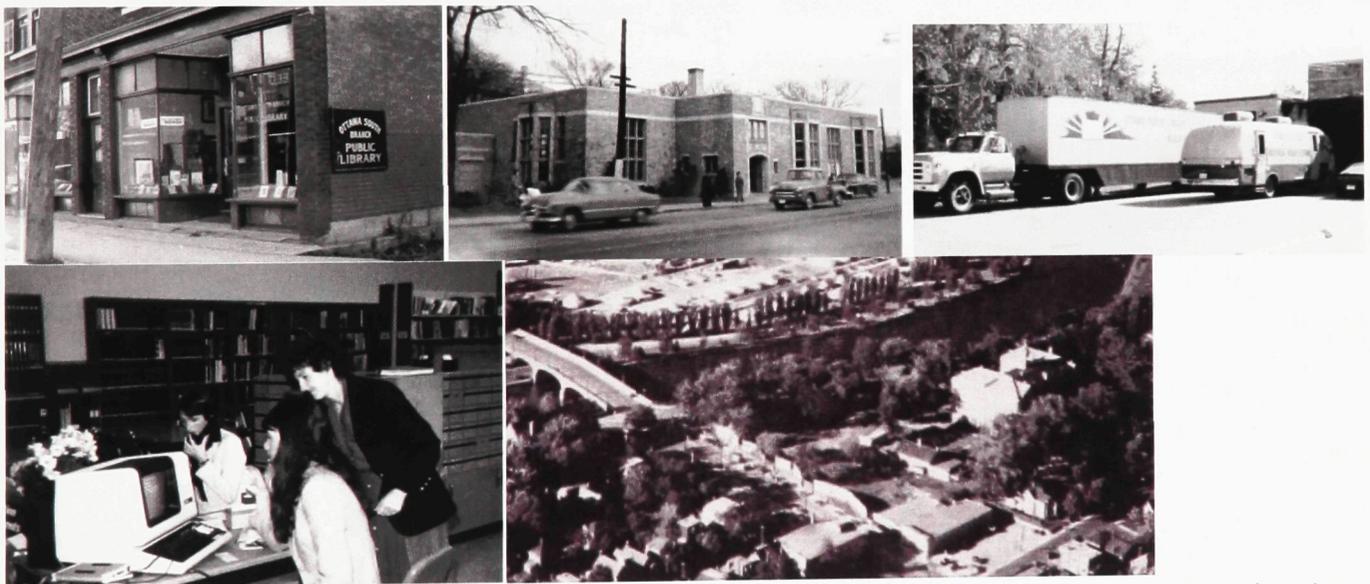


Fig. 45 Various images of the Library's Past. Starting from top left: Store front location prior to current location, original building, bookmobile, library users, aerial view of empty lot prior to construction
All images acquired from: <http://www.oldottawasouth.ca/historyproject/library/library.html>

⁷¹ The main reason it has not expanded outwards is primarily due to financial limitations due to lack of funding.

Existing Conditions: Building & Space



Fig. 46 View from sidewalk facing south, Rebecca Han, 2011

Built in 1951, the library was designed in an architectural fashion of ‘functional expressionism’ which enclosed a ‘bright and modern inside yet dignity to the ultimate [was] maintained in the exterior of light brown Nepean stone.’⁷² The building is a simple rectilinear building constructed from steel, concrete and cinder blocks with a facade constructed of a local stone, Nepean Sandstone. However, its monotonous stone veneer façade becomes washed out by surrounding buildings which command more presence such as the Southminster United Church and the Royal College for Physicians Headquarters.

In the most recent renovation in 2009-2010, the main purpose was to improve ‘within the confines of the familiar building we know and love.’⁷³ The focus was to incorporate community meeting rooms, expand the children’s area, new public reading areas, and more administrative space. Although the renovations did succeed in providing the library with these spaces, it failed to address the fact that the library’s presence as a public building is obsolete and the new spaces have a dissociated relation to its the building old surfaces.

The current main entrance for the library is not the original entrance the library was designed with in 1951. When it first opened, the entrance was located on the west façade, but during the renovation prior to 2009, it was turned into a window and relocated on the north façade within an extension of the original building. Inside, a stone wall marks the new entrance way which used to be an exterior wall like a fragment of a memory.

⁷² (The Evening Citizen)

⁷³ Sunnyside Renovation, Ottawa website

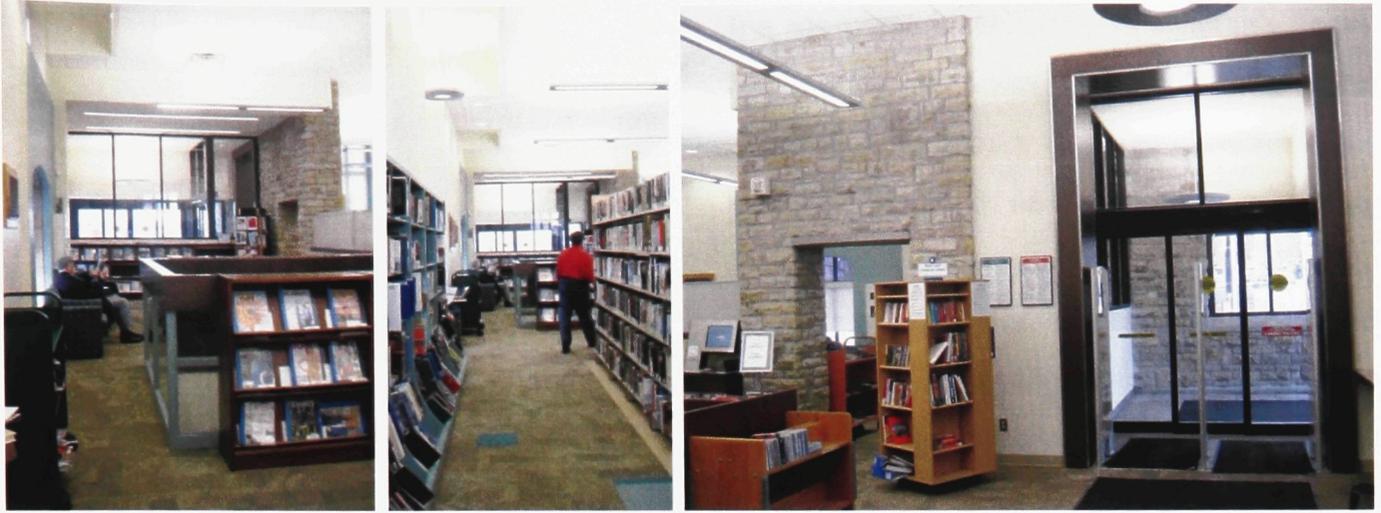


Fig. 47 Existing interior spaces. Starting from Left: Current public reading space, adult book stacks, and main entrance. Rebecca Han, 2011

The existing body of architecture is a three-story building at a height of 6.4m; however only two floors are accessible to the public: the main floor and the basement. The main floor consists of a double height space which houses the adult books. It also consists of the circulation desk, librarian desk, computer room, three small public reading areas, and two self checkout kiosks. (refer to Fig.48) Along the back of the library there is a one storey space that was once a garage that housed stock for the Ottawa book-mobile.⁷⁴ Unfortunately, due to the library's expanding needs and limited space, this stock room was converted into administrative space and offices.

⁷⁴ a traveling library vehicle that visited various part of Ottawa that did not have libraries



- 1 Main Entrance (not original entrance)
- 2 Original Entrance turned into a window
- 3 Circulation Desk
- 4 Self-Checkout Kiosk
- 5 Stairwell leading to Childrens section
- 6 Librarian Desk
- 7 Administration Space (previously book-mobile storage space)
- 8 Admin Space with stairs leading to basement (this section was originally built as a separate entrance for community meeting room in the basn)
- 9 Adult book Stacks
- 10 Computer Room
- 11 Elevator
- 12 Washrooms
- 13 Public reading spaces
- 14 Emergency stairwell and exit
- 15 Meeting Room
- 16 Multifunctional Space with Partion Wall
- 17 Office
- 18 Childrens book stacks
- 19 Mechanical/Maintenance Room
- 20 Washrooms
- 21 Administration's Parking

The basement is dedicated to children's books. The library administers popular afterschool programs that attract many children from the local neighborhood. As a result of the growing popularity, another priority of the 2009-2010 renovation was to reconfigure the basement to better serve these afterschool programs with more multifunctional space. The result was a new multifunctional space equipped with an adjustable wall partition. (16)

The third floor is only a partial floor dedicated for administration space that consists of two offices and a staff lounge.

Another factor that contributed to the need for renovations was the community's growing insistence for more public spaces such as reading areas and community meeting rooms. The initial design for the original building in 1951 was designed with the objective that the library would function not only as a library but also a public amenity that would bring the local neighborhood together. The design for such a space was incorporated by meeting rooms in the basement that could be accessed when the library was closed through a separate entrance on the north side of the building. However, as the community grew, the needs of the library did as well which caused space to be insufficient.

Fig. 48 Diagram plans of current library space, Images courtesy of Ottawa Public Library Website

assimilating

Future Intentions/
Library's are More than a Place
for Books/
Program + Building Objectives/
Program List

Becoming One with the Future

*How will the existing building, its spaces and surfaces, be updated?
What changes will be made programmatically, spatially, or
aesthetically?
How will it be changed without dissociating its past from its future?
How will be changed without dissociating old surfaces and new spaces?*

Future Intentions

The library's existing monotonous stone façade does not provide a strong appeal or presence which discredits its active role in the community. Located on a pedestrian friendly street and at the foot of the Bank Street Bridge, a building like this library has the potential to more effectively engage commuters, visitors, and tourists, as well as revitalize and improve Bank Street's urban fabric. Its ideal location adjacent to the Rideau canal makes it the perfect location for a landmark building which commands a presence and stimulation. The fundamental goal within this thesis is to integrate a new library that will not only encourage, but also initiate interactions between the public and the library, inhabitants and spaces, inhabitants and other inhabitants, as well as inhabitant and learning. Surface play will emphasize and accentuate awareness of the building and its objectives by interweaving fashion and architecture to inform its new design.

Design Objectives

1. Revitalize neighborhood through a stronger community presence
2. Cultural hub that draws people of all demographics
3. Engages the public in learning
4. Promotes intellectual activities
5. Reaffirming heritage through surface conscious design

The modern library is far more than a place to store books. It should be a cultural hub that attracts the public in a variety of intellectual activities which has the ability to revitalize a neighborhood and engage the public in learning. In an inspiration speech about the world's great municipal libraries, Architect Moshe Safdie once said that municipal library's can help define a city's image because of its typology of a public building. Journalist Randall Denley of the Ottawa Citizen, publically voices his opinion about how Ottawa is unwilling to spend money on public buildings and as a result, deprives the city of significant public landmarks which ultimately help define a city's identity. Aside from the Parliament buildings, Ottawa does not have many buildings unique to its cultural and social identity. A facility such as a library has the potential to be a cultural focal point that brings communities together by engaging the public in learning, not only through the knowledge of book but as an engaging space.

This critique reaffirms the reason why Sunnyside Library was chosen for the thesis. The current submissive presence that the library displays epitomizes Denley's criticism of Ottawa's public buildings lacking engagement with the city.⁷⁵ Surface play will be employed to revitalize this perception of the library while refashioning relationships between the library, surrounding site, visitors, community, and history through camouflage in an effort to adapt the architectural body.

⁷⁵ The first library in the City of Ottawa was erected in 1906, and even then the city spent decades debating the need for such a facility. It wasn't until American philanthropist, Andrew Carnegie, offered to build it if Ottawa would provide a site and operate it.

Programs + Building Objectives

To improve the presence of the library and reinstate its role as public building the design will integrate new programs to supplement its existing ones.

program list

Items with a (*) indicate the new programs.

BASEMENT:

Existing Children's Section
*New designated children's program space
Existing Administration space
Mechanical room
Maintenance room

MAIN FLOOR:

Existing Adult Section
Existing + new stack area
Existing Administration
Existing circulation desk
Existing librarian desk
Self checkout Kiosks
*New Main Entrance
*New public reading spaces
Existing + *New washrooms
Parking on grade

SECOND FLOOR:

*Coffee Bar
*Public reading area
*New Administration spaces
*New Washrooms

THIRD FLOOR:

*Exhibition & Gallery Space
*Community meeting room

These new spaces are intended to encourage intellectual activities and interaction within the library and out. For example, an exhibition and gallery area will be integrated to the library which will house a permanent exhibit of the history of the local neighborhood and other Ottawa areas. Artworks and photographs of the evolution of the City will be exhibited throughout this gallery to educate the public. The gallery will also include an area that can accommodate traveling exhibitions or be rented out to local artists to showcase their work. These newly integrated programs will not disturb the existing spaces and will aim to improve its existing operations.

conceptualizing

A surface Informed Design/
The Conceptual process/
conceptual surface studies/
initial block schematic/
massing a wrapped form

Concealing the Past to Reveal the Future

How will surfaces inform design?

How will its existing surfaces and past be retained?

How will its existing surfaces inform the design for its new spaces?

How will surfaces inform spatial configurations and conditions?

How will the surfaces be played?

The architectural process

A Surface Informed Design

As previously stated, Gottfried Semper defines the essence of architecture as the surface enclosure impressing that the design and experience of space should be infused by surface play. Thus, highlighting the propelling nature of visual and aesthetic realm. The adaptive process of camouflage inadvertently corroborates with this theory because it operates within the visual domain as a medium to connect and engage with an environment. Fashion offers us with a set of surface strategies that help inform material selection and surface creation. Together, camouflage and fashion offers a methodological approach to address architectural conservation/rehabilitation by bridging Semper's theory into the 21st Century.

To adapt a building, its identity must be retained and reaffirmed through its redesigned spaces and surfaces. The design for the Sunnyside Library will be retaining the existing stone veneer façades. Conceal, reveal, and obscure, three critical elements found in camouflage and fashion, will be employed to mitigate the issues of disassociated spaces and surfaces in a design for an addition that conforms the architectural body. Surface play will aim to unveil the depths of the original building's surfaces through representation.

The Conceptual Process

The conceptual idea and the physical gesture of conforming to the architectural body will manifest through the explorations of wrapping to generate new surfaces and spatial configurations. These techniques will explore how the surface can be manipulated to reveal and conceal the architectural body analogous to fashion and garments.

Conceptual Surface Studies

Attention to the properties of materials in the conceptual designs will help generate new surface effects that in turn will delineate spatial configurations, condition, and definition. Although conceptual, the surface studies begin to articulate potential surface interventions that can be used for the new addition, enticing ideas of dematerialized walls.



Fig. 49 Conceptual Surface Study 1. Obscuring and concealing the façade. Sidewalk Adjacent to Street Façade. Rebecca Han, 2011



Fig. 50 Conceptual Surface Study 2. View from Across Bank Street. Rebecca Han, 2011

From left: Playing with shapes/draping and layering to reveal and conceal/playing with opacities and obscuring

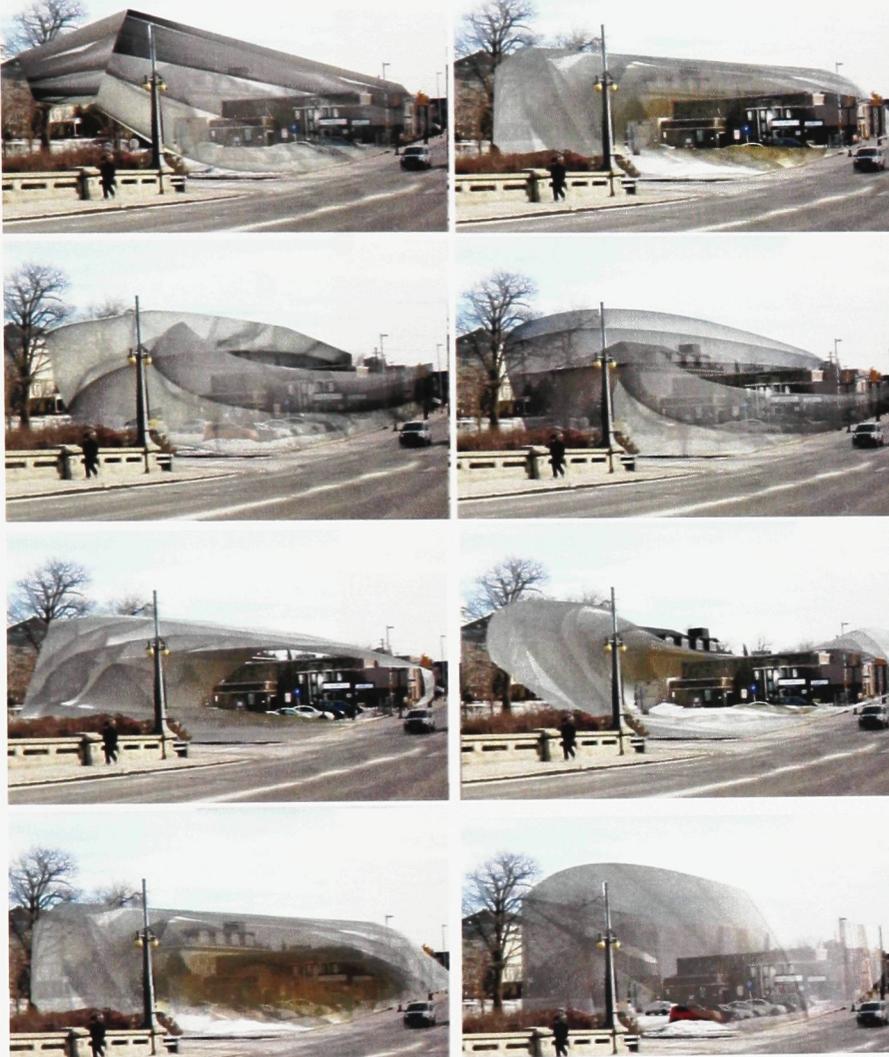


Fig. 51 Conceptual Surface Study 3. Conceptualizing a wrapped form and roof lines. Rebecca Han, 2011

Fig. 52 Conceptual Surface Study 4. Interweaving with the old, Playing with the elevation. Rebecca Han, 2011



Initial Block Schematic

Merging new and old programs and spaces.

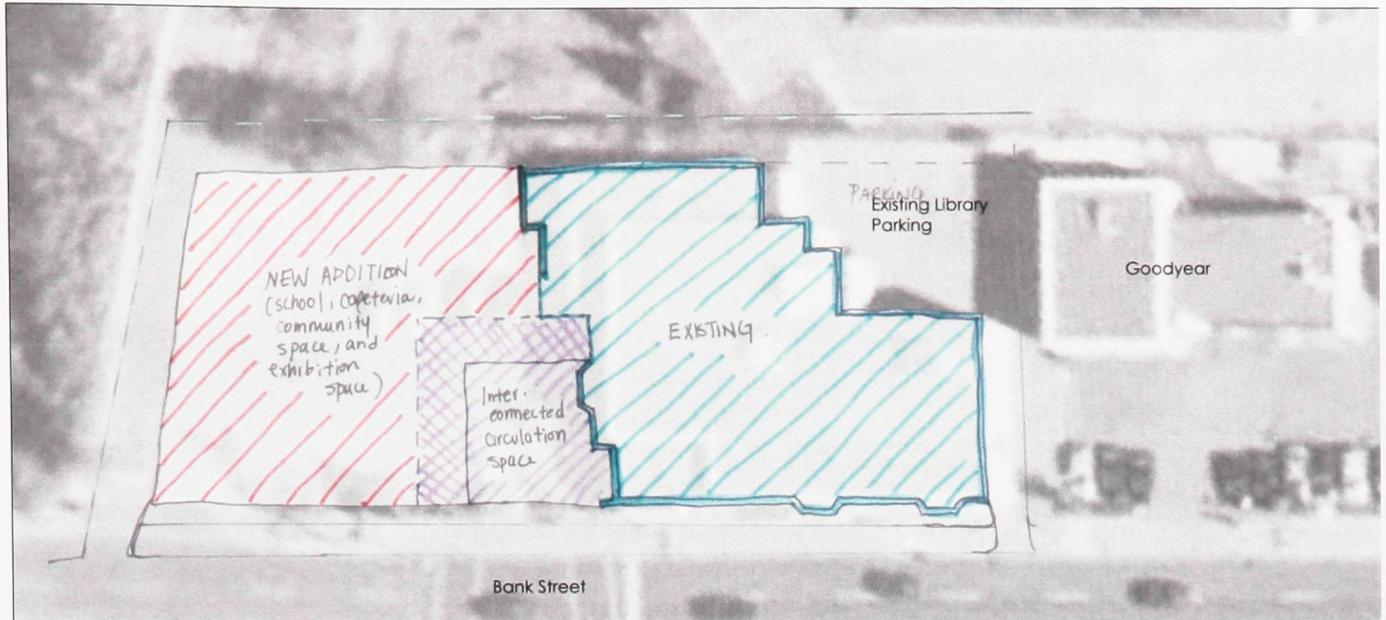


Fig. 53 Blocking out Spaces. Rebecca Han, 2011

Existing building only takes up half of the site while the parking lot takes up the other half. Design for addition will build on the parking lot space to maximize property area.

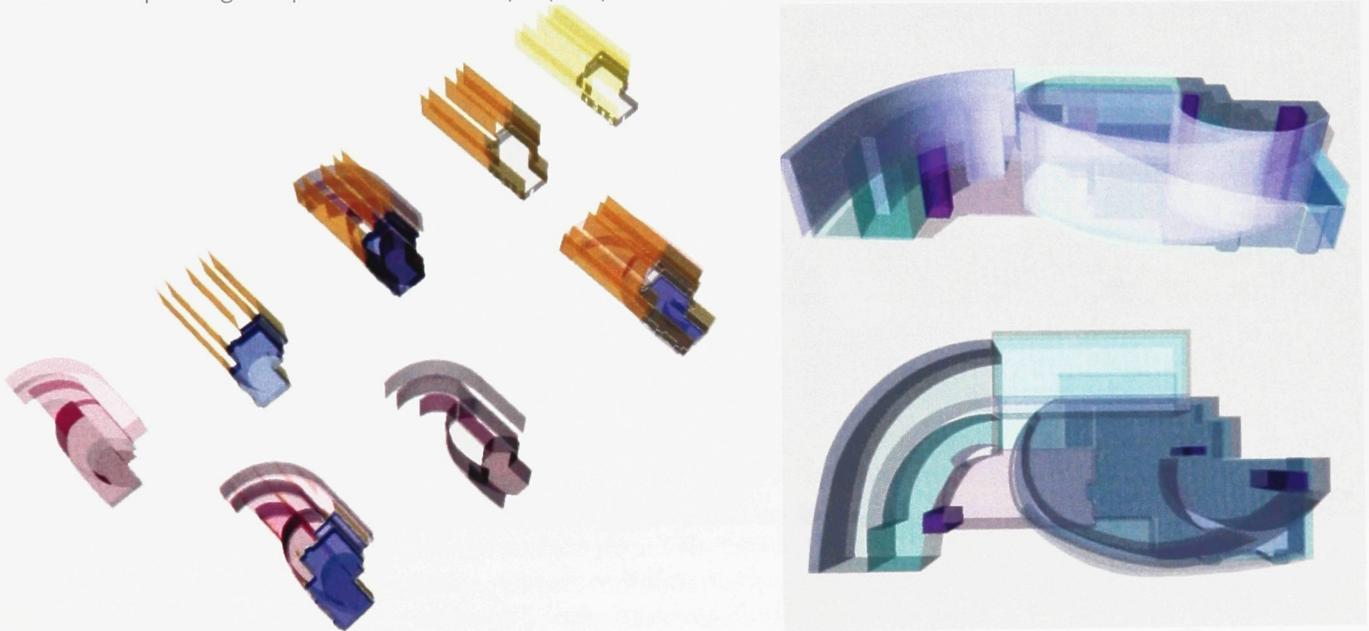


Fig. 54 Digital renderings that begin to play with how the existing library's surfaces and spaces may inform the addition's design. Rebecca Han, 2011

Walls are extended to into the empty space of the parking lot which becomes wraps that conform around the architectural body. Since they are derived from existing space it offers a strategy to purposefully interweave new and old spaces.

Massing a Wrapped Form

The gesture of wrapping is simultaneously concealing and revealing, conforming to shapes and textures, re-presenting an object. As a result, surfaces can potentially reveal new spaces, forms, and surface condition. Generating strategies to interweave old with the new, interior and exterior, surface and space.

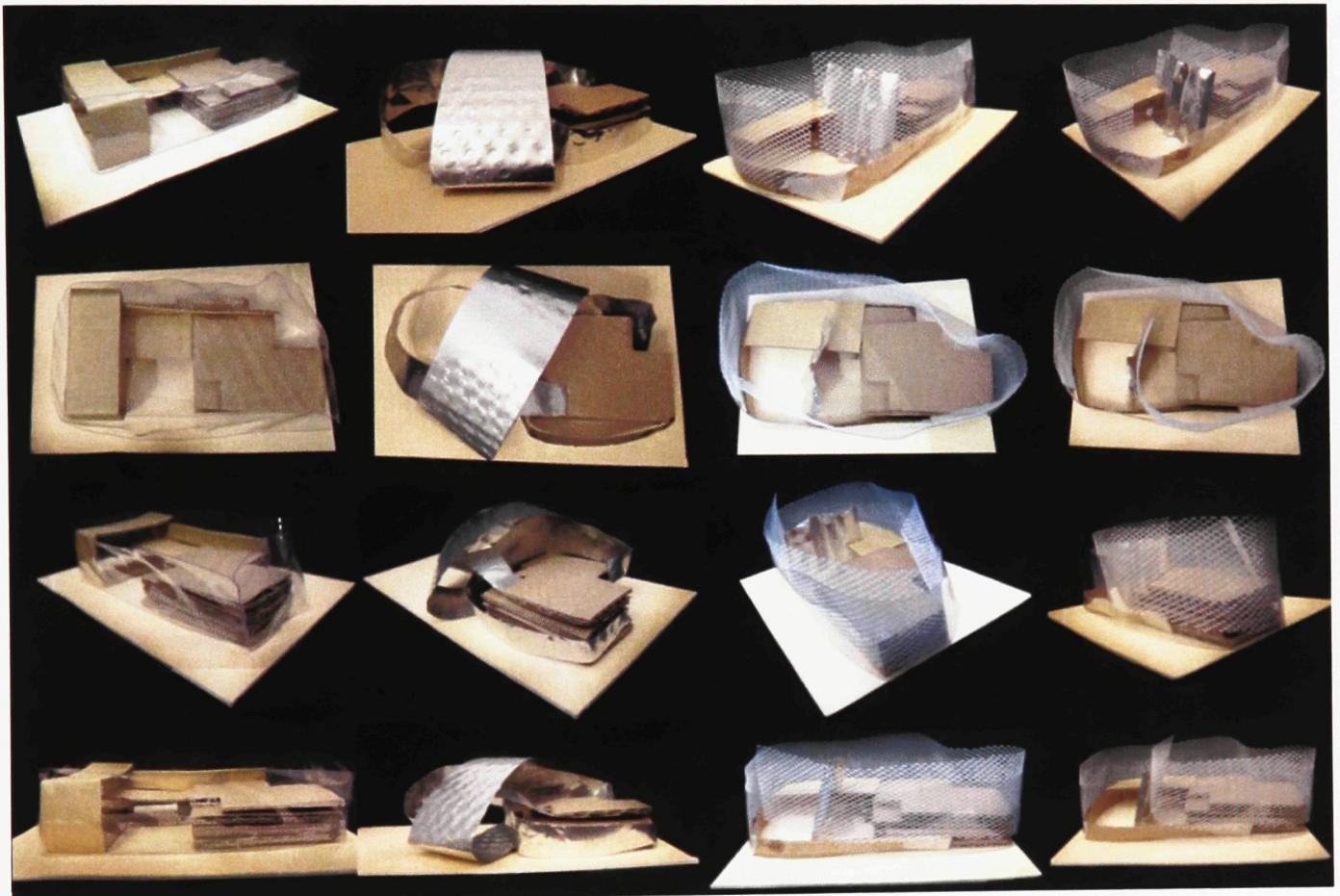


Fig. 55 Massing a wrapped form through surface play, Conceptual models. Rebecca Han, 2011
Conceptual massing models that explore notions of wrapping through layering materials revealing divergent forms and expressions depending on the material's scale, disposition, and tectonics.
These massing studies which were created with surface play begin articulating various elements that may be used in the final design: spatial implications/spaces in-between/exterior forms/ spatial configurations/and surface effects

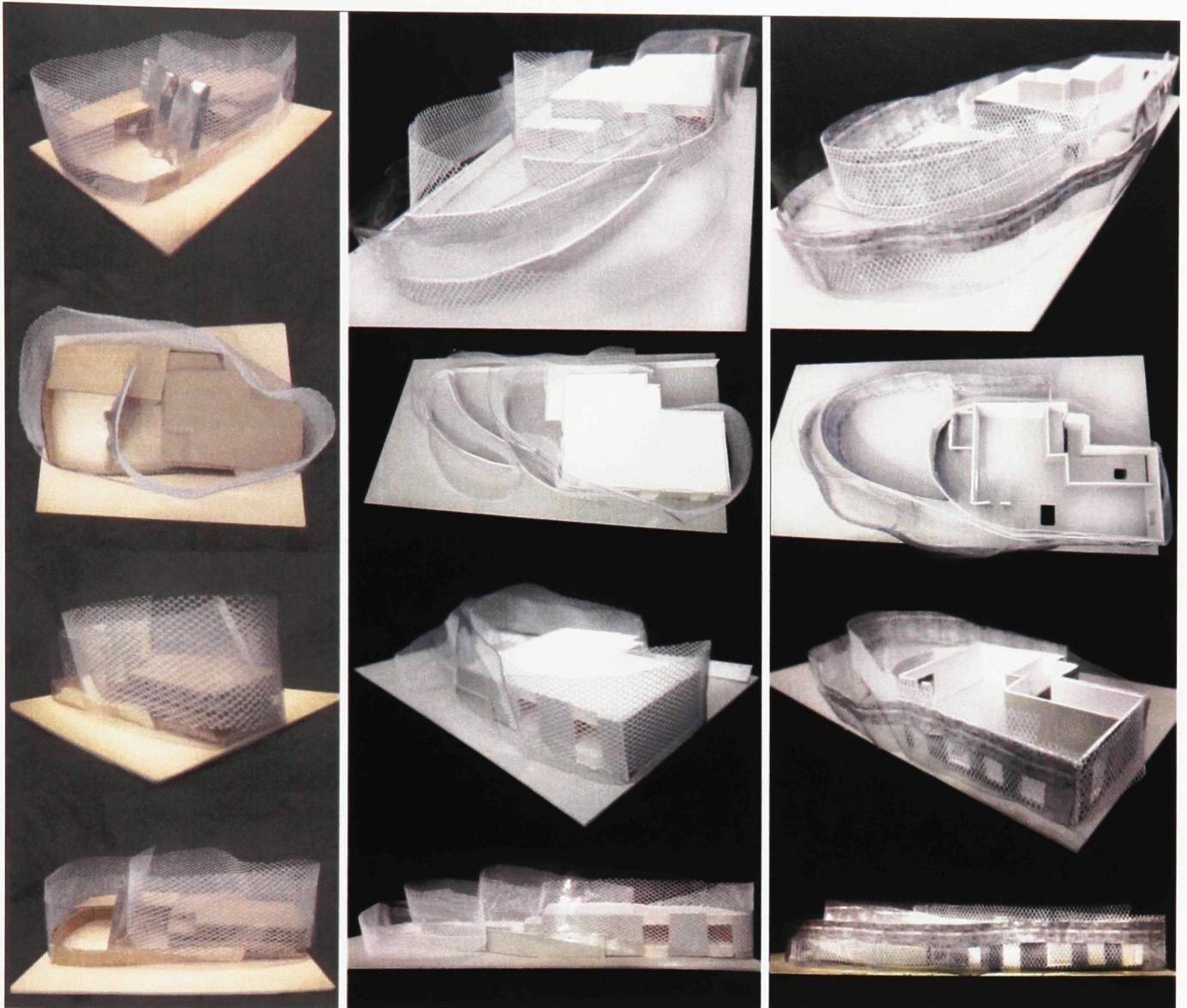


Fig. 56 Massing a wrapped form. Progress models. Rebecca Han, 2011
 Model that begins to articulate how spaces from the addition merge and are woven together. New spaces are delineated from 'wraps'. The exterior facades are defined by the surfaces of the walls within which range in opacities and resulting in a mesmerizing surface effect. Zones of space are revealed which connect, intersect, and overlap with the existing library.

conforming

Conforming to the Architectural
Body/
The Form/
Concealing the Old, Revealing the
New/
Obscuring to Merge: A New
Entrance/
Engaging Surfaces/
Glass enclosure/
Perforated stone wall/shelf/
Stone printed fabric walls/

Becoming Distinct from the Future

How will the history and heritage be reaffirmed through surface play?
How will the new library engage the public with its past?
How do is surface play employed?
How has the building adapted?

Conforming to the Architectural Body

The final step involves employing building materials that express the surface effects, forms, and spatial configurations and conditions rendered from the conceptual process. The final design of for the library seeks to reflect its historical roots with a modern mentality and modern materials. Through conceal and reveal, the wrap was explored as an element to conform to the body of architecture in an attempt to disclose new surfaces and spaces. This method is a surface informed design for two main reasons: it was derived from the Sunnyside Library's existing surfaces (extended walls) and it strategically employs surfaces within the new space to create unique spaces and experiences. Essentially, infusing both the design process and experience of final design with surface play while maintaining a coherent relationship between the old and the new to transition the building into the present.

The Form

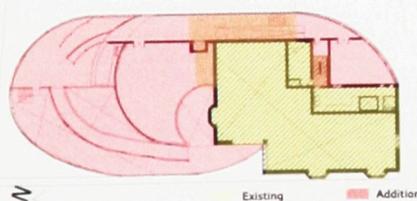


Fig. 57 Diagram indicating what is new and old.

Fabric is naturally in a state of deformation which is the reason why it has the ability to conform to surfaces, shapes, and objects in a way that still retains significant characteristics of what it conceals. By conforming to a building, as seen in the Wrapped Reichstag and my Resurfacing the Campus project, the rigid and rectilinear form of a

building becomes altered by the fabric to achieve a representation of it. The significance of this ability of fabric is that it does not disregard the body of architecture, it obscures and to disclose something new inherently allowing original façades to operate as more than just an 'elevation or self parody'.

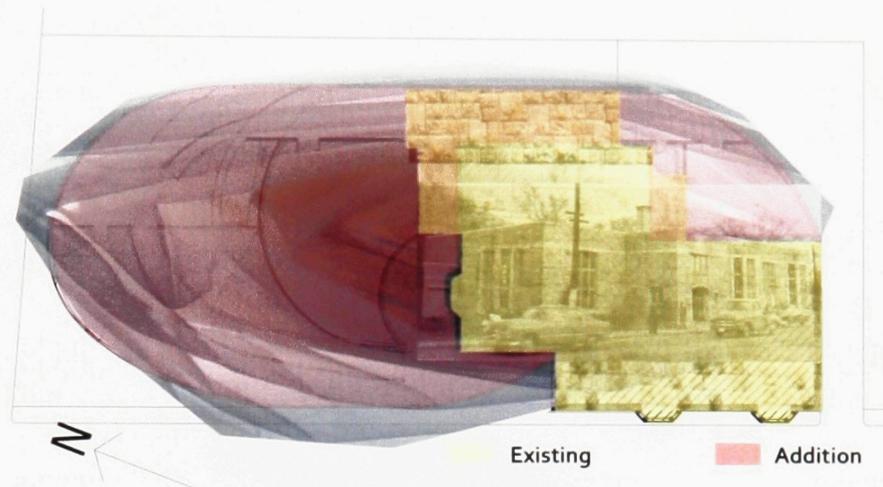


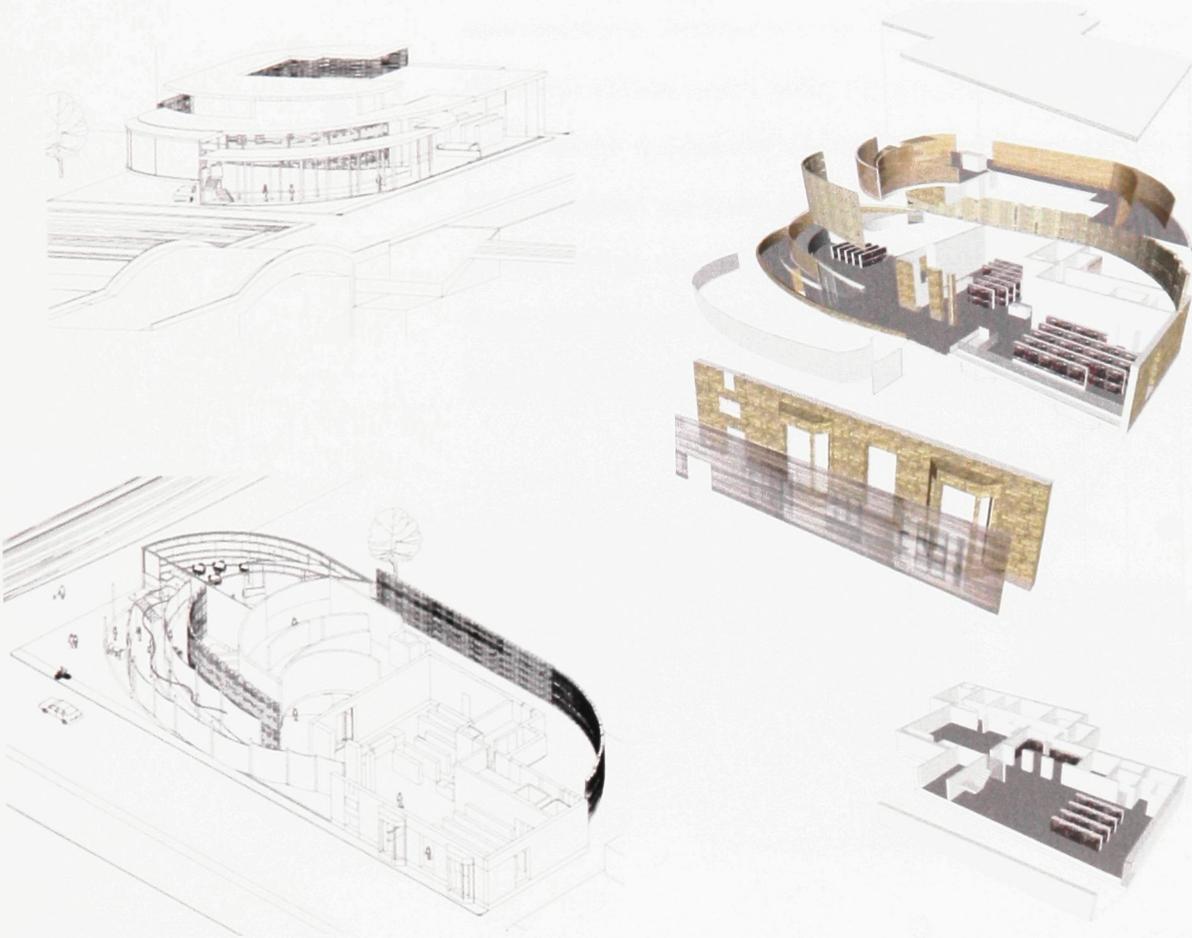
Fig. 58 Concept diagram of the library being wrapped. Rebecca Han, 2011

All existing spaces were unaltered in the new design except for the existing entrance vestibule. New spaces revealed in the design process wrap around the original architectural body creating a journey around the old building. They are the result of residual spaces in-between 'wraps' that enveloped the existing stone façade which will accommodate for the new programs I wish to integrate. (Gallery space, public reading area, coffee bar, additional stacks areas, and community meeting room)

Reiterating the gesture of the wrap, the interior circulation consists of two large curved ramps that reflect the curved form of the building within the experience of its subsequent space. This demonstrates a coherent interior exterior relationship.

The layers of the conceptual 'wrap' consist of three tectonic surfaces that were inspired from surface play: the glass enclosure, stone

printed fabric walls, and perforated stone wall that doubles as a shelf. These three architectonics generate a layered sequence of spaces through strategic placements through and around the original building configuring, conditioning, and defining new and old spaces. They will be further discussed in the following section.



Process Renderings: Digital model

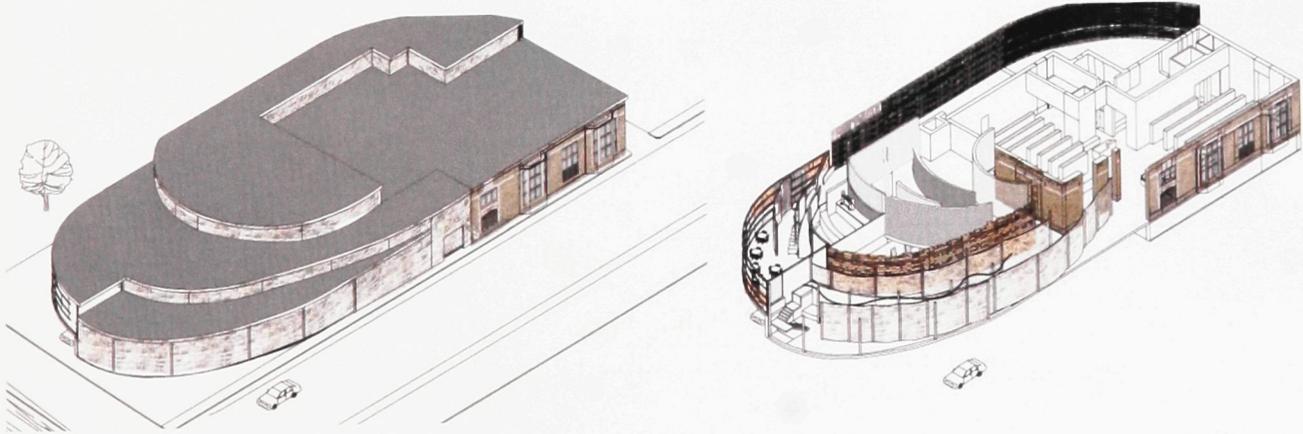


Fig. 59 Digital models showing progress of design development. Rebecca Han, 2011

Concealing the Old, Revealing the New

In Plan

The new spaces of the library are not only derived from the existing building but they also all interconnected experientially to it. Progressing from the entrance inwards, the journey begins with a new entrance, located on the west façade, which leads visitors into the main library space (also the original) through to the new library space which is opposite of what once was an exterior wall. Next we find ourselves entering the new public reading area which connects to the coffee bar on the second floor via a ramp. On the second floor, another ramp leads visitors to the new exhibition and gallery space and new community meeting room. (refer to Fig. 60)



Fig. 60 Plan diagrams indicating location of new program spaces. Rebecca Han, 2011

Elevation

The new library is three floors above grade plus the basement. Each floor corresponds with its own roofline which varies deeper into the building. The tallest roof line corresponds to the exhibition/gallery space and sits at 11.5 m tall. (height restriction for this property is 12m) the Second corresponds to the coffee bar and community meeting room. And the third, at 6.4m is the original library's roofline which extends into the previously un-built part of the site that is now occupied by a new public reading area.

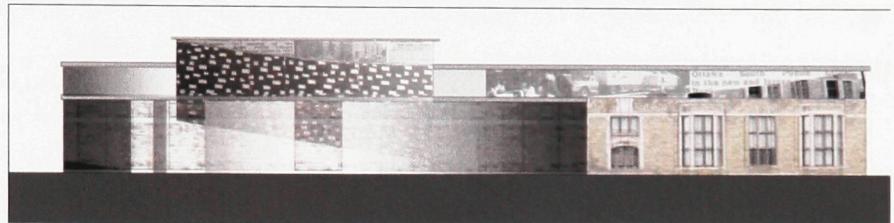


Fig. 61 Street Elevation indicating the various rooflines. Rebecca Han, 2011

Circulation

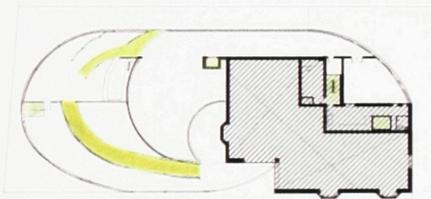
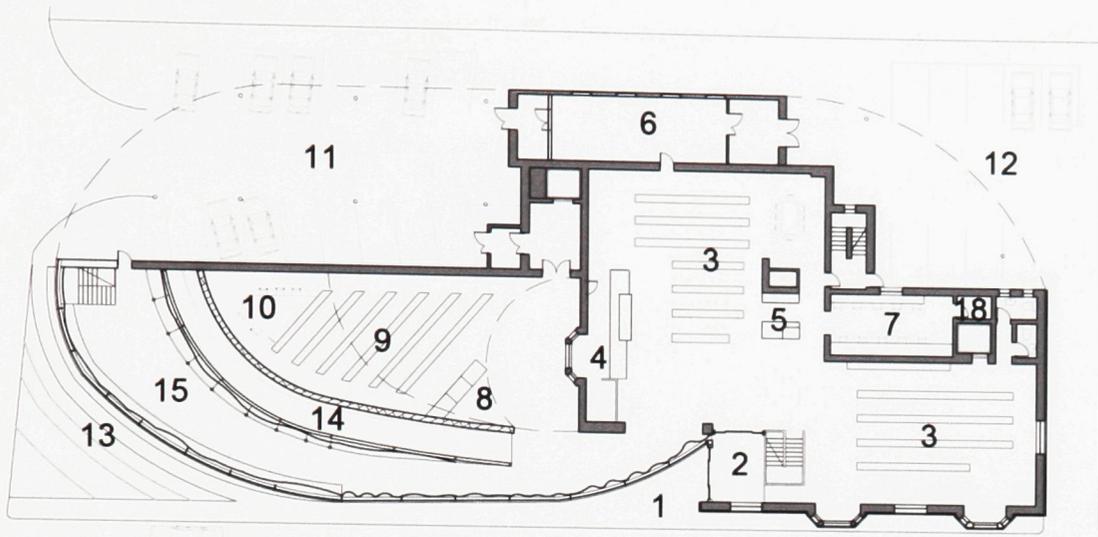
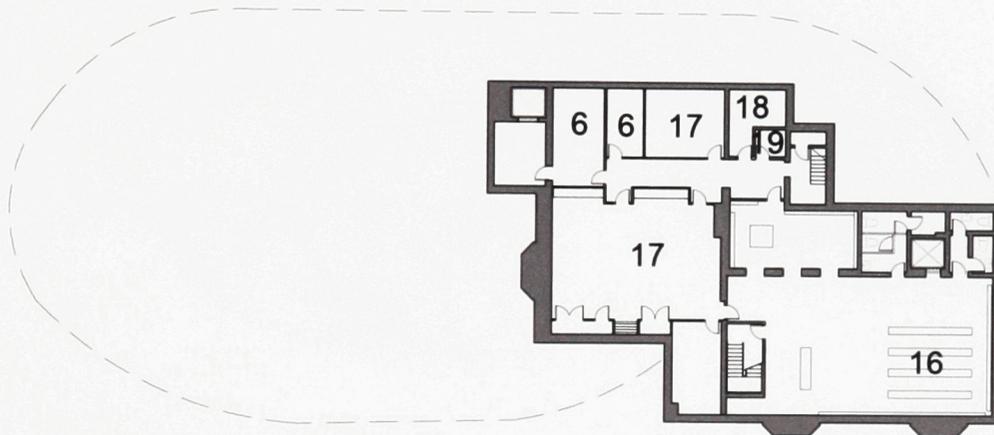


Fig. 62 Diagram indicating the circulation spaces, ramps, elevators and stairs.

The major circulation paths consist of two large ramps that reiterate the gesture of the wrap through the building by connecting each floor. (Fig. 62) The first one connects the reading area on the ground floor to the reading area and coffee bar on the second floor. This space offers a view of the Rideau canal, taking advantage of this site's valuable attribute. By disclosing this view, there is also a heightened sense of awareness for visitors because they become connected with the building's exterior surroundings. Along this ramp is a new designated public reading space that spans the full length of the ramp. The second ramp, located on the second floor, connects the coffee bar to an informal reception hall dedicated to the new gallery/exhibition area. The experience through the building unveils a sequence of spaces that revolve around the old library inadvertently disclosing the implicit relationship between the present and the past.



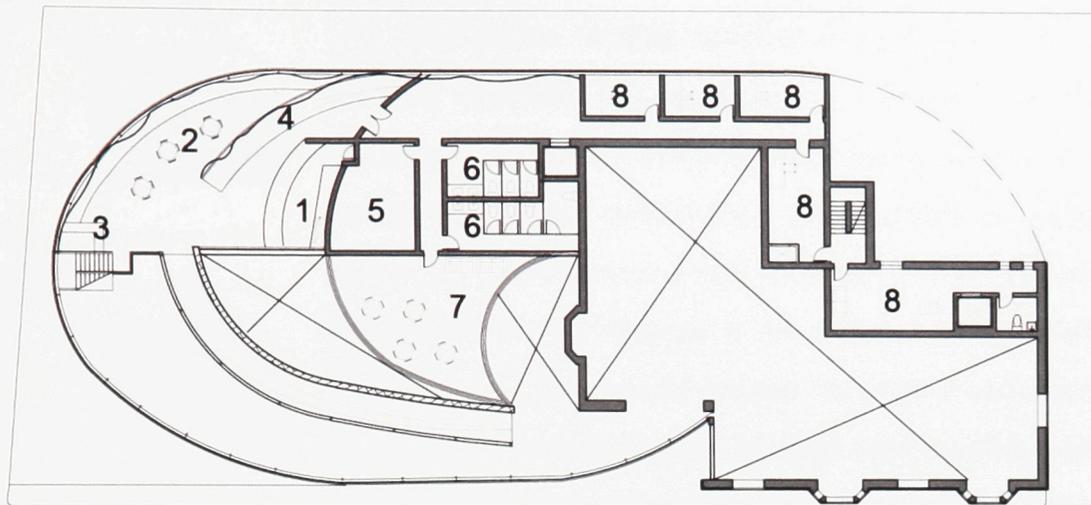
Ground Floor
Scale 1:500



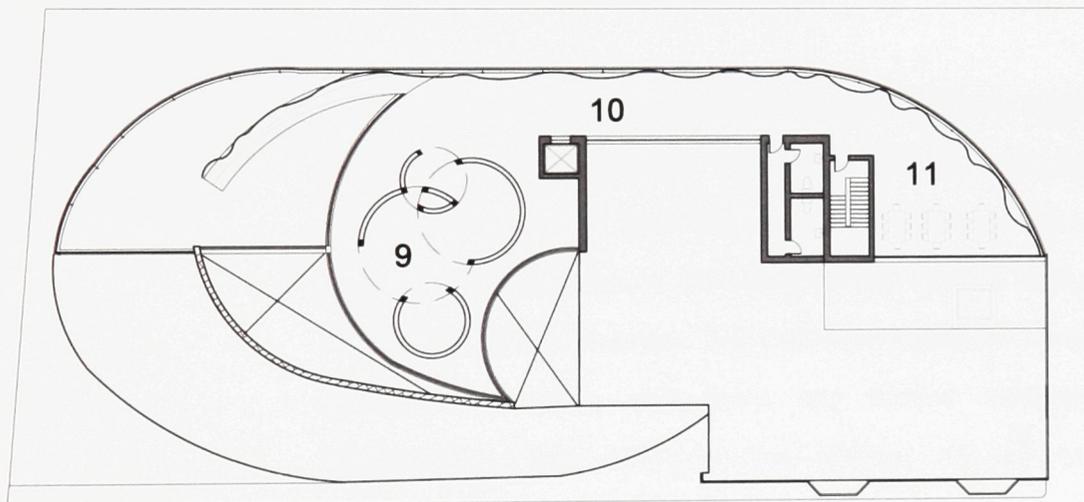
Basement
Scale 1:500

- | | | | |
|----|-------------------------|----|--------------------------------|
| 1 | Main Entrance | 11 | Public Parking |
| 2 | Entrance Vestibule | 12 | Employee Parking |
| 3 | Existing Library Stacks | 13 | Landscaped Path |
| 4 | Circulation desk | 14 | Ramp 1 - Leading to Coffee Bar |
| 5 | Librarian's Desk | 15 | New Public Reading Area |
| 6 | Administration Space | 16 | Childrens Book Stacks |
| 7 | Computer Room | 17 | Children's Program Room |
| 8 | Self-Check Kiosks | 18 | Mechanical Room |
| 9 | New Library Stacks | 19 | Maintenance Room |
| 10 | New Quiet Reading Area | | |

Fig. 63 Plans: Ground floor and basement with labels. Rebecca Han, 2011



Second Floor
Scale 1:500



Third Floor
Scale 1:500

- | | | | |
|---|-----------------------------|----|--------------------------|
| 1 | Coffee Bar | 7 | Staff Lounge |
| 2 | Public Reading Area | 8 | Administration Space |
| 3 | Admin Desk | 9 | Gallery/Exhibition Space |
| 4 | Ramp 2 - Leading to Gallery | 10 | Reception Space |
| 5 | Coffee Bar Storage Room | 11 | Community Meeting Room |
| 6 | Washrooms | | |

Fig. 64 Plans: Second and Third floor with labels. Rebecca Han, 2011

Merge Obscured: A New Entrance

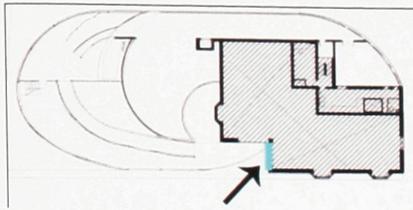


Fig. 65 Diagram indicating the new main entrance

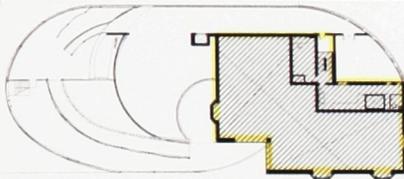


Fig. 66 Diagram indicating existing stone facades which are retained in the design

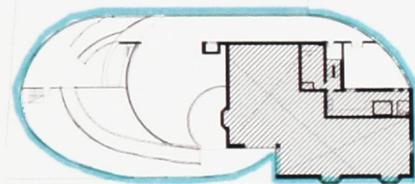


Fig. 67 Diagram indicating perimeter of glass enclosure

The entire existing building was kept as is except for the entrance vestibule. This vestibule was removed and the new main entrance for the library is now restored back to its location on the west façade. This design intervention is noteworthy for various reasons. First of all, it offers more street presence to draw people in by being accessible from the sidewalk. It also reduces the dissociation that the previous entrance created between the original entrance of the 1951 design in its restored location. Perhaps most significant of all is that it is located where the old library and new addition converge as one building. The simple act of entering the facility exposes to the visitor that the library is an adapted building.

In an effort to create a coherent transition, glass is employed as the unifying enclosure element. The glass enclosure not only delineates the boundary of the new addition, but it also encases two of the original stone façades to protect the old surface and obscure the merging of the old and new. This transition between the two divergent materials of stone and glass are further obscured by two dematerialized walls within the new addition: the stone printed fabric walls and perforated stone wall.



Fig. 68 Main Entrance rendering created from photograph of physical model, Rebecca Han, 2011

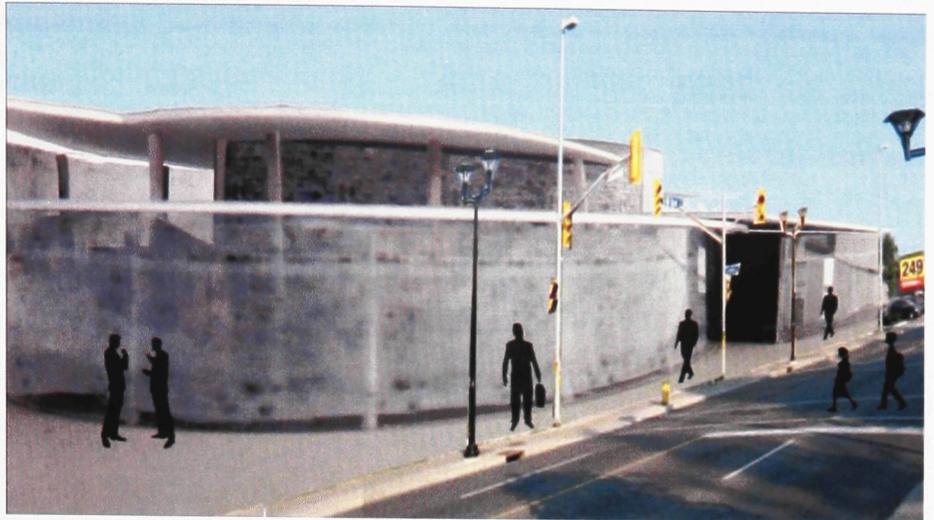


Fig. 69 Rendering of physical model on site with flat roofs. Rebecca Han, 2011

Engaging Surfaces

Each of these dematerialized walls are significant to specific spaces within the library's new addition. Each are designed with the intentions of re-presenting the identity of the library, its existing surfaces, and existing materials.

Glass Enclosure

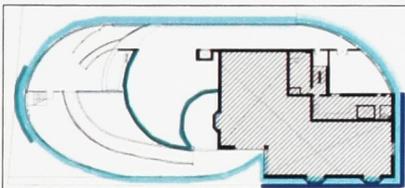


Fig. 70 Diagram indicating areas of different treatment of the glass enclosure

As previously mentioned, the new façade of the library is essentially a glass surface that wraps the body of the library and demarcates the perimeter of the new addition. Three different treatments of glass are utilized within the façade: regular transparent glass, mirrored glass and image printed glass. They are strategically employed for expressive purposes, both aesthetic and interactive.

Regular Glass

The transparent and reflective nature of glass inadvertently speaks to the concepts of concealment and obscurity, the two key principles of camouflage. Its transparent disposition renders its ability to simultaneously conceal and reveal. Since it is used to physically enclose the new and old library, it also reveals them. Through concealing, the

separation is obscured and instead appears coherent. Glass is also engaging because outside a building, it can reflect and project fragments of its surroundings on its surface or it can expose activities inside the library.

Mirrored Glass

Due to its dual nature, mirrored glass exaggerates revealing and concealing. On one side, it functions like a mirror, directly reflecting views, deflecting light without permitting a view through its surface. On its opposite side, it is transparent, offering a clear view through to the other side. In the new addition, this material is strategically employed in various locations, inside and outside to entice mental stimulation and physical interactions. For example, in Fig. 71 the glass that encases the two existing facades. The mirrored side of the glass will face the façade to reflect the stone wall. On the outside it will appear to be a continuous transparent layer of glass; however, from the inside looking through the existing windows, visitors will be offered two views: one of Bank Street and the other, a reflection of the existing façade. The act of transposing the old onto the new strengthens the connection with the library's past. Furthermore, depending on the viewer's angle, visitor may also be reflected onto this element. This design intervention makes inferences to the inadvertent relationship between an individual's identity and physical environment as well as building's identity and physical environment.

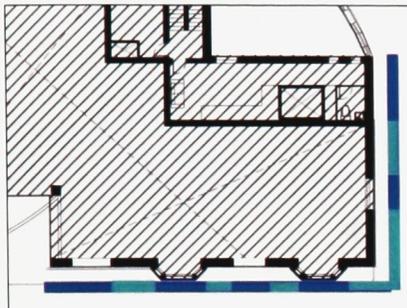


Fig. 71 Location of mirrored glass along the glass enclosure. Dark blue indicates regular glass and light blue indicates mirrored glass.



Fig. 72 ⁷⁶Example of mirrored glass used on a building.

Image Printed Glass

The final glass component used in the design is image printed glass panels, similar to those found in the Eberswalde Library by Herzog and de Meuron. The images that will be applied on the glass will be images significant to the library's past such as articles or photographs which

⁷⁶ <http://www.virginislandsglassrays.com/mirrored-glass.shtml>

will be accumulated into a collage and used as a matrix. Through representation, history will be expressed through the surface invoking to the public what lies within and beneath.

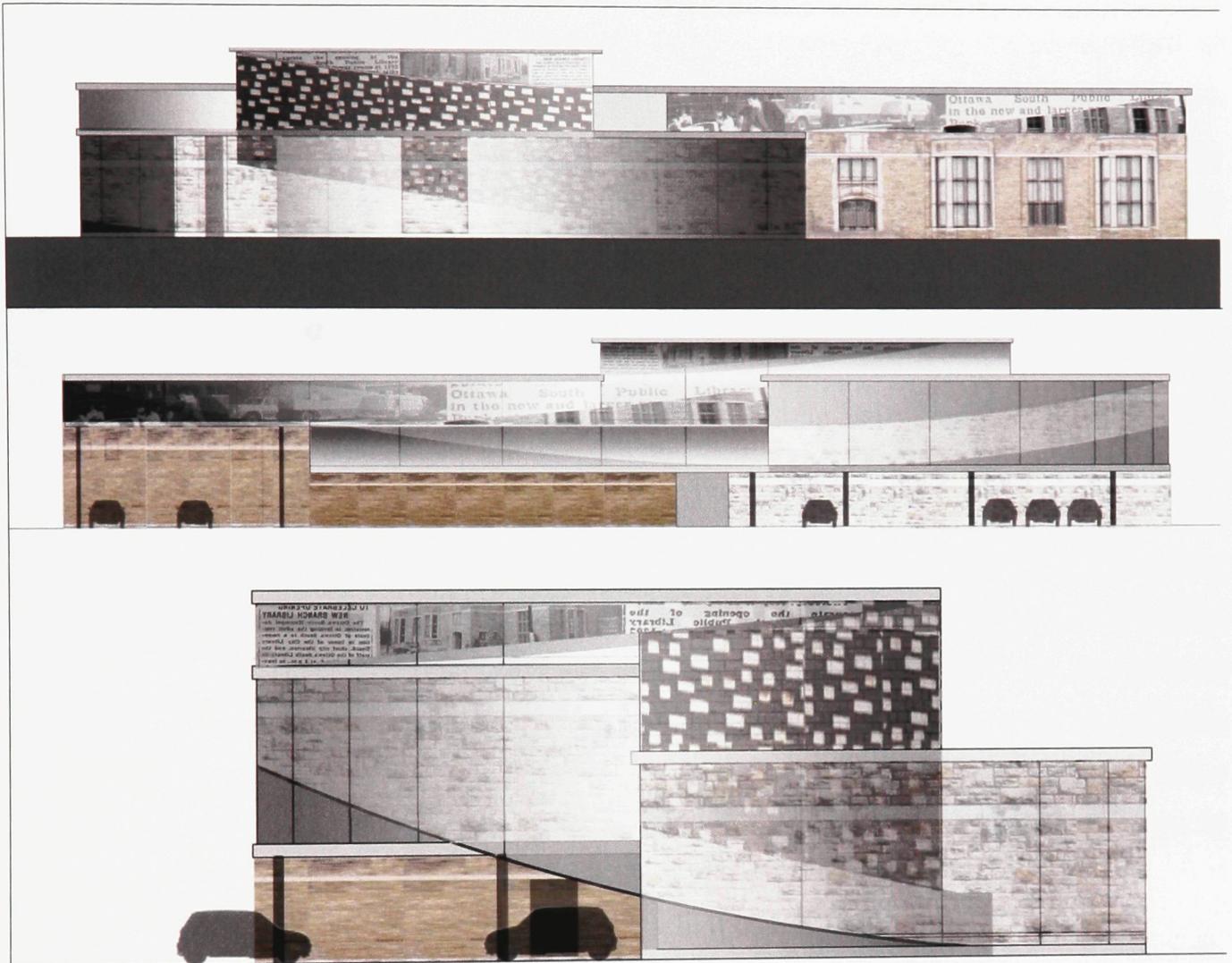


Fig. 73 Elevations demonstrating the play between transparent glass, mirrored glass, and silk screened glass creating the illusion of continuous surface fluid transitions.

All in all, the material of glass reflects temporality thereby embodying the ability to capture impermanence. It blurs the notion of boundaries and initiates an active dialogue between the public, library visitors, the library, and the surrounding neighborhood.

Stone Printed Fabric Walls

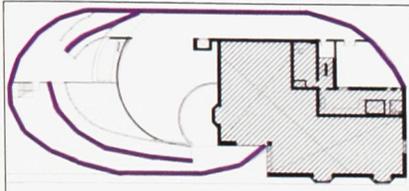


Fig. 74 Diagram indicating where stone printed fabric walls are Located



Fig. 75 Rendering of stone printed fabric walls. Rebecca Han, 2011

Inspired by the work of Penelope Stewart and Shigeru Ban, this tectonic element is a primary feature within the new addition. It is a dematerialized wall devised from applying the surface strategies of fashion (scale, disposition, and tectonics) to reinterpret the materials of textile and stone. This element operates in various ways to engage, reflect, and express the nature of the building. It is a hybrid of surface and space, ornament and function, past and present. These fabric walls weave around the outer perimeter of the entire building and vary from being *fixed* and *un-fixed*. From the outside, the decorative application of stone onto fabric visually camouflages the transition between the old and new space, especially at the main entrance. Its versatility moderates the explicitly of the glass enclosure by encouraging manipulation of the building surface. From within, the tactility of this fabric wall is reminiscent of curtains; however, because it is impressed with images of a stone surface, it transforms the conventional perception of curtains and stone walls triggering a sense of awareness to those who interact with it. This dematerialized wall allows occupants to control what is being exposed through the act of concealing; however, the concealing is inadvertently revealing.



Fig. 76 Photographs of stone printed fabrics used in physical models. Technique: color print on translucent linen fabric, Rebecca Han, 2011

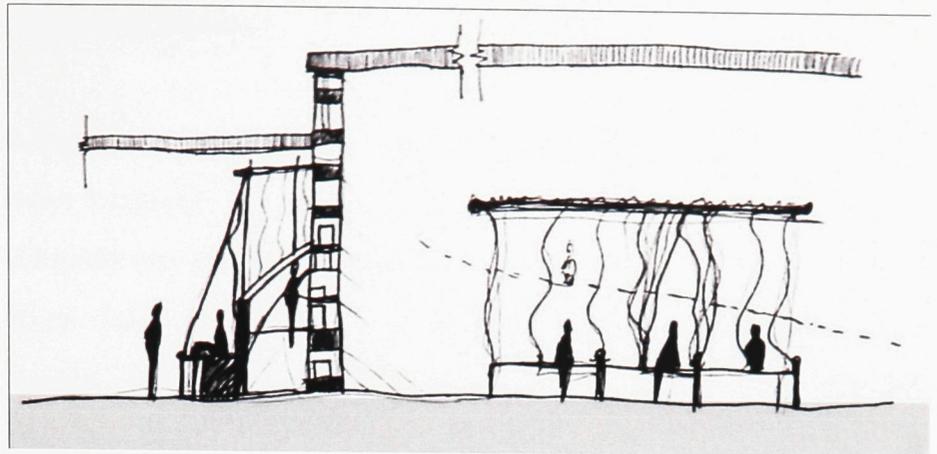


Fig. 77 Sketches of stone printed fabric walls, fixed and un-fixed. Rebecca Han, 2011

The stone printed fabric is essentially similar to print fabrics used in fashion design. Fashion designers both create prints and use them in garment designs to create garments with unique patterns. Printed fabric is a fabric manipulation that transforms the original condition of a fabric, reinventing it. The fabric that will be used in the Sunnyside Library will be various transparencies of linen that will be fire treated for safety purposes. Scale will be played with in the prints to manipulate transparencies of fabric. The smaller the print is, the less transparent the fabric will be and the larger the scale of the print, the more transparent it will be. The stone fabric will be integrated in two ways within the building: fixed and un-fixed.

Fixed

The fixed fabric stone walls stretch the height of its respective wall and are fixed at the top as well as the bottom. These fabrics will be tailored to be 30 cm longer in height than the wall they cover to capture movement from breezes caused by open windows or people moving within. They are strategically located along high traffic paths that join different spaces and programs because being placed in-between boundaries impose a sense of connection between different areas of the library. Movement would cause the fabric to flutter and move to animate spaces with a play of shadows and sounds, heightening a

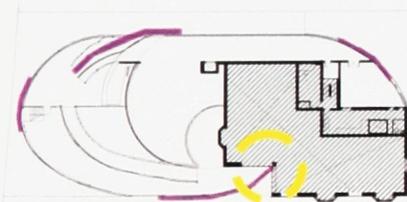


Fig. 78 Diagram indicates location of the fixed fabric walls. Circle indicates where the detail in Fig. 79 is located

visitor's awareness.

A detail that demonstrates this design intention can be found at the main entrance. The corner detail is designed with a 30cm gap that connects the entrance vestibule (in the old library space) to the fixed stone fabric wall (in the new space) to allow for movement from people entering and leaving the facility to be reflected into the adjacent space.

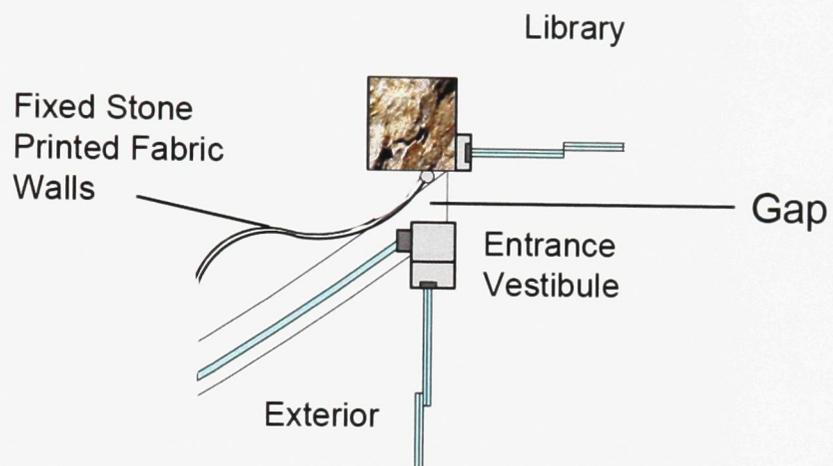


Fig. 79 Detail of fixed stone printed fabric wall and gap at the main entrance. Rebecca Han, 2011

Un-Fixed

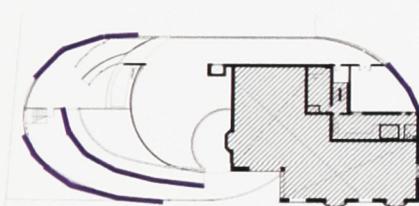


Fig. 80 Diagram indicating location of the un-fixed stone printed fabric walls

The un-fixed fabric walls are only fixed at the top of the fabric and operate similar to curtain systems. Inhabitants can manipulate and control how much light can penetrate through, control views, collectively enhancing their experience. By inviting visitors to interact through touch the fabric implicates another layer of awareness. The tangible stone imagery evokes awareness to materiality which establishes a connection to the library's original stone construction.

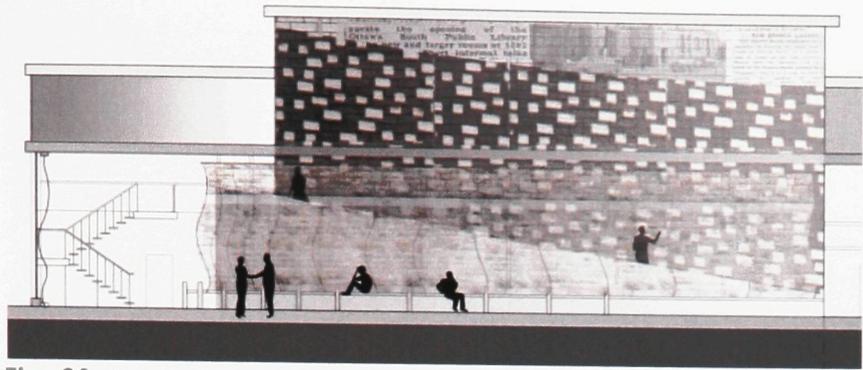


Fig. 81 Section showing new public reading area on main floor with un-fixed stone printed fabric walls, Rebecca Han, 2011



Fig. 82 Rendering illustrating a close up of the reading area. Rebecca Han, 2011



Fig. 83 Sketched plan illustrating an aerial view public reading area, ramp, and perforated stone wall. Demonstrates how the un-fixed and fixed stone printed fabric walls will be interacted with. Pink indicates fixed walls, purple indicates un-fixed walls.

Along the large new seating area, the un-fixed fabric wall will be hung along the length of the ramp. Library users using the space for quiet reading can enhance their experience by utilizing this fabric to create more personal intimate spaces. This wall will be composed of various widths with the different scales of prints and opacities. These fabrics will be detailed with a circular opening at the bottom that can be fastened to fasteners located along the seating area below. This offers readers to enhance their experience with the option to create more private and personalized temporal spaces. At the same time, the reading space is constantly in relation to other spaces such as the movement on the ramp and perforated wall/shelf behind.

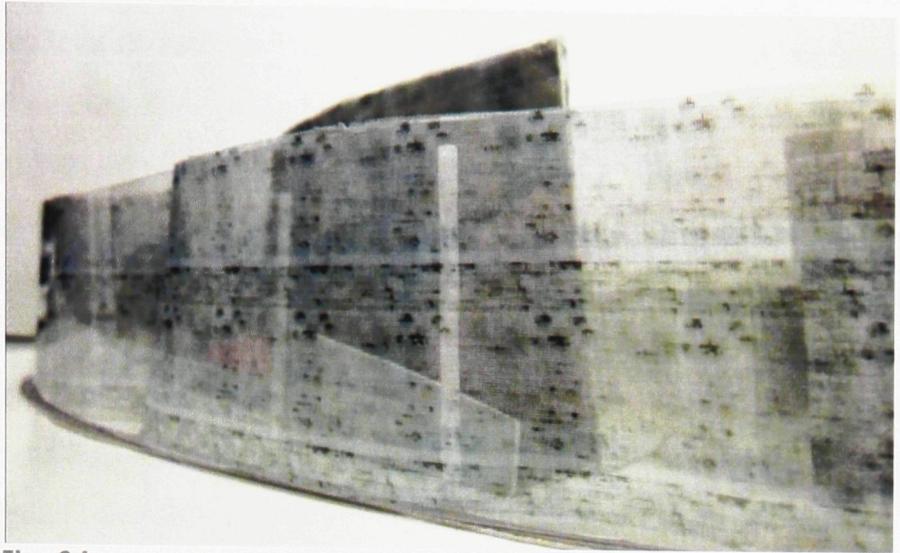


Fig. 84 Image of stone printed fabric walls within physical model. Rebecca Han, 2011

The stone printed fabric walls not only infuse architecture with fashion, but they also operate in a technical manner as light diffusers, critical for a library because books should not be exposed to direct sunlight. Its tangible nature allows both to conceal and reveals spaces inadvertently heightening awareness and connecting the experience with the past, reaffirming through representing.

Perforated Stone Wall/Shelf

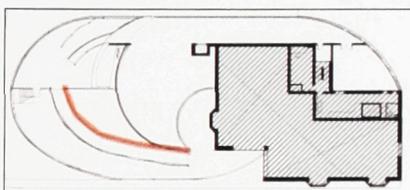


Fig. 85 Diagram indicating location of perforated stone wall/shelf

The final dematerialized wall in this project is the perforated stone wall which doubles as a large shelf. This element is a boundary that separates a quieter library area from the public reading area and further separated by the ramp, a secondary threshold. The impermeable disposition of stone was chosen for its definitive separating ability; however, through creative manipulations, this stone wall is both a space divider and a space connector. The perforation on the surface of this surface make it a spatial separator and connector due to its ability to permits light, air, sounds, and shadows to pass through which maintains a connection with the opposite side. Stone

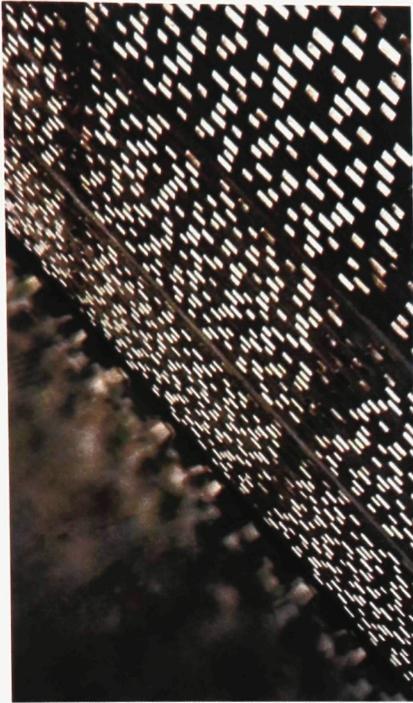


Fig. 86 Example of a perforated stone wall from the Kolumba Museum, Peter Zumthor⁷⁷

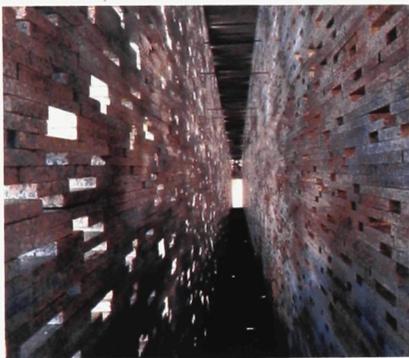


Fig. 87 Example of a perforated stone wall, Nazari Wall Intervention, Antonio Jiménez Torrecillas

was also chosen for its literal reference to the library's original stone walls as a strategy to reaffirm their memory. Furthermore, the unique construction of this wall created by strategic stacking of stone to create perforations makes room for a unique storage of books. The perforated shelves can be accessed on both sides of the wall, once again initiating interaction between inhabitant and surface. This dual function surface also literally expressing the identity of the building as a library by integrating the storage of books. All in all, its surface reaffirms the past through representation, mediating the architectural body's past to the present.

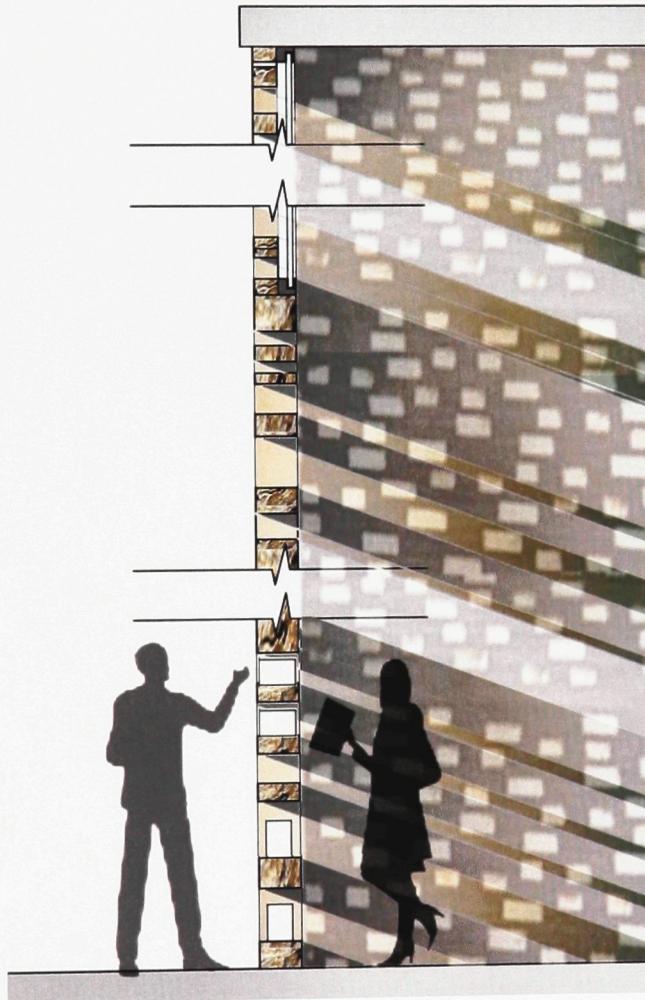


Fig. 88 Detail of perforated stone wall the doubles as a shelf. Rebecca Han, 2011

⁷⁷ http://www.saatchi-gallery.co.uk/museums/FullSizeMuseumPhotos2/ac_id/508/image_id/33116/imageno/2

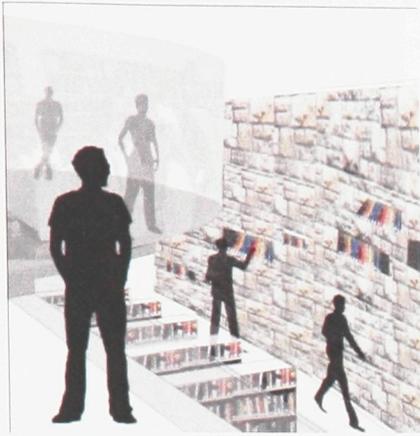
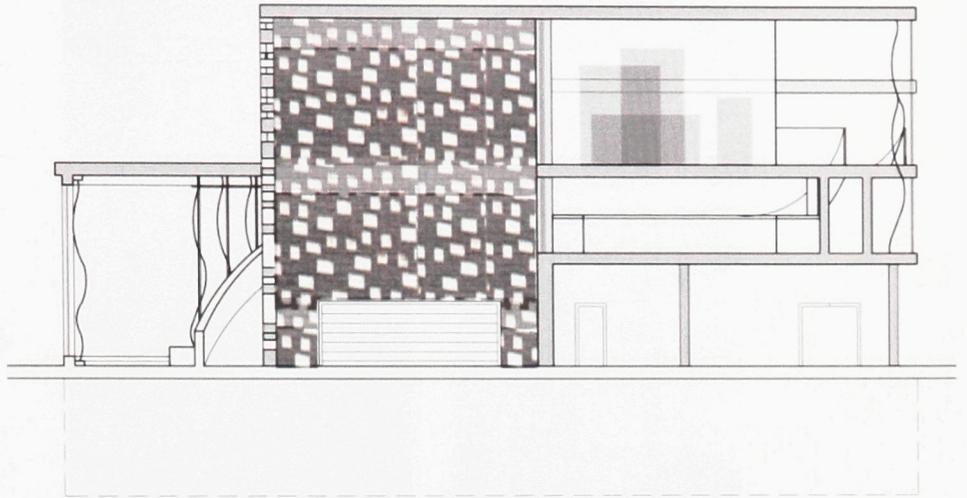


Fig. 89 Illustration from second floor looking into new library space. Rebecca Han, 2011

Fig. 90 Section revealing the space wrapped by the perforated stone wall.
Rebecca Han, 2011



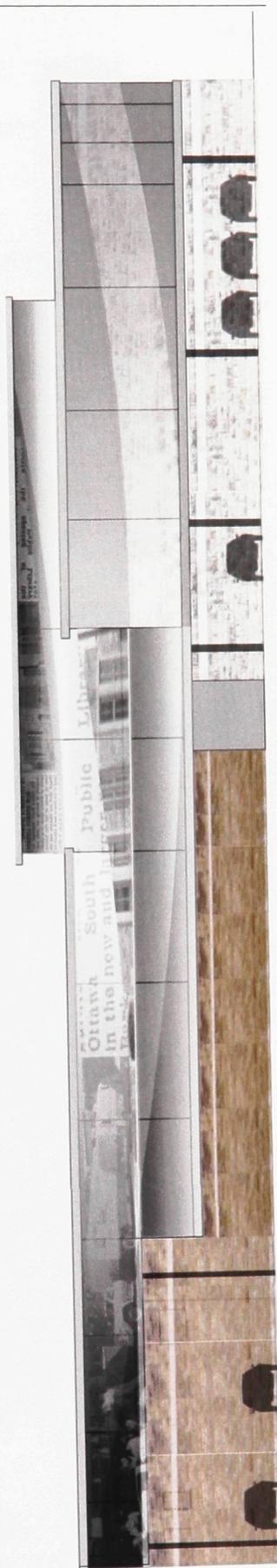
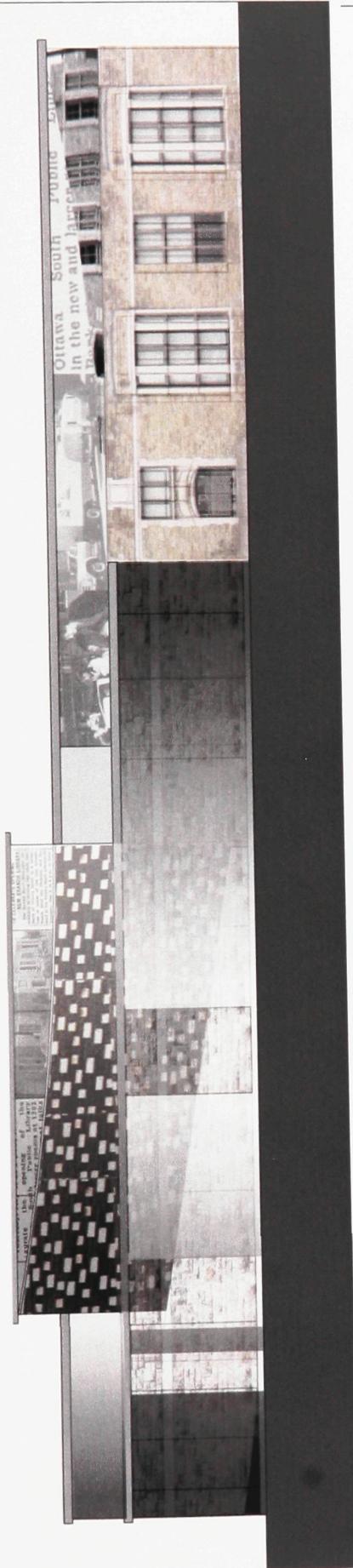
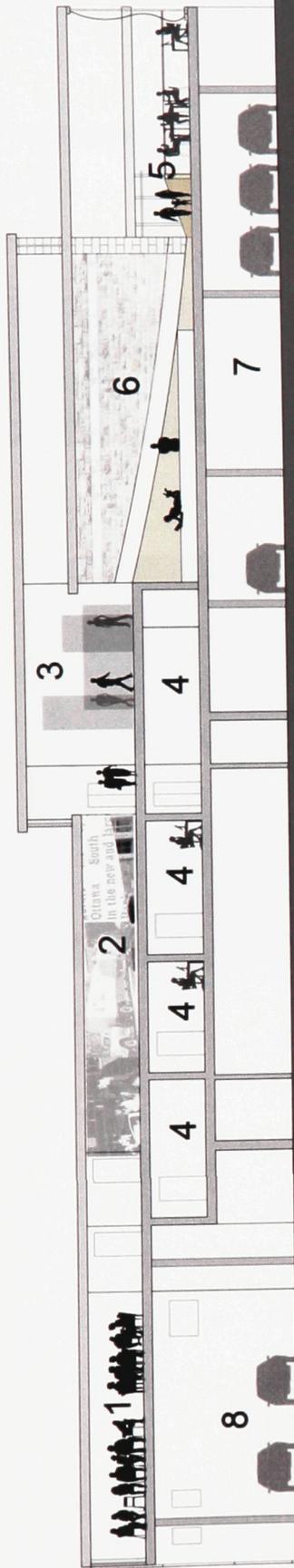
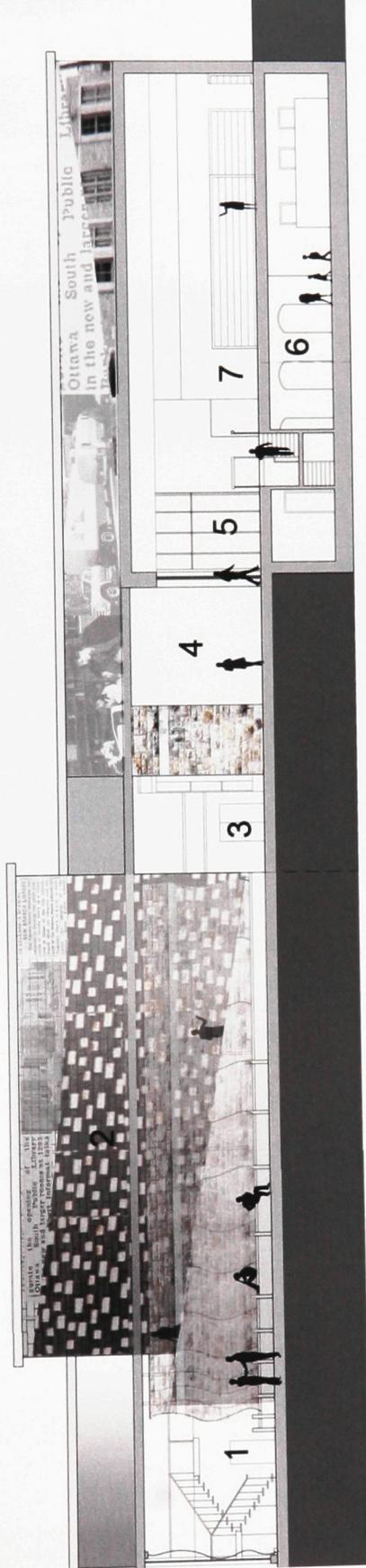


Fig. 91

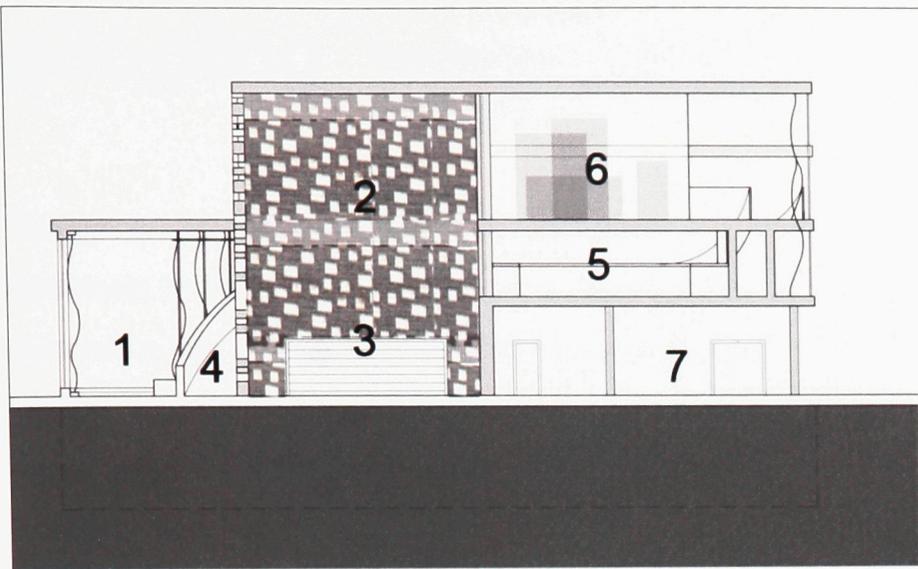


- 1 Community Meeting Room
- 2 Reception Hall/Gallery Space
- 3 Gallery/Exhibition Space
- 4 Admin Space
- 5 Coffee Bar
- 6 Public Reading Space
- 7 Public Parking
- 8 Employee Parking

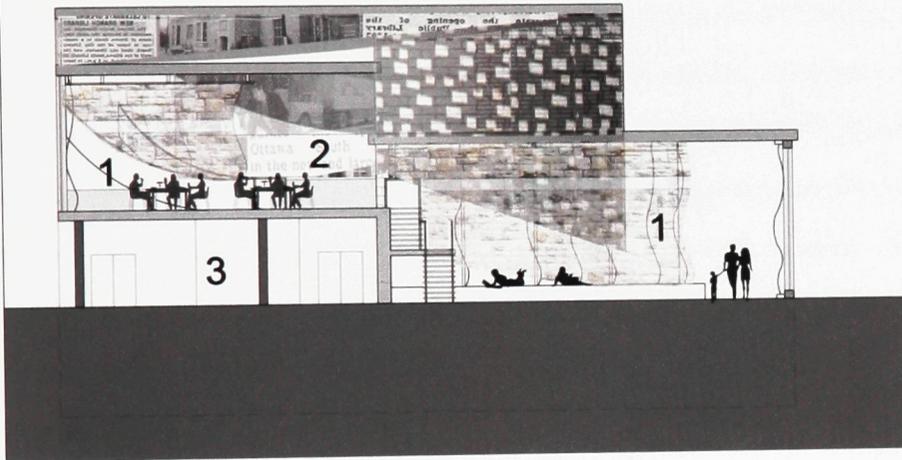


- 1 Public Reading Space
- 2 Perforated Stone Wall/Shelf
- 3 Hall to New Stacks
- 4 Connection to Existing Library
- 5 Entrance Vestibule
- 6 Childrens Area
- 7 Existing Adult Stacks

Fig. 92



- 1 Public Reading Space
- 2 Perforated Stone Wall/Shelf
- 3 New Stacks
- 4 Ramp
- 5 Coffee Bar
- 6 Exhibition/Gallery Space
- 7 Employee Parking



- 1 Public Reading Space
- 2 Coffee Bar
- 3 Public parking

Fig. 93

Through the lens of camouflage, the disreputed role of surfaces within architecture is restored and reaffirmed. The respective physical and psychological domains of camouflage infer a new framework to contend to the consequences of impermanence. Aligned with fashion, surfaces offer an alternate method to approach architectural conservation which reaffirms Aldo Rossi's understanding of architecture as a collective creation of environments; an un-static and on-going process.

Through surface play, the depths embedded within the surfaces of the Sunnyside Library were revealed through representation. By conforming to this body of architecture, its surfaces were concealed and obscured which interchangeably revealed new spaces, surfaces, conditions, and expressions which altered its perceptive surfaces without overlooking its past. The final design retained the original facades of the existing library and reaffirmed them by deriving new spaces and surfaces from them. The gesture of the 'wrap' generated a sequence of layered spaces around the library's body which maintain a coherent relationship between the old and the new. Surface strategies of fashion informed the designs of three dematerialized walls which engage inhabitants visually and physically, inadvertently connecting them with the past. Collectively, these design interventions transition the library's body into the present through representation, thereby applying the process of camouflage into architectural design through a surface informed proposal.

Walter Benjamin states that "for philosophers, the burning interest in fashion lies in its extraordinary anticipations."⁷⁸ Fashion is constantly forward looking, anticipating the future. Applying this mindset within architectural design has the potential to propel it in a new progressive direction.

⁷⁸ Loscheck, Ingrid. *When Clothes Become Fashion Design and Innovation Systems*. Madison, WI: Berg Publishers, 2009. Pg. 98

EPILOGUE

The architectural body refers to a building which has surpassed its aesthetic and pragmatic prevalence rendering its physical existence obsolete. However, its psychological existence, which is attached to its identity and an identity of a place, does not ever become irrelevant; therefore, the architectural body refers to both heritages designated buildings and non-heritage designated buildings. Camouflage and fashion offer a way which we can push the boundaries of architectural conservation by being sensitive to existing methods (such as façadism) while testing the limits and capacity of preserving architectural surfaces because the identity of any building becomes a memory of its physical and visual surfaces amongst an urban environment.

In this thesis, Camouflage becomes a device that merges the fields of fashion and architecture by addressing and questioning the how the identity of a building or individual adapts through impermanent environments. It offers a way of looking at how objects or individuals constitute an identity through the visual and aesthetic realm. Fashion was engaged as a tool which offered the possibility to adapt and evolve the identity of a building, like the human body, through surface perception and surface play. This potential is pushed further by surface strategies found in fashion which revolve around methods to *re-present*. Materials, fabrics, and textiles reveal and conceal existing surfaces and new surfaces in order to help human beings adapt and evolve their identity by *re-presenting* themselves.

The 'visual realm' and 'aesthetic realm' co-exist together and are tied by *representation*. The visual domain refers to the natural human tendency to engage and perceive their physical surroundings primarily through sight, even though we are born with four other senses. The aesthetic realm refers to the acknowledgement that aesthetics play a critical role in social expressionism and therefore can be seen as a progressive strategy rather than a hindering one in the ever evolving image-based society. Representation is made possible by these two conditions of society and is a socially driven mechanism that engages, connects, and reaffirms the other.

Returning to Pallasmaa's critical stance towards visual imagery, camouflage and fashion suggest that this seemingly negative 'cultural condition' is much more than what meets the eye. In fact, it can and should

be embraced to reveal new propelling potentials. It suggests that perhaps society has been too quick to draw assumptions towards the aesthetic and visual realm when in fact it has effectively brought society to where we are today, by adapting and evolving through representing. Architecture too can also employ this mindset of viewing building design as an un-static and on-going process; the potential of adaptive design where a building is meant to evolve with time.

architecture

The German word *Wand* [wall] *Gewand* [dress] is derived from a single root which acknowledges the textile origins of architecture linking it to the body and dress.⁷⁹ The significant role of surfaces in architecture has existed for many years. Perhaps the most influential contributor to the topic of architectural surfaces can be traced to German born architect, art critic, and architectural theorist Gottfried Semper. In his book *The Four Elements of Architecture*, published in 1851, Semper pursued to establish the origins of architecture from an anthropological perspective which lead to the conclusion that architecture was made up of four irreducible elements: the hearth, the enclosure, the roof, and the terrace. Semper went on to elaborate on the theory of enclosure (the wall) more than any of the other elements because he defined that the essence of architecture is its covering rather than its material structure.⁸⁰



Assyrian Carpet

"Hanging carpets remained the true walls, the visible boundaries of space. The often solid walls behind them were necessary for reasons that had nothing to do with the creation of space; they were needed for security, for supporting a load, for their performance, and so on."⁸¹

By calling attention to woven fabrics, Semper did not favor surface over structure. Instead, he was emphasizing that structure should be made ornament by linking it with the process of production similar to the nature of textiles. Textiles and clothing were made through techniques that reflected its production method of the times and for Semper they were weaving and sewing. His theory proposed that ornament and surface play were the essential acts of architectural creation and an important aspect of human and social expression, therefore surface play should be woven into the design process. The surfaces of architecture are the essence of architecture because they operate on the social realm.

fashion

The social conception of *fashion* is associated with 'current' and 'popular' clothing trends that are mass-produced and mass-marketed through media and commercial institutes. Ironically, the modern day

⁷⁹ Semper, Gottfried. *The Four Elements of Architecture*. New York, NY: Cambridge University Press, 1989. Pg. 104

⁸⁰ Wigley, Mark. *White Walls, Designer Dresses*. London, England: THE MIT Press, 2001. p. 11

⁸¹ Semper, Gottfried. *The Four Elements of Architecture*. New York: Cambridge University Press, 1989. pg. 104



'fashion industry' is a product of the industrial age and a complete transformation of what it once was. Prior to innovations such as sewing machines and factory production systems, clothing was traditionally handmade and tailored custom fit to a specific individual. The 20th century transformed fashion into a capitalizing business that prioritizes economic output. Regardless, the underlying principle of fashion stems from human being's predisposed nature to pursue an *ideal expression of the body*. Originating with decorating the body, the pursuit began during the primitive times with painting the skin and overtime evolved into using apparel to conform to aesthetic standards.



The integration of apparel redefined decoration because it addressed both the *surface* of the body, as well as its *shape*. Fashion evolved to thrive on radical manipulations that have occurred as part of the continuing evolution of the concept of beauty.⁸² More evident in women's fashion, areas of the body have been constructed, padded, truncated, or extended to achieve specific fashion goals through subtle visual adjustments of proportion.⁸³ The final outcome is an attempt to convey the prevalent expression of beauty by obscuring the illusion of the real body beneath. Various methods were invented, but perhaps the most effective was the *corset*. The corset "reformed the ribcage, suppressed or expressed the bust, and accommodated or displaced the flesh under the arms and the back. Lengthened downward, the corset may reshape the hipline and flatten or round the abdomen."⁸⁴ The outcome was a transformed illusion of the body's natural curves through reconstruction.

architecture

While the world of fashion revolved around exaggerated adornment of the body, architecture was also experiencing this similar occurrence. The equivalent to excessive reconstructing apparel suffocating the body in architecture was the increasing employment of ornament and cladding onto buildings. Stemming from primitive carpet walls, the pre-modern eras before modern architecture maintained a strong preference for decoration and adornment. Although the materials and method for adorning a building changed, the underlying purpose of decorating remained the same: to enhance the identity of a space.

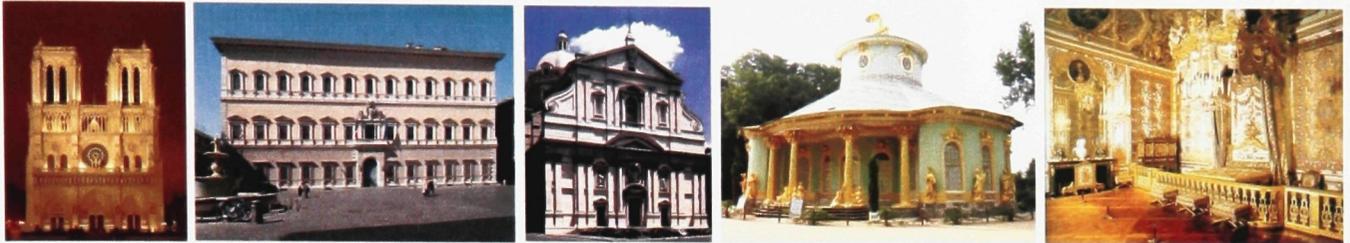
Aside from colorful and elaborately woven textiles used to decorate space, various other methods were employed to perform the same function such as hand painted stucco, panels of wood or marble. Various styles of

⁸² Koda, Harold. *Extreme Beauty: The Body Transformed*. New York: The Metropolitan Museum of Art, 2008. Pg.1

⁸³ Ibid. pg. 1

⁸⁴ Koda, *Extreme Beauty: The Body Transformed*, pg. 72

architecture emerged that were heavily focused on ornament. Gothic and Baroque architecture were based on heavy ornamentation of both the exterior and interior of a building. Facades were heavily ornamented with exquisitely handcrafted historical or religious motifs that were typically exclusive to the rich or for religious buildings.



Gothic Renaissance Baroque Rococo

Timeline of ornament oriented architecture.

(Notre Dame Basilica/Palais Farnese/Church of Gesu/Chinese House/Palace of Versailles Queens Chamber)

Semper's theory emphasized that a building's surface should operate independently from structure to communicate its production methods which would express the spirit and identity of a building. Woven carpets and handcrafted ornament embodied this authenticity; however, the industrial revolution introduced machine production which increased supply and accessibility to previously unattainable materials redefining the scope of possibilities. The value of ornament and cladding were cheapened by the abundance of new materials that replaced the previously authentic hand labor. The tectonics of ornament was now viewed as superficial because people were using it to conceal the new materials made available by the Industrial Revolution creating a false and dishonest mask.

At the beginning of the 1900's, Adolf Loos, a disciple of Semper, publically voiced his opinions about how both clothing and ornamented architecture was a means to hide a banal reality⁸⁵ and therefore seen as an impediment within an evolving society. In an attempt to rectify this issue, he disputes the confusion between a material and its dressing in his controversial papers "Law of Dressing" and "Ornament and Crime". Loos argued that there should not be confusion between a building's material structure and its dressing; dressing should not simulate the material structure that it is applied to.⁸⁶ They should reveal clearly their own meaning as dressing for the wall surface identifying their detachment and independence from the structure.

⁸⁵ Mical, Thomas. *Surrealism and Architecture*. New York: Routledge, 2005. Pg 312

⁸⁶ Wigley, Mark. *White Walls, Designer Dresses*. London, England: The MIT Press, 2001. Pg 10



“Nothing is more beautiful than freedom of the body”.

– Coco Chanel

Eventually, society out grew the practice of reconstructing the body during the modernist period because garments became so complex and restrictive for the body of movement. Amidst a progressively changing society, the role of women was increasingly becoming more equal to that of men. French fashion designer **Coco Chanel** is credited for revolutionizing women’s dresses in the 1920’s by popularizing clothing that permitted the female body’s comfort and movement. Her intentions were to give the body freedom by recreating desired shapes by manipulating comfortable and efficient materials to obscure imperfections by creating an illusion.

The pursuit for the ideal bodily expression became more accommodating to the natural body shape as well as many types. Generally, prevalent aesthetic expression became one that emphasized thinness and youthfulness. Fashion transformed into a tool that accommodated all body types by subtly obscuring deficiencies by shifting the focus to a body’s attributes through strategic revealing and concealing. The fundamental principle of fashion which remains unchanged is its interconnected role in social aesthetics and its employment of materials to alter the surfaces of the body to achieve these ideal aesthetics.

The Modernist architects noticed this transformation of aesthetics in fashion and subsequently began to apply it in architecture. The transition was not seamless; many people were uncomfortable with this unfamiliar concept of purified architecture which was reaffirmed by Post-Modernists. Nonetheless, in an effort to convince the public that ornament was a thing of the past, F.R.S. Yorke, a British Modern architect, wrote the book *The Modern House of 1934* where he promotes that architecture should be as modern as one’s dress.⁸⁷ He was also commissioned by *Architectural Review* to write a book to promote the new concepts of modern architecture to a non-architectural audience where he used clothing to communicate the principles

⁸⁷ Wigley, *White Walls, Designer Dresses* pg. xxch



and virtues of this new architecture.⁸⁸ Evidently, fashion was the only reference people could relate to making it the point of reference for architects as well as non-architects.

As the surfaces of fashion began to change, it was only a natural shift for architecture to reconsider its methods of creating building surfaces. By embracing new materials of the time (such as glass and steel) and exercising their potentials, rather than being stuck in the past, the independent and expressive role of surfaces is more successfully revealed in both fields transforming the perception of the ideal body and architectural body. For fashion it involved the embracement of the natural body shape. For architecture it was the embracement and utilization of modern materials which lead to buildings characterized by simple repetitive forms and minimalistic surfaces and functionally oriented buildings. Simplified surfaces pronounced a new type of spatial experience for architecture which is the infiltration of views within a building blurring the once separated relationship between interior and exterior. Analogous to the way fashion was freeing the body with simplistic garments, architecture was beginning to free a building from limiting enclosed spaces permitted by embracing new surfaces and materiality.

With both the body and building liberated from impeding ornament of the past, contemporary times embrace the concept of truthful expressions in the way garments and buildings are designed and engaged with. A healthy building was a functional building, and a healthy body was a comfortable one. Evidently, the origins of both fashion and architecture are tied to their concern towards the treatment of surfaces of the body and of space. The identity of a person and a space/building is perceived and experienced primarily on a visual level emphasizing the role and significance of aesthetics within social expression. This existing link propels the potential for adapting a building through its surface.

The fixation on reconfiguring the body's natural shape with apparel was supplemented by technological advancements that provided innovative fabrics, steel, and sewing machines. This phenomenon simultaneously influences society's perception of what was prevalent causing various shifts in hemlines, bust lines, skirt circumferences, widths, lengths... etc. These exaggerated and often over the top transformations of the surfaces and shapes of the body ultimately lead to the de-popularization of these garments because they were extremely heavy, uncomfortable, and restricted the female body of movement. Fashion's body restricting and reconstructing nature is set free by the modernists who embrace the natural expressions of the body and materials applied to it opting for natural beauty over excessive adornment.

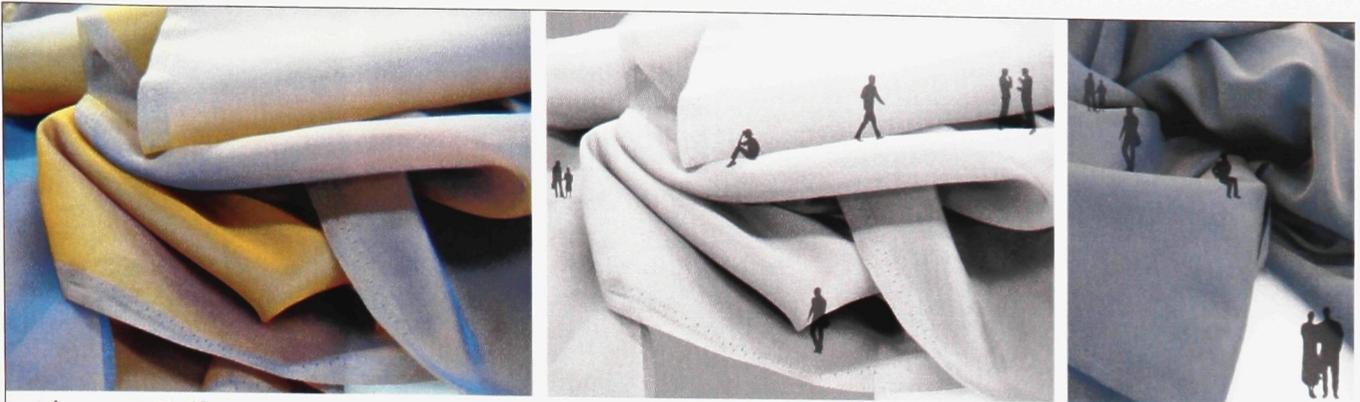
⁸⁸ Ibid. pg. xxch

Appendix B

Surfaces Played: Fabric Spatial Studies



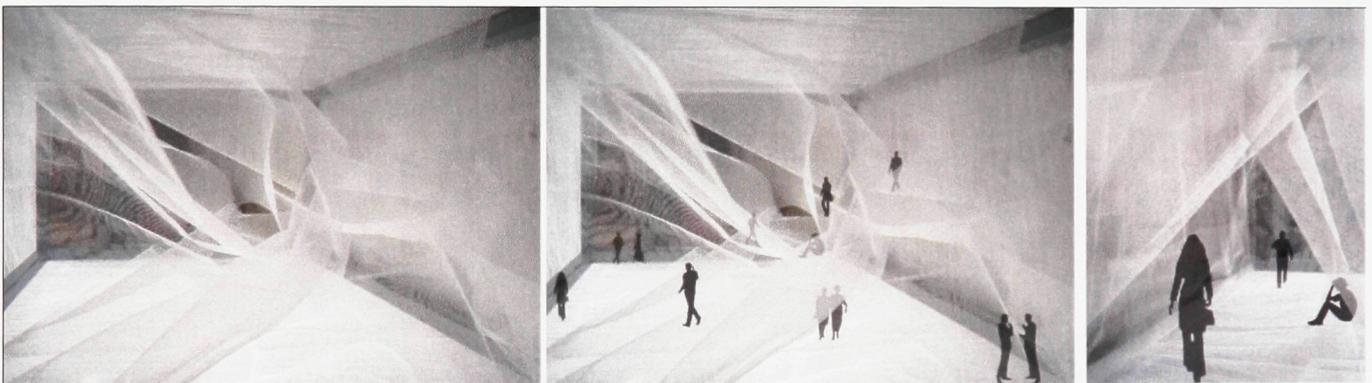
Fig. 94 Fabric Spatial Studies, Rebecca Han, 2011



Iridescent Taffeta
Draped folds

Fig. 95 Fabric Spatial Study, Iridescent Taffeta, Rebecca Han, 2011

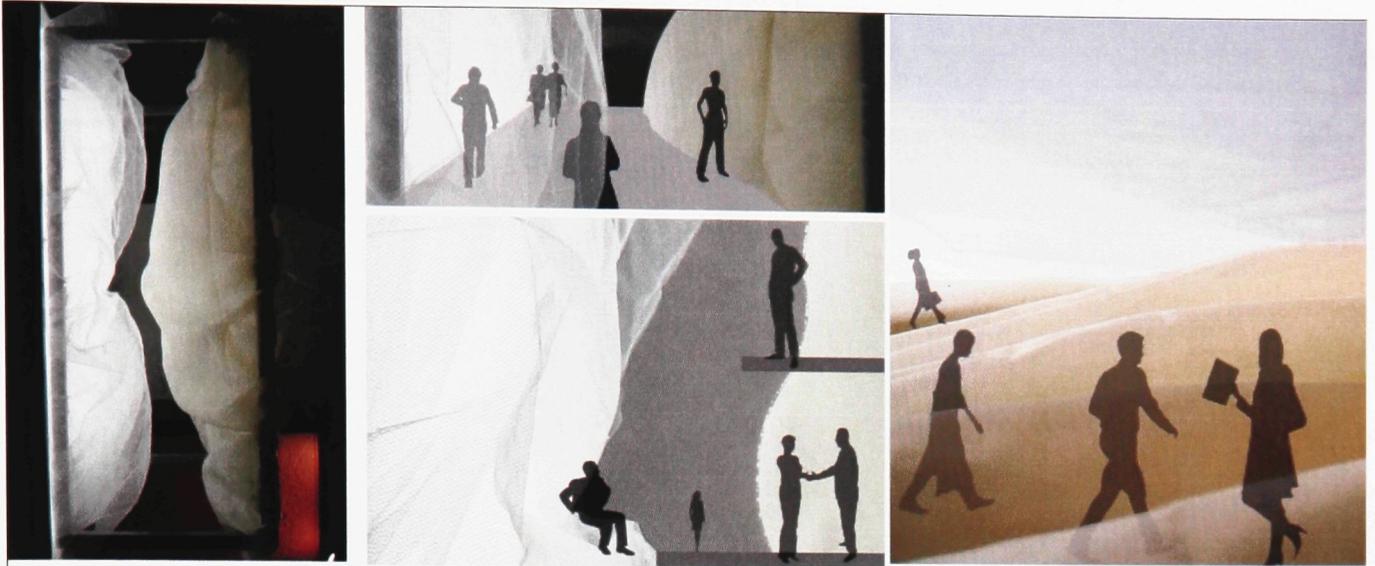
Taffeta is a medium weight, crisp material that creases well. It is a luxurious fabric with lustrous sheen and has historically been a favorite among women’s wear for dressier garments. In this study, the fabric was draped into loose folds which revealed its iridescent attributes of two tonal coloring. This material is ideal for draping because its weave permits a heavier density enabling crisp folds to be held. When interpreting the shapes created by the taffeta into spatial conceptions, the crisp drapes articulate a sense of solidarity that translates architecturally as masses reminiscent of walls and floor planes which are inhabited around or on its surface rather than within. The folds and creases become spatial separators that delineate the way the human body moves around the forms. And although the resultant forms bluntly separate internal and external spaces, the folds and creases articulate fluidity within the movement around the spaces



White Tulle
Scrunched and wild

Fig. 96 Fabric Spatial Study, White Tulle, Rebecca Han, 2011

Tulle is a material that contrasts the taffeta’s heavier and opaque properties. Tulle is sheer, light, and rigid and as a result, commonly used in underskirts because of its ability to create volume without excess weight. When applied within a spatial context, its immediate expression exhibits a potential as a spatial connector opposed to a spatial separator. There is a sense of spatial delineation produced from its stiff and loose rigid weaves that is dependent on scale because it controls the opacity levels. Depending on the scale of tulle in relation to the body, its translucent quality varies the level of separation and connection between spaces. Essentially, in comparison to spaces created by taffeta, its tectonics operates more as spatial connector blurring the notion of boundaries by softening it. Even when layered, the surface perception maintains an interconnectivity quality merging the relationship of either sides of what it separates. The resulting space suggests an interactive experience between inhabitants.



Organza and Tulle
 Wrapped and illuminated

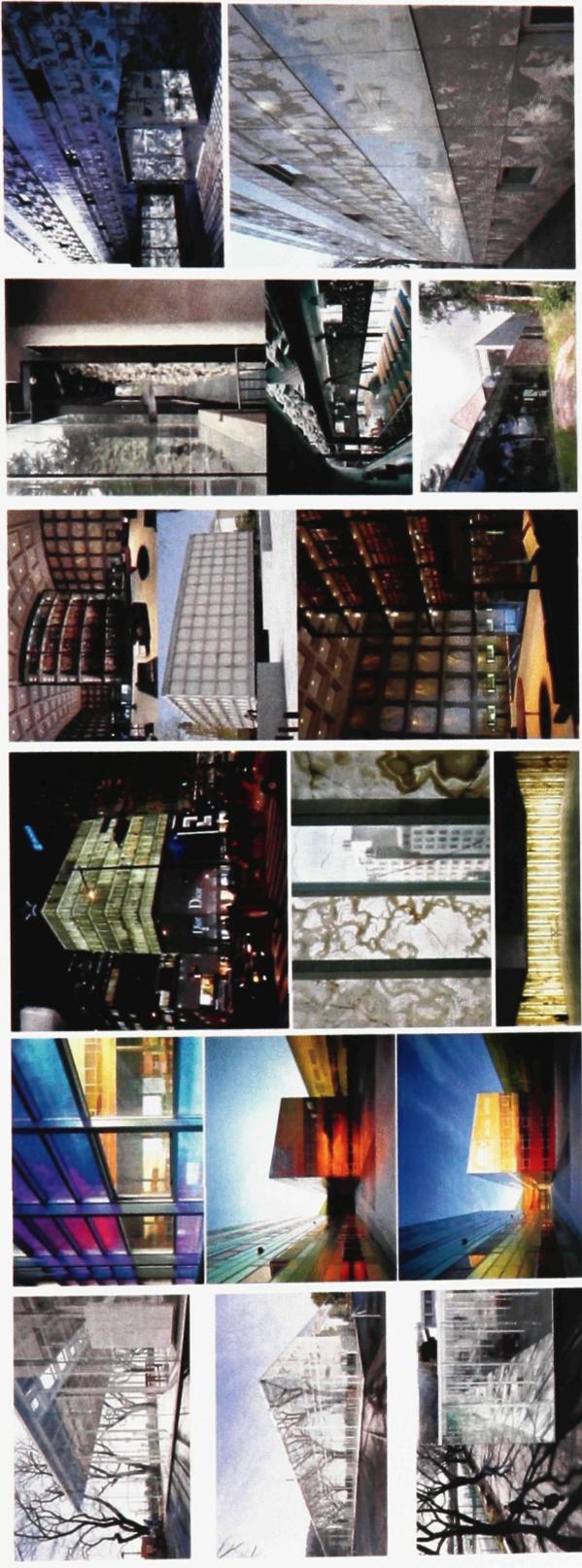
Fig. 97 Fabric Spatial Study, Organza and Tulle, Rebecca Han, 2011

The final spatial analysis is a combination of two translucent materials: tulle and organza. Organza's properties situate between tulle and taffeta in terms of opacity, density, texture, and sheen. It bears more resemblance towards taffeta's softer and flowy characteristics distinguishing it from tulle's stiffer and courser qualities. Figure 97 exhibits the results of the two materials manipulated in the same manner of multiple layers created from wrapping. Tulle exhibits a more adamant look that differs from its previous more permeable state. This method of manipulation demonstrates the role of tectonics within the fabrics to create divergent expressions. The wrapped organza differs from the wrapped tulle by its smooth rippling voluminous forms. What distinguishes organza from taffeta is its sheer quality that produces permeable surfaces that do not bluntly disconnect spaces. In comparison to tulle and taffeta, organza operates as a soft boundary which connect and separate spatial experiences by creating transitional threshold spaces.

Appendix C

Precedent Analysis: Materials, Dematerialized Walls, & Adaptive Reuse Precedents

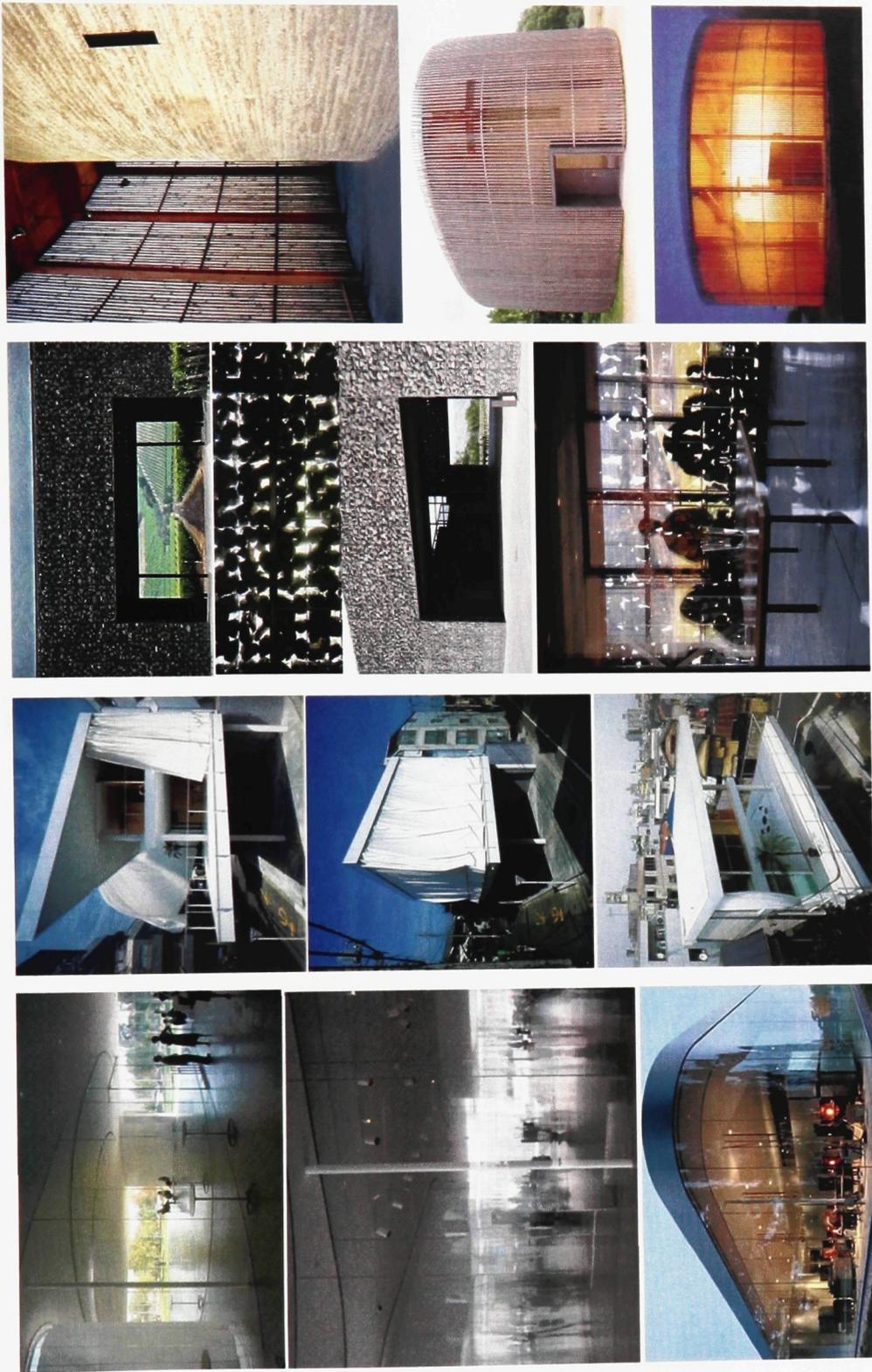
Material Precedents



Kanagawa Institute of Tech
 Yamanashi Prefecture
 Yamanashi, Japan
 Glass
 Multi-colored and mirrored glass
 U.S. Defense
 Museum
 Almere, Netherlands
 Dior Flagship Store
 Kyoto, Japan
 Osaka, Japan
 Onyx Stone
 Beineke Library
 Gordon Bookshelves
 Yale University
 Danby Marble
 Mortensen Church
 Jensen & Skjerve
 Oslo, Norway
 Rough Stone and Glass
 Library in Ikerwald
 Ikerwald and Ikerwald
 Ikerwald, Germany
 Tinted Glass

Fig. 98

Dematerialized Wall Precedents



Glass Pavilion
 SANA
 Toledo, Ohio

Glass + Glass

Curtain Wall House
 Shigeru Ban
 Tokyo, Japan

Textile + Sliding screens

Dominus Winery
 Herzog and deMeuron
 Yountville, California

Rough stone + Glass

Chapel of Reconciliation
 R. Rejzmann & P. Sassenroth
 Berlin, Germany

Wood slats + Rammed Earth

Fig. 99

Renovation and Restoration Precedents



<p>Monastery St. Benet Madrid, Spain</p>	<p>Renovation of a Monastery. The contrast between the old building and the new are mediated by the contrast of materiality. The old stone walls contrasted against modern glass celebrates this connection. Reflectivity in the glass reflects the original walls and projects its surface creating the illusion that the stone walls continue. Smooth transition of materiality.</p>
<p>Neues Museum David Chipperfield Berlin, Germany</p>	<p>Renovation of the museum left in ruins by the war. The Museum is a modern building that inhabits the ghost of an old one. The remains of the existing building were salvaged and reused in the building. War scars and bullet holes are still visible on its skin, the walls. The building doesn't deny its wounds of war, instead, it embraces it symbolizing its rebirth.</p>
<p>Museum of Hamar Sverre Fehn Haugesund, Norway</p>	<p>The main architectural concept was to create a museum that preserved the existing remains of Hamar Bispegaard and or Hamar barn in order to make possible for the archaeological excavations to function as an important part of the museum. The new addition does not disturb the existing acting as a layer that protects it gently weaving through.</p>
<p>Maladero Madrid Madrid, Spain</p>	<p>The renovation of the old municipal slaughterhouse into a huge contemporary cultural space. The unsettling spirit of the old building has been removed from the walls by stripping it bare down to its bones. This technique opposes the typical tendency to paint or layer on top to in order to conceal the past.</p>
<p>ROX Lille, France</p>	<p>This is a cultural centre and arts complex on the site of an old textile factory. The city was once famous for their textile industry and to celebrate this memory, the facade of the building is a clear tribute to it. The street facade is a 'luminous skin' of textile mesh that appears to shimmer during the day and night. However, there is a conflict about the authenticity of its restoration methods, textiles a secondary skin clothed on top of the original skin of the building.</p>
<p>Naisson Folie Lille, France</p>	<p>This is a cultural centre and arts complex on the site of an old textile factory. The city was once famous for their textile industry and to celebrate this memory, the facade of the building is a clear tribute to it. The street facade is a 'luminous skin' of textile mesh that appears to shimmer during the day and night. However, there is a conflict about the authenticity of its restoration methods, textiles a secondary skin clothed on top of the original skin of the building.</p>
<p>CaixaForum Herzog & de Meuron Madrid, Spain</p>	<p>The project is a renovation of a power station that previously occupied the site. The renovation treated the existing building as a 'shell' which they used to clothe the new program. However, there is a conflict about the authenticity of its restoration methods, textiles a secondary skin clothed on top of the original skin of the building.</p>

Fig. 100

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