I, Matthew F. Stephenson, hereby submit this work as part of the requirements for the degree of:

Master of Architecture

in:

School of Architecture and Interior Design in the College of Design, Architecture, Art, and Planning

It is entitled:

De Materializing the Barrier between Architecture and Context

This work and its defense approved by:

Chair: Aarati Kanekar

Elizabeth Riorden
De-Materializing the Boundary Between Architecture and Context

A thesis submitted to the
Division of Research and Advanced Studies
Of the University of Cincinnati on May 18, 2007
in partial fulfillment of the
requirements for the degree of

Master of Architecture 2007
in the School of Architecture and Interior Design, DAAP

by Matt Stephenson
   B.S. Architecture, University of Cincinnati, 2005
   Submitted May 2007

Committee Chairs:
Aarati Kanekar
Elizabeth Riorden
Abstract

The distinct static edge typical within architectural design is a result of a traditional reliance on barriers and the segregation of space to define form. This form, acting as the signifier of its conditions, is consistently considered in opposition to the context, thereby diminishing the ability of context to be a generator of architecture and form. By overlapping physical form, psychological boundaries, and conceptual processes, this thesis problematizes the separation of figure and ground. The occupiable thresholds that bridge figure and ground are revealed through the juxtaposition of public and private, interior and exterior, and existing and proposed conditions. This investigation of the space beneath Manhattan’s Brooklyn Bridge provides the opportunity to appropriate unclaimed space and question physical, conceptual, and psychological boundaries of the site and program. The formation of a space that resists the purity of a single condition is left to moderate between figure and ground, de-materializing any static barrier between the two.
Contents

Illustration List 1
Illustration Credits 2
Introduction 4
  “The building as a container”

Physical Boundaries 7
  space radiating volumes 8
  interior space 9
  transparent architecture 10
  form as an extension of context 13
  spatial overlap 17
  scale of response 21

Psychological Boundaries 22
  who owns culture 23
  urban appropriation 25
  scale of response 26

Conceptual Boundaries 27
  Interstitial Investigations 28
  spacing limitations 29
  scale of response 31

Proposal 32
  site 33
  program 37
  methodology 38
  outcomes 40

Bibliography 41
Illustration List

figure 0.1: Woman walking between two houses, Alberto Giacometti
figure 0.2: Oscar Schlemmer, How man inhabits space

cover: Blur Building
figure 1.1: Pantheon at night
figure 1.2: diagram of radiating space volumes
figure 1.3: temple of apollo
figure 1.4: glass pavilion at the werk bund exhibition
figure 1.5: The Crystal Palace
figure 1.6: conceptual skyscraper by Mies Van Der Rohe
figure 1.7: Le Corbusier, Notre Dame du Haut
figure 1.8: Mies Van Der Rohe, Farnsworth house
figure 1.9: Mies Van Der Rohe, Farnsworth house
figure 1.10: Mies Van Der Rohe, Farnsworth house
figure 1.11: SOM, the Lever House
figure 1.12: Mies Van Der Rohe, Barcelona Pavilion
figure 1.13: Antoni Gaudi, Casa Mila
figure 1.14: Spatial Overlap
figure 1.15: Frank Lloyd Wright, Falling Water
figure 1.16: Japanese veranda space
figure 1.17: Tadao Ando, Ayabe Community Center
figure 1.18: Tadao Ando, TOTO seminar house
figure 1.19: Tadao Ando, TOTO seminar house
figure 1.20: Tadao Ando, TOTO seminar house
figure 1.21: Tadao Ando, TOTO seminar house
figure 1.22: Alvaro Siza, University of Porto
figure 1.23: Studio Gang, Aquatower schematic plan
figure 1.24: Tadao Ando, Museum of Wood
figure 1.25: Tadao Ando, Museum of Wood
figure 1.26: Diller + Scofidio, Blur building conceptual drawing
figure 1.27: Diller + Scofidio, Blur building
figure 1.28: Diller + Scofidio, Blur building
figure 1.29: Diller + Scofidio, Blur building
figure 1.30: Greenstreets skate park
figure 1.31: Manhattan’s Brooklyn Bridge
figure 1.32: Brooklyn Bridge walkway

cover 02: Stacy Peralta, Zephyr skate club
figure 2.1: Appropriated residential pool
figure 2.2: Greenstreets skate park, Manhattan
figure 2.3: Guangzhou superhighway, Hong Kong
figure 2.4: Gang graffiti
figure 2.5: Los Angelos Gang territory map

cover 03: Peter Eisenman, conceptual plan
figure 3.1: Peter Eisenman Church for the year 2000 concept model
figure 3.2: Peter Eisenman, Church for the year 2000 schematic model
figure 3.3: Peter Eisenman, Church for the year 2000 context model
figure 3.4: Bernard Tschumi, La Fresnoy circulation diagram
figure 3.5: Bernard Tschumi, La Fresnoy perspective

cover 04: Overlap of space
figure 4.1: Brooklyn Bridge, Manhattan
figure 4.2: Brooklyn Bridge underpass, Manhattan
figure 4.3: Greenstreets skate park, Manhattan
figure 4.4: Lower Manhattan site plan
figure 4.5: Brooklyn Bridge, Manhattan
figure 4.6: Brooklyn Bridge, Manhattan
figure 4.7: Brooklyn Bridge, Manhattan
figure 4.8: Existing site layering
figure 4.9: Existing Manhattan land use
figure 4.10: Manhattan district one land use chart
figure 4.11: Manhattan district two land use chart
figure 4.12: Manhattan district three land use chart
figure 4.13: Delamination model
figure 4.14: Program use time lines
figure 4.15: Surface delamination
figure 4.16: Surface delamination
figure 4.17: Overlap of space
Illustration Credits


figure 1.1:  http://creative.gettyimages.com/source/classes/FrameSet.aspx? s=ImagesSearchState|3|5|0|0|15|2|1||0|7|0|160|2ad7.0405.03fa. e000.003d.7030.4820.e038.f30b.f9fe.7e7e1.73f3.0070|1|0|0| %22Pantheon+Rome%3aPiazza+della+Rotonda%22|1|0|1&pk=5&imageIndex=53&assetIndex=53&licenseModel=2&cdpc=&minimize View=1; internet.  Accessed November 2006
figure 1.2:  Diagram by author
figure 1.5:  Curtis 36.
figure 1.6:  Lambert 34.
figure 1.8:  Lambert 539.
figure 1.9:  Lambert 538.
figure 1.10:  Lambert 542.
figure 1.11:  Curtis 410.
figure 1.14:  Diagram by author.

figure 1.15:  Photo by author.
figure 1.18:  Futagawa, p. 151.
figure 1.20:  Futagawa, p. 203.
figure 1.21:  Futagawa, p. 201.
figure 1.24:  Futagawa, p. 57.
figure 1.25:  Futagawa, p. 52.
figure 1.26:  Murphy 23.
figure 1.27:  Murphy 359.
figure 1.28:  Murphy 371.
figure 1.29:  Murphy 358.
figure 1.30:  Photo by author.
figure 1.31:  Photo by author.
figure 1.32:  Photo by author.

figure 2.2:  Photo by author.
figure 2.3:  Gutierrez, Laurent, Valerie Portefaix, Laura Ruggeri, eds., HK Lab 2: An Exploration of Hong Kong Interior Spaces.  (Sheung Wan, Hong Kong: Map Book Publishers, 2005.)


figure 3.1: Eisenman 265.
figure 3.2: Eisenman 268.
figure 3.3: Eisenman 246.


Cover 4: Diagram by author.
figure 4.1: Photo by author.
figure 4.2: Photo by author.
figure 4.3: Photo by author.
figure 4.4: Diagram by author.
figure 4.5: Photo by author.
figure 4.6: Photo by author.
figure 4.7: Photo by author.
figure 4.8: Diagram by author.
figure 4.9: Diagram by author.
figure 4.10: Diagram by author.
figure 4.11: Diagram by author.
figure 4.12: Diagram by author.
figure 4.13: Model by author.
figure 4.14: Diagram by author.
figure 4.15: Model by author.
Architectural discourse has often focused on the relationship of figure and ground resulting in form defined by the creation of boundaries, delineating the project from what is considered its context. The hard edge established as a result of this approach effectively creates an absence, or gap, within form’s theoretical and physical ability to become interlocked with its context. This increasing lack of consideration for the intermediate or transitional spaces, through which form is penetrated, creates a discontinuity within the architectural design, weakening the resulting spatial experience by not allowing the buildings adjacencies to activate and enhance the project. These static transitions between form and context are commonly manifested as the container of the built space, which has been established through the historical progression of architectural theories and practices. Clearly evident in the spatial segregation of early 19th century designs, these structures commonly created thick bearing walls that required each visitor to travel through a layer of poché. However, increased structural technology allowed architects beginning with Joseph Paxton, and later Mies Van der Rohe, to establish ideas that began to obliterate the concept of wall by creating an invisible barrier between what had typically been considered separated conditions of inside and outside, effectively blurring the previous demarcation of architecture. This thesis continues the study of architecture’s ability to breach the barrier between static conditions of inside and outside, public and private, and existing and proposed and establishes an experience that embraces context and accentuates the edge conditions inherent in the solid-void relationships of architecture. This is established specifically by the appropriation of a neglected space as the site for a program developed through the overlap of existing conditions and proposed future land requirements. The blurred condition created by overlapping proposed program and form, along with existing site conditions imbues the once static edge with porosity, allowing the formerly separated opposing realms of existing and proposed public and private, and inside and outside to integrate seamlessly.

Increasing technologies, along with evolving theoretical architecture, continue to develop the concepts of transitional spaces and their ability to dematerialize the connection between building and context. Recent architectural literature has described the spaces as blurred zones\(^1\) or grey zones, both which imply architectural and spatial impurity. These terms are intriguing because of their applicability to both the specificity of architectural details and their ability to simultaneously express large-scale transitions between architectural conditions such as public and private, in this study specifically the juxtaposition of public infrastructure with recreation space and private business. The ambiguity of these threshold spaces can conceptually allow the proposed designs to fluctuate size and psychological presence by expressing programmatic and spatial multiplicity

within the perceived design. The manipulation of these architectural threshold spaces, both conceptually and psychologically, establishes a new dynamism within the resultant space. By imbuing the architecture’s ideology and formation with a porosity, thereby allowing its context to become a part of its form, an understanding of the architectural program may result allowing the built environment to inherently connect the surroundings with the building through material and formal architectural decisions.

These topics are addressed specifically within the entanglement of an urban fabric as it converges at a common infrastructure point, in this case the Brooklyn Bridge in Manhattan’s southeastern tip. The alignment of three defined districts around the bridge site allows for the conceptual creation of a program imbued with the multiplicity of the individual districts as well as the site’s existing structure and park space. Incorporating eating areas, mass transit nodes, and a community market within the space, while simultaneously preventing the construction of a defined boundary, must begin by utilizing the visual and formal dematerialization techniques of the past coupled with a contemporary psychological blurring through each spaces programmatic appropriation of the design through time.

The evaluation of the architectural boundary through these physical, psychological, and conceptual contexts, and the examination of its evolution as an element of fracture between architecture and context must be initiated by an exploration of the lineage of modern transitional experience. Conceptual thresholds have been evident in historic works whose sequential transitions into, within, and through the buildings were as sacred and ceremonial as any event that occurred at their location. The previously mentioned creation of blurred or grey zones as well as the introduction of the void as an initial design tool, rather than the residual remnant of form, has revolutionized the standard distinction of the term ‘space’ on theoretical and physical levels. The repercussions of these theoretical approaches exposed by designers such as Peter Eisenman, Bernard Tschumi, and other theoretical designers have created the necessity to reevaluate the process of creating architecture and therefore, its resulting form and relationship with context. The link between architectural form and its resultant space in this project could ultimately develop an innovative approach to the design and establishment of juxtapositions between architectural conditions. The creation of this architectural space, whose border is blurred in both its conceptual and physical compositions, will supplement the architectural project around the project site, and its inhabitants by embodying the energies and allure of its multiple adjacent spaces.

The investigation of traditional architectural thresholds raises questions about their applicability to the design in
lower Manhattan’s ‘greenstreets’ urban park space. By incorporating multiple programs into the architecture the inherent multiplicity of boundaries within the built form will force the de-emphasis of static barriers as demarcations of space. In other words, traditional elements of separation, such as a doorway between space types—public, private, interior, exterior, existing, proposed—becomes insignificant because of its inability to express the quality of the space type at one specific point within the environment, instead it will become a section of a blurred architectural boundary. However, the ability for technology to disconnect its user from its context could be viewed as the strongest case for the formal architecture to force the reconnection of, and perhaps through, that interaction. The problem ultimately suggests an innovative solution to revise the static threshold into a more associative element within the design theory and built form. The progression between the contrasting spatial conditions should become perceived as a seamless connection within the architectural language, masking the edge condition within the physical and conceptual form. Achieving this connection through the architecture’s attention to the context, and allowing for it to not only inform but also dominate space, may create a more personal and spiritual identification with the architecture as place.

The resultant integration and mutual permeation of space is one that can be manifested without regard to scale. As an encompassing ideological premise its presence is evident within the overall building form, materials, and project details. Therefore, the generated solutions will require multivalent qualities to address the threshold at those levels of form, material, and detail. The solutions identified by the study and understanding of existing techniques will attempt to create archetypal guidelines for the integration of architecture and context through its spatial orientation.
(1) **Visual Dematerialization**

*It is no longer a question of wall and window, whereby the window may play the predominant role, but rather the wall is the window itself, the window is the wall itself.*

-Arthur Korn
The blurring of boundaries, as well as typical architectural recognition, begins visually. What one perceives when they approach a built environment and what can be perceived while within that built environment establishes the experiences and provides the context of the work. This visual dematerialization explores transparency in architecture and the integration of form and context to create spaces without a beginning or end. Initiated by conceptual spatial strategies of transition and segregation and their relation to the visual manipulation of architectures boundaries suggested by Bruno Taut, Joseph Paxton, and Mies van der Rohe, this section illustrates several of the most common de-materialization strategies. In addition to the visual transparency displayed by these architects, this section explores the physical manipulation and integration between architecture and context.

**Space Radiating Volumes**

Among the early interstitial spatial studies were the Greek temples, whose spiritual spaces were segregated from the exterior by the massive columnar piers, separating the citizens on the outside of the structure from the sacred events that occurred within its walls. The physical divisions of the architecture were then amplified by the barriers perceived between the spiritual and earth realms, typically identified by the architecture’s ‘inside’ and ‘outside’. The respect for the boundary created by the cultural separation is exposed within rules regarding entry. The innermost chambers, which could many times only be entered by high priests and kings, were accessed only during specific times of the year, implying an enormous cultural and religious significance to the threshold between public and private and the architecture that framed each. Architectural historian Sigfried Giedion describes these early Greek separations as architectures first space type; an architecture as space radiating volumes. While Greek temples, the great pyramids, and the Parthenon illustrate simple volumes set in space, the temple spaces became more elaborate and democratic with time. The structures began to radiate outwards emphasizing the space of transition between the polar conditions of the private interior to the public exterior. In time the adaptation eventually led to the reversal, or at least the equalization, of the figure and ground fields, thereby allowing the poché of the columns to become the dominant field within the interstitial zone or threshold. The creation of this zone, in various forms, conceptually established an occupiable interstitial within architecture that integrated 1) the exterior, public space beyond the temple steps, and 2) the interior, where the deity was housed, to form a space, 3) the interstitial, where one had to navigate between both form and void mixed equally within one space.

---

The development of Greek and Roman religious architecture continued to spiritualize the architectural transition space and further emphasized its presence as a defined point within the spatial sequence. Archways created to symbolize significant events in the Roman culture called attention to the occupiable interstitial, one which was neither purely inside or outside, as an area of passage and imbued the space with the responsibilities of an extended threshold. Interestingly this formally vital space of passage and transition has been relegated to poché, the saturated black mass that separates architecture’s conditions from one another. This revolution brings about what architectural historian Sigfried Giedion, refers to as the second space type; an architecture of interior space. His second grouping of architecture includes the massive building techniques of the late Roman, Medieval, Renaissance, and Baroque, manifested primarily through masonry construction. The space created at this time consisted of the hollowing of a predominant spatial block, infrequently punctured to allow light and context to enter the interior. Light penetration slowly expanded the visual decomposition of architecture’s exterior wall in the Roman baths, and much later in Renaissance cathedrals, ultimately leading to the visual connection between architecture and context to become a dominant architectural element. The progressive separation of structure and appearance, which the Roman architects eventually perfected, was forgotten when the Roman art of pozzolana construction (early concrete construction) was lost some time in the fifth century. Returning to the massive poché, the solid stone construction of the Romanesque and Gothic periods restored architecture’s monolithic essence, combining structure and appearance into one entity, to a large extent, “what you saw was what you got.”

Author and historian Malcolm Quantrill attributes the eventual configuration of the building’s skin as an element separate from its structure to Alberti. Alberti established the outer edge of architecture as a fabric, or skin, which would have a precise fit and application over architecture. Quantrill points to Alberti’s Palazzo Rucellai façade as an exemplary model of inscription of the architectural schema on the architectural façade. Unfortunately this draped skin, perceived as the boundary between inside and outside conditions, is lifeless, simply adorning the dynamics created by the interior structure. However, Quantrill asserts that the Albertian skin, or signifier of the interior object is “still a substantial wall, despite the precise draughtsmanship of its delineation and tailoring.” The façade of the Palazzo Rucellai, for all its architectural graphics, is no mere ‘screen’ in Semper’s sense. It would be the parallel development of structural technology and architectural material

---

4 Ibid 73.
5 Ibid 73.
sciences that would allow the wall to be conceived of as a built screen between the conditions. This combination of time and technology has developed the exterior wall into a thinner active membrane which has inherently separated itself from the thick masonry wall of the gothic period and its inherent poché.

**Transparent Architecture**

Beginning in the early 19th century, the designs of Bruno Taut, Europe’s new greenhouse designs and the introduction of the internal framing systems significantly changed the physical representation of architecture’s edge. Evolving technology and the mass production of architectural components allowed for the traditional elements of architecture’s edge to be created from transparent material, resulting in an interior environment with ephemeral boundaries. Joseph Paxton’s monumental design for the 1851 World’s fair would soon become the archetype for this transparent condition. The crystal palace emerged as the icon of the 20th century architects’ obsession with an architecture to look *through*, instead of *at*. Together, with Charles Dutert’s 1889 Galerie des Machines, the pair officially announced the transfer of glass architecture from the private world of the palm-house to the public realm. It was their emergence that began to allow the dynamics of context to visually pervade and inform the once secluded interior spaces.

Paxton’s “monstrous greenhouse”, as papers had labeled it, revealed glass as an architectural element that could envelop the skeletal framing system that now constituted the building’s structure. The material and construction developments that had allowed the creation of the building, also allowed buildings thereafter to be interpreted in a new way — not as product, nor as a machine, but as a transparent display of its own fabrication. In other words, the reduction of the exterior skin to a thin membrane of which the inside and outside could easily pass. The result of the porosity of the exterior wall offered at the Crystal Palace was the allowance of visitors’ perspectives to reach beyond the structure of the exterior walls, creating infinite sight lines for each person regardless of their spatial relationship with the building for the first time in architecture. More than its transparent predecessors, Paxton’s creation was able to establish itself as the foundation for an architecture able to blur the distinction between the figure of architecture and the ground of its environment.

This fusion between context and created is enhanced by Paxton’s use of a single membrane draped over the buildings

---

7 Quantrill 74.
8 McKean 15.
structure. While the sophistication and transparency of joinery at that time was inferior to those capable today, the use of small glazing panels to create a massless architecture led architectural critic Richard Lucae to question the physical boundaries of the project, writing,

“As in crystal there is no longer any true interior or exterior. The boundary erected between us and the landscape is almost ethereal. If we imagine that air can be poured like liquid, then it has, here, achieved a solid form, after the removal of the mould into which it was poured. We find ourselves within a cut-out segment of atmosphere. It is, in my opinion, extraordinarily difficult to arrive at a clear perception of the effect of form and scale in this incorporeal space.”

The inclusion of any additional materials in the façade of the palace, presumably masonry at that time, would have forced the areas of glazing to be simply punctured windows, or voids left within the masonry. Any insertion of a window or ‘punching of a window’ as author John McKean suggests would destroy the projects intention by creating a chiaroscuro, which would lead to a sense of interiority.

While the expansive use of glazing had definitively disintegrated the Crystal Palace’s exterior wall to an unprecedented level of transparency, the building’s presence was further removed from the static solid and void relationship by its lack of, as Lucae described, “ethereal condition.” The building’s extensive use of glazing and relative lack of material mass allowed it to sit nearly shadowless, on its site. The absence of shadow led to the atypical architectural condition that Lucae described as an “artificially created environment…no longer considered a space,” which began the dialogue of an architecture in-between the distinct realms of figure and void as they had been previously described — creating a blurred zone. While the creation of form without shadow is physically impossible, a transparent architecture’s ability to instead create a blurred zone surrounding the perceived perimeter of the building is appealing to the idea of dissolving existing architectural thresholds. This aesthetic ambiguity within formal building, disguised by the clarity of glass, persisted as a challenge to progressive architects to evolve its ability to connect the figure of the form and interior space with the exterior surroundings through the building’s shell.

---

9 Lucae 29.
10 McKean 22.
The architectural and experiential decomposition of that shell continued to mature through the 19th century as displayed in the early twentieth century conceptual development of glass skyscrapers. Most notable among them were those by Mies van der Rohe, who foreshadowed the architectural language of transparency that would gain popularity in the 1950’s when he imagined the building façade transforming into a clear film, while allowing the form to still be influenced by context. He would continue his initial explorations of a vanishing boundary through the early twentieth century, eventually illustrating visual decomposition of boundary in his 1951 Farnsworth house. The flexibility of a small program and a single client allowed the response to accommodate a completely transparent rectangle of program. To further disrupt the traditional boundary between the exterior and interior the glass is also recessed behind the structural column grid of the house. The entry patio is placed on the side of the building, but within the rectangular footprint, hovering above the ground plane to allow exterior and interior to coexist within the footprint of the building. By only allowing the area of the column to contact the ground plane, he has again initiated a blurring between built and un-built within the vertical axis. Creating this zone has established an area encapsulated by the design but left open to the context of the structure, allowing it to exist as a piece of both the design and context, without defining its presence as a pure condition of either. It was in the origins of transparent exploration coupled with the formal generation of the Farnsworth house, that led critic Arthur Korn to write, “a change has come about that, compared to the past, represents something absolutely new: ‘the destruction’ of the traditional external wall.”  

Korn continues, “It is no longer a question of wall and window, whereby the window may play the predominant role, but rather the wall is the window itself, the window is the wall itself.” Author Phyllis Lambert concludes from Korn’s comments that, “everything – and thus indirectly, modern architecture itself – begins with Mies, with the glass building, the office building, and the skyscraper project.”

The architectural precedent of immaterial and transparency established by Mies allowed the exterior wall to continue an evolution of decomposition as set forth by Joseph Paxton. Artists and architects, especially within the skyscraper crazed twentieth and early twenty-first centuries have continued this evolution by pushing the boundaries of the exterior wall and its figural evaporation. The increasing scale of transparent objects has made the visual transparency of the exterior wall alone ill-equipped at joining the buildings edge condition with its context. The work of Van Der Rohe, and contemporaries such as Norman Foster, and SOM has necessitated form to contribute to the dematerialization of the completed architecture.

13 Ibid 38. 
14 Ibid 38.
As Van Der Rohe’s work continued to evolve he began to reach beyond the visual dematerialization of the exterior wall. The form itself became an element that could break down the threshold represented by typical walls and doors. When he began his work on Chicago’s IIT campus plan he utilized structural, formal, and visual mean of decomposing architecture’s edge condition. Architect and theoretician Peter Eisenman has said that Mies, in particular, intersects his own concerns with “figuring the ground, and with blurring the distinction between the two poles, of figure and ground.” The stringent orthogonal arrangement is placed upon a stark plane within the clustered Chicago outskirts, establishing a contradiction that questions whether the significance of the design lies with the building masses or the space left by those masses. Establishing this question allows the figure ground study of the IIT project to ‘figure the ground,’ or at least begin to set them equal to each other. While the positioning and massing of the buildings begins the figure-ground dialogue, architectural gestures, such as the design of Van Der Rohe’s column sections, evolve that dialogue. Eisenman began his own interest in the permeability of concept and form through Mies’ work – specifically the evolution of his column section as it related to the problem of delineating figure and ground as dominant and subservient elements, which he believed could be “taken as a symptom of his concern for this problem.” His attention to the corner condition, typically associated with the termination of concept, is of importance in the design. His awareness of this condition is recognized throughout his work, notably in his Barcelona Pavilion, where the stainless steel column enclosures where shaped so that their mass was diminished. Beginning with this exploration of material, shape, and the structural system became an evolution of his work and the boundaries inherent in architecture.

Van Der Rohe’s dematerialization of boundaries, specifically his early explorations of figuring the ground, opened the door for other large scale discussions on the inherent boundaries between context and design. While examining the emerging cities of the twentieth century and their evolving character, Eisenman explained that the modern city would need to inherit the adaptive characteristics that Van Der Rohe’s concepts of dematerialization seemed to focus on. Eisenman’s argument is centered on the dichotomy between the cities ability to accommodate the public masses, while simultaneously providing for individuals’ relationships with boundaries. The city’s aim is to collect and separate simultaneously through various means and therefore challenge the two conditions, figure and ground, to strike equilibrium. The boundaries placed on the city and

---

15 Ibid 707.
16 Ibid 707.
17 Eisenman 712.
structures of large scales must be adaptive, as this thesis solution aims to be, leaving the visitor or critic to guess which condition is prominent. While the integration of a new public would require fluidity and an ease of movement psychologically, Eisenman claims that structure would also need to provide refuge for those same ‘psychological collectives.’ His approach addresses the psychological appropriation of form and space by means of the physical shape and spacing created by structure. However, the work of formal manipulation to influence architecture’s edge condition started much earlier in its integration to context.

Antoni Gaudi’s twentieth century reaction against the traditional neo-gothic static forms began to bridge the gap between function and form through architecture’s boundaries. While his fluid treatment of boundaries stemmed from studies of structural rationality, regional culture, and the Mediterranean landscape, the resulting aesthetic would become the groundwork for an architecture of layering and boundary distortion. Gaudi’s use of numerous, complex studies conceived the resultant building’s organic form, creating an exterior condition that establishes the once definitive edge between architecture and context indistinguishable. The plasticity of form, in works such as the Casa Mila, draws visual parallels to natural forms such as waves eliminates the creation of a single static beginning or end point. Gaudi’s aesthetics began to invite the exterior into the undulating, impure façade of architecture, by establishing multiple layers within the form. In the case of the Casa Mila, horizontal layers of floor plates create formal undulation, blurring the boundary between inside and out. While Gaudi continued to incorporate the regional dialectic and aesthetic of Catalonia within his formal plasticity, an American architect, Frank Lloyd Wright, began to unite similar formal and visual architectural principles in his work.

Architecture has been historically defined through qualitative language—inside, outside, above, below—thereby mandating the presence of barriers to define those spaces. However architects were able to begin questioning architectures fundamentals by challenging the solidity of those barriers. By interpreting the barrier as the beginning of presencing, instead of the termination of a physical element, space types such as public, private, inside, and outside, became liberated from the bounds of the constructed wall. Presencing simply refers to the experiential arrival at a location, perhaps by sight of form from a distance or the sound of a specific program within the architecture. Allowing presencing to demarcate boundaries and space, rather than the physical passage through a defined threshold, challenges the ability of a static wall to confine the

---

18 Ibid 710.
Frank Lloyd Wright’s attempt to retain the integrity of the architectural wall, while simultaneously integrating it into the surrounding context, propelled the blurring between architecture and its context. Throughout his career this juxtaposition, especially between dwelling and nature, remained important. While Gaudi’s forms were linked to physical representations of nature and continuity, Wright’s design approach was able to join the architecture and context by combining visual decomposition with forms that could be integrated into the surrounding environment. This concept can be seen in some of his most renowned projects. Wright’s Robie House is considered an ideal representation of his Prairie style, which clearly shows the built form’s ability to transform and merge the formal qualities of context with those of the architecture. The implementation of the Prairie style’s expanding rooflines to extenuate the linearity of the site and its surroundings propels the architecture’s formal response to integrating the built with the un-built. His evolution of these concepts led to a continued diminishment of the static barrier between the conditions of public and private, and inside and outside within architectural form.

The formal assemblage of program and form within context at Falling Water emphasizes the connection that could be formed between multiple conditions. The connections formed between inside and out are revealed through three very different types of architectural manipulations. The layering introduced within the building’s levels creates multiple edge conditions dependent on the juxtaposition of form, context, and program in horizontal and vertical planes. Falling Water overlaps the edge conditions of its spaces, such as living room and exterior patio, making it difficult to extract the location of a single common barrier. Increasing this difficulty was the decision to visually integrate the Bear Run landscape with the interior space by implementing transparent wall systems, as well as his incorporation of materials in both the exterior and interior of the home. Wright’s use of glazing, especially at corner conditions, compliments the formal layering that he had imbued within the building footprint by allowing the exterior context to create more visual layers within the occupants’ sight lines. These walls were de-emphasized to mere partitions, in some cases, not even strong enough to completely separate the space of the living area from its adjacent outdoor space, allowing the space to bleed out into the porch, and further into the landscape beyond. Wright’s decision to construct both the interior and exterior of similar materials, stucco and rock, diminishes the role of the exterior wall as an object of separation. Specifically, the rock strata that borders the site was woven into the project’s spatial arrangement. While the masonry wall is typically associated with separation and poché in architecture’s past, the utilization of regional and site specific materials in combination with the visual and formal decomposition evident in the building, allows the
aesthetic of the concluding design to remain integrated within its context. Wright attempted to solidify this design strategy by later writing a set of guiding principles that propelled his domestic designs,

1) To reduce the number of necessary parts of the house and the separate rooms to a minimum, and make all come together as enclosed space so divided that light, air and vista permeated the whole with a sense of unity.
2) To associate the building as a whole with its site by extension and emphasis of all the planes parallel to the ground, but keeping the floors off the best part of the site, thus leaving that better part for use in connection with the life of the house. Extended level planes were found useful in this connection.
3) To eliminate the room as a box and the house as another by making all walls enclosing screens – the ceilings and floors and enclosing screens to flow into each other as one large enclosure of space, with inner subdivisions only. Make all house proportions more liberally human, with less wasted space in structure, and structure more appropriate to material, so the whole more livable. Liberal is the best word. Extended straight lines or streamlines were useful in this.
4) To get the unwholesome basement up out of the ground, entirely above it, as a low pedestal for the living-position of the home, making the foundation itself visible as a low masonry platform on which the building should stand.
5) To harmonize all necessary openings to ‘outside’ or to ‘inside’ with good human proportions and make them occur naturally – singly or as a series in the scheme of the whole building. Usually they appeared as ‘light-screens’ instead of walls, because all the ‘Architecture’ of the house was chiefly the way these openings came in such walls as were grouped about the rooms as enclosing screens. The room as such was now the essential architectural expression, and there were to be no holes cut in walls as holes are cut in a box, because this was not in keeping with the ideal of ‘plastic.’ Cutting holes was violent.
6) To eliminate combinations of different materials in favor of mono materials so far as possible, to use no ornament that did not come out of the nature of the materials, to make the whole building clearer and more expressive as a place to live in, and give the conception of the building appropriate revealing emphasis. Geometrical or straight lines were natural to the machinery at work in the building trades then, so the interiors took on this character naturally.
7) To incorporate all heating, lighting, plumbing so that these systems became constituent parts of the building itself. These service features became architectural and in this attempt the ideal of an organic architecture was at work.
8) To incorporate as organic architecture – as far as possible- furnishings, making them all one with the building and designing them in simple terms for machine work. Again all straight lines and rectangular forms.
9) Eliminate the decorator. He was all curves and all efflorescence, if not all ‘period.’

Wright’s focus on the joint between architecture and context, specifically with the intersection of inside and outside, permeates past a regionalism of form and material. It addresses a fundamental decision within the architectural idea to link, rather than separate, architecture with its users, its context, and its environment. Many historians have often pointed out that his obsession with connecting to nature was originally established through his study of, and visit to, Japanese architecture. It was in these Asian teahouse exemplars that Wright may have discovered the spiritual connections between nature and dwelling, a connection perhaps common to twenty-first century Japanese architects such as Tadao Ando. Architectural critic and historian Kenneth Frampton has written about the increased regional sensitivity of Japan as a country, crediting Ando as one of the most

---

regionally conscious architects currently practicing.\textsuperscript{21}

Similar to Wright’s philosophy, Ando has asserted that his work strives to draw nature into an intimate association with human life.\textsuperscript{22} The physical union created by the implementation of formal and visual techniques, along with the architecture’s context, allows the built environment to become “a device for communion with nature.”\textsuperscript{23} Ando has emphasized the material overlap within his work, creating a zone that is left intentionally ambiguous to allow man a spiritual interpretation of the space. The integration of architecture and context in Ando’s work has been established in multiple ways. Similar to Wright, the physical integration of building and site has been prominent, glorifying the joint between building and earth. An example of this technique can be seen in his Ayabe Community Center, where the vertical components of the structure meet the earth through water pools that stretch into the context, creating an event platform within nature for the building to exist. Conversely, his Museum of Wood project buries its base into the earth, letting the museum rise just as the trunk of a tree in the forest that surrounds it. In both designs, the form embraces its contextual surroundings and the event in which architecture and context are joined together. A similar integration between building and site, with the ambition to create transitions, is equally evident in the work of Alvaro Siza. He has been successful at manipulating the relationship between figure and ground to create a zone that is neither outside the domain of the building nor enclosed by its skin. This technique can be seen in his design for the faculty of architecture at the University of Oporto. Here his form is manipulated to frame an interstitial exterior space, an area that does not become part of the program, but is obviously included within the parameters of the design. Therefore, this space can be identified as a large scale transition between physical architecture and its surroundings.

**Spatial Overlap**

Siza’s ability to capture context by framing it with form leads to a second type of spatial transition, the overlap of spatial layers. Visible when the exterior edge is allowed to capture the exterior environment, the transition creates space that is neither part of the inside nor outside condition. The resultant blurring of the edge condition then occurs through the elongation of the new zone that mitigates the relationship along the built and un-built joint. This transition is also evident in


Ando’s Ayabe Community Center design and his TOTO Seminar House in Hyogo, which both feature Japanese style veranda spaces as blurring agents. These exterior spaces, defined and contained by the adjacent and overlapping architectural form, synthesize to create a new space type. Specifically, the ground of Ayabe is comprised of natural materials; those materials are then overlapped and partially encompassed by elements of the built form such as roof structures or knee walls. Ando emphasizes that the formal overlap in space is left intentionally ambiguous to allow individuals the spiritual interpretation of the place and nature, reasserting that “the building, as architecture, is a device for communion with nature.” These areas which create the blurred condition can be considered both an element of the building as well as an element of its context, but cannot be considered a pure form of either. The overlay of architectural objects has become functionally common, but has been relatively unused for the purpose of transitioning between two conditions. More recently architects, such as Itsuko Hasegawa, have expanded the layering popularized by Ando in the late twentieth century by creating an area of occupiable poché, one that is comprised of, but not solidified to its two adjacent conditions. While these works illustrate a transition between conditions of inside and outside, the methodology of combining elements from both to create an occupiable interstitial can be inserted into a other studies of juxtapositions, such as public to private and local to global. The resultant interstitial created through these studies would be the amalgamation of the conditions, rather than the ambiguous extension of one into the other.

The veranda spaces also retain the conceptual idea of visual decomposition, expressed in the Crystal Palace and Farnsworth House. While the veranda spaces are three-dimensionally, formed by the building parameters, the visual connections are free to permeate between any area of the building and the landscape, regardless of building shape or orientation. Contemporary visual materialization and permeation can be observed in Hyogo’s Seminar house, where along with the veranda spaces, entire wall openings are glazed to allow the exterior to flood into the interior spaces and visually join the adjacent landscape with the interior space. This type of connection differs from the spatial connection because of its lack of dependence on the form of the space, and instead it focuses on the form of adjacent locations. The glazing unit simply allows for the possibility of a connection between man and nature to take place but, it does not guarantee its occurrence. However, there can be no doubt that this connection advances the destruction of the boundary between interior and exterior conditions.

The combination of the visual and formal interstitial spaces prevalent in Ando’s work allows his work to de-emphasis the boundary between architecture and nature, creating a mutual permeation between inside and outside to provide people the

---

24 Ibid 146.
opportunity to ‘feel the presence of nature.’ However, this transition between opposing conditions, inside and out in much of Ando’s work, becomes logistically difficult when applied to the entire perimeter of a design. Norwegian architect and theorist Christian Norberg-Schulz suggested that architecture create a cavity within its inherent boundaries as a way to expose and consolidate the energy of the two conditions in a threshold. The openings created in the walls or barriers would allow the continuation of direction, rhythm, and sense of place between the inside and outside conditions and specify the properties of the boundaries that it penetrates.

A third Ando work that perhaps best illustrates the conceptual cavity within architectural boundaries and establishment of synthesized space, also challenges the current architectural terminology regarding entrance, portal, and surroundings. In his 1994 Mikata-gun Museum of Wood, Ando evaporates the traditional boundary between interior and exterior by running the exterior entry sequence through the building envelope and interior space, essentially allowing the structure’s natural surroundings to permeate the interior space.

This type of solution requires the de-emphasis of the boundary inherent between building and context, thereby transforming the spatial boundary into a spiritual threshold. The innovative approach to architecture’s edge condition looks to invite nature towards the interior while still ‘screening’ man’s dwelling from nature, allowing the mutual permeation between inside and out that Ando desires. Ando continues to suggest that it is the designer’s responsibility to reassert that connection and permeation that has been lost due to nature’s receding dominance in society (and the world) during modernity, and to create space that allows man to experience and feel the presence of architecture. His literary exploration, seeks the logic inherent in each place to create an appropriate form based on cultural traditions, climate, and natural environment to create location. While the visual and formal characteristics of architecture’s blurred edge all aspire to de-emphasize its physical boundary, their specificity within the resultant architectural solutions to connect the two conditions are not implied within the existing structure. Since these solutions are not inherent, the opportunities to create and evolve the methods of transition are available within each new work.

With the continuous advancement of building technologies and construction techniques the conceptualizations of both formal and visual dematerialization are joined, creating works that begin to physically blur the traditionally hard edges

\[25\] Ando 460.
\[26\] Ibid 460.
\[27\] Frampton 473.
associated with architecture, such as the unconventional work of Diller + Scofidio’s Blur Building. The 2002 Swiss Expo design featured the use of fog to blur the edges of the pavilion structure, an idea taken from the 1970 Osaka Worlds fair where fog was used as an art installation medium by Fujiko Nakaya. Diller + Scofidio used this idea to create a place that could become borderless and dimensionless. Their desire to connect the design to the specificity of the site led them to integrate the building with its surroundings by assimilating the materials of the existing landscape and proposed architecture. Early proposals illustrate the concept of the designers to ‘blur’ the form of the final design by simply using this material connection along with a form that would maximize the connection. Through design iterations the design team generated a solution that could maximize their concept of merging the design with its surroundings by using the lake’s water supply to create a fine mist, or fog, disguising the actual structure of the design. The final design shows a clear intention to de-materialize the structure of the pavilion and create a place that could defy the conventional conditions of what is considered a building (walls, roof, and floor). As the designers explained “Unlike entering a space, entering Blur is like stepping into a habitable medium, one that is formless, featureless, depthless, scaleless, massless, surfaceless, and dimensionless.”28 However, the form of the architecture itself has been transformed along with its aesthetic characteristics, perhaps enhancing its connective qualities and making it impossible to draw the Blur Building’s form with a single line. Furthermore, it would be difficult to define where the design began and where the surrounding lake ended because of the fog’s ability to transition smoothly from the dense enclosure ramp of the structure to a fine invisible mist. While the fog acts as a visual medium of de-materialization, it is obviously very different from the glazing of exterior edge as in Van Der Rohe’s glass house. This is in part due to the fog’s physical state, which gives it the illusion of a solid that is able to transition from the density of structure to the open air above the lake.

Scale of Response

The proposed site is currently saturated with movement, supplementing the aesthetic and programmatic dynamics of the proposed thesis within the designated site beneath the Brooklyn Bridge. The existing skate park, officially the ‘Greenstreets’ park space, is overlayed with the sweeping curves of the elevated roadways that lead to and from the main bridge, imbuing the site with a character of seclusion while maintaining the possibility of an energetic architecture. The roadways symbolize the complexity and entwinement that creates the sites distinguishing characteristics. Establishing visual connections to the existing activities and forms from within the proposed form is imperative to the dynamism of the proposed spatial experience because of the visual realms status as the most fundamental element of dematerialization. Allowing these elements to become a part of the experience as form or as formal generator as an accelerant to process enables the concluding architectural form and sequence to embody those dynamics inherent in context. The connections must be made visually, to produce an occupiable interstitial space between the two conditions of architecture and context. As in the Farnsworth House, allowing the outside to permeate the inside begins to de-materialize the barrier between the two conditions. By integrating the methods of Van Der Rohe with the formal characteristics of Ando, Wright, and Diller + Scofidio, this dematerialization progresses, leading to the dissolution of pure space such as inside, outside, public, and private.

The creation of an occupiable interstitial space through the overlap of structural and contextual form becomes paramount to the success of the resulting proposal. However, by overlapping form alone, the threshold is denied a conceptual dynamism and may become static through its adjacency to architectural elements. The layering of form to create a blur, as utilized in many works, must be fused with the conceptual layering of Peter Eisenman to create a boundary dynamic in both physical and conceptual conclusions. The conceptual layering along with the physical will manifest its presence within the program, site, and concluding form. While these methods may also be supplemented by the formal relationship between figure and ground. The creation of an occupiable transition space must be infused with psychological de-materialization methods as well.
Psychological Obscurity

skateboarders take what civilization has built and use it in a way the architects couldn’t have anticipated.

-Stacey Peralta
The physical manipulation of architecture’s edge condition has progressed alongside technological and construction advancements, exemplified by Diller + Scofidio’s Blur Building, and have exposed the psychological shift of the built environment’s boundary within architectural. This shift of boundary may disorient the user’s spatial experience of the architecture. Christian Norberg-Schulz proposed that an important aspect of the architectural experience is the ability for the occupant to orientate himself, or know ‘where he is’, within the architecture. Disorientation is necessary within this investigation but must be carefully constructed in constrained areas. These areas must be contrasted with areas of clearly articulated space types and conditions—inside, outside, public, private, existing, proposed—in order to strengthen the zones of de-materialization as well as maintain strength for the architectural experience as a whole. This study suggests that architecture’s ability to break free of its boundaries is linked to its ability to break the psychological understanding of where program begins and ends. Arrival at a location, or building, may be realized at its first sight, first touch, or when an individual feels they have been sheltered from the exterior conditions. The beginning of presencing is personal and unique for each visitor to the structure, therefore establishing a sequence that creates the possibility for multiple thresholds for each person to begin the presencing of the building, de-materializes the building’s edge condition. Forcing the blur of the psychological conception of the proposed architecture is therefore essential to blurring the form of this thesis proposal.

Who owns culture?

In the mid-twentieth century skateboarding began a cultural evolution, emerging in southern California, as a means of ‘street surfing.’ As its popularity grew, so did the skill and ambitions of its participants, leading them to push skateboarding to new heights. Aiming to simulate wave riding, they discovered that abandoned pool beds could simulate the transition between vertical and horizontal movement as experienced on a wave. Led by the Zephyr skate group, young skaters began to appropriate residential pools as their own skate parks. While the pool’s owners were at work skateboarders would sneak into the pool beds using them as early ramps. Skaters eventually became so daring that they would drain the pools and skate until the pool’s owners came home. This appropriation of space led to a blurring of programmatic use. Eventually the pools acquired a psychological dual ownership with both the pool owners and the skateboarders thinking of the space as their own. Skateboarders play a main role in the appropriation of architectural spaces. Many public facilities, institutions,
and parks are inhabited by skateboarders who hope to challenge the initial intentions of the space or form, as do those who skate greenstreets and utilize the highway structure as jumping elements and grinding platforms. Zephyr skate team member Stacey Peralta verbalized their intention by explaining, “Skateboarders take what civilization has built and use it in a way the architects couldn’t have anticipated.”

A common attempt of curbing this type of appropriation is by posting signs and clearly demarcating space through traditionally built wall systems. However, the incorporation of signage and patrol can only reduce the area of the occupiable interstitial, not eliminate it. Even the poché of a wall or the thickness of a painted line represents a space that cannot belong purely within one of its bounding conditions.

Author Christian Norberg-Schulz asserts the necessity of the interstitial to create an understanding of the surroundings and the architecture through a type of transition between the occupant’s position and their context. However, as the goal of the design is to blur the boundary between the context and the constructed environment, the sequential transition between the two conditions must be obscured or multiplied. The transition space has been veiled and expanded by the overlay of an occupiable interstitial, but one which, many times remains static as a result of its definitive architectural boundaries. The dynamics seen in many contemporary forms must be reflected in this thesis’ architectural psychology. Therefore, the creation of an occupiable interstitial must be able to fluctuate with time as well as with the perceptions of visitors. The ability for architecture’s boundaries to become volatile is reliant on its ability to represent many different programs and users.

Architectural studio Map Office has recently engaged in a study of conditions under its own Guangzhou superhighway structure. Due to the incredible density of the region, the architecture has adapted itself to occupy the space left empty below the highway system. Their study, entitled ‘Underneath,’ illustrates the space’s ability to transform function, character, and program throughout the course of one day. Its program adjusts through time with the needs of those who dwell and labor within the space. A second study of the group focuses on the progressive appropriation of a street vendor, which manifests similar programmatic adaptiveness through time. In this study, the unfolding of the vendor’s cart consumes more space, allowing it to expand and promote more products during the busiest times of the day. Conversely, the vendor is able to fold down his business into a small area for storage at night or when conditions do not favor sales. The theoretical, psychological, and physical

---

30 Dogtown and Z-Boys, produced by Jay Wilson, Agi Orsi, Daniel Ostroff, directed by Stacy Peralta, 1 hr. 29 min. Sony Pictures Classics, 2001. DVD.

31 Norberg-Schulz 416.
incorporations of movable partitions act as blurring elements along the static boundaries of programmatic segregation.

**Urban Appropriation**

Many urban areas are defined not by physical walls but by psychological signatures of color or dress. Modern graffiti has not only become twenty-first century mainstream art, but has also been used as a way of demarcating loose boundaries of ideas and local culture. Tagging, the act of painting graffiti on structures, demarcates boundaries despite the lack of formal thresholds or ownership of space. The symbols physically elongate the space of transition because of their ambiguity and imprecision regarding the demarcation of a specific boundary line, instead creating an occupiable interstitial zone. Without a physical boundary to demarcate one urban zone from another, any point within the zone encompassed by the symbol is between urban or architectural conditions. Because tagging creates only a vague edge condition the transition space is able to become amorphic, de-materializing any single plane as the threshold between the conditions. This is evident in studies of urban gang territories, which typically identify their territories by spray painting symbols on structures. The collection of symbols has an inability to create a solid line of demarcation, causing gang territories to take on a fluid boundary. The fluidity of the psychological boundary, due to appropriation, is most apparent in urban conditions, such as highways, bridges, medians, and alleys. In each site there is a question of ownership and maintenance, suggesting that this thesis focus on an urban condition that could be susceptible to appropriation through time.
Scale of Response

The combination of psychological and physical manipulation of the architectural edge will result in form whose borders are blurred by the continuous fluctuation of an occupiable transition space, held dynamically between opposing conditions of the architecture and context, public and private, and/or existing and proposed. This appropriation must be an integrated as an element integral to the architectural design and occupation. The understanding of cultural symbol and form within architecture, and the act of setting them in opposition to each other, blurs the boundaries of the architecture as seen in locations such as the Guangzhou superhighway, studied by Map Office in Hong Kong. Challenging these architectural and cultural boundaries within the design process forces the distortion of the concluding architecture. This study allows the proposed architecture to gain life through its ability to psychologically shift the programmatic composition of the project. Through the give and take of program zones within a single architecture, static boundaries demarcating those programs cannot remain. Therefore appropriation of form and space within this thesis becomes essential to the de-materialization of boundaries that exist between opposing conditions.

By incorporating a standardized grid throughout the project each program is able to systematically evolve and acquire adjacent space from each of the other programs. Program spaces, such as the market stand space, can fluctuate greatly over the period of a single day with varying market demands creating an architecture that is dynamic throughout one day cycle. More consistent programs may remain steady throughout the period of one day but may grow in popularity and spatial size slowly over several years. This dynamic allows the architecture to change its boundaries to both those users who frequent it everyday and those who may visit yearly. However, the simple allowance of appropriation must be balanced with visual dematerialization of form and a conceptual overlay of the opposing conditions which create the transition space in order to diminish the formation of boundaries within architecture.
(3) **Conceptual Obscurity**

A process of becoming might have a direction and energy that dealth with forces and flows, which could be multiple, reversible, and deformative rather than linear and transformative reminiscent of traditional concepts.

- Félix Guattari
Interstitial Investigations

Peter Eisenman introduced the term ‘spacing’ as an architectural process, contrary to the process traditionally practiced by architects. The term, opposed to the conventional concept of “placing” buildings, suggests the inversion of the typical design strategy by initially conceiving the spaces that are typically residual, or transition zones. These interstitial transition spaces are designed and developed around the pre-suggestion of an activity and without the qualitative concepts of length, width and height which we are accustomed to creating through. Instead the method of design places emphasis on the tension of ambiguity, realizing form through the tension between conditions. Eisenman’s inversion of process and design emphasizes transition, while blurring the concept of figure, ground, and space through multiple overlays. This conceptual design tool has the ability to influence built works and challenge their existing reading, while concurrently creating a new type of architectural transition between any context and any architecture.

Eisenman establishes the interstitial space as a critique of embodiment, and its direct relationship to design and form beginning with his church for the year 2000 design.32 These studies led to the 2003 publication Blurred Zones: Investigations of the Interstitial, where noted theorists wrote on the evolution of the interstitial, as well as its characteristics and sub-types as an element of architecture. First, it is significant to note that Eisenman and the other authors within the text have treated the term interstitial differently in their written form, than is typically understood in built form. In his essay Eisenman describes the interstitial without an inherent scale or form, but instead emphasizes the importance of the interstitial as a process. He offers an alternative to the traditional design process by suggesting that architecture be created by spacing, a term Eisenman uses throughout his essay, instead of the traditional forming of architecture. By his definition, spacing is the articulation of voids, or “absences that have the density of presences without their material being.”33 His concept of spacing, and the repercussions of creating in a way that is decidedly opposed to conventional design, allows the study of threshold to bridge a previously unknown architectural territory.

Eisenman’s use of the interstitial as a point of departure from traditional architecture has become an attempt to rationalize form that is opposed to the traditional process and is instead a reflection of a new creation process. He suggests that

Spacing, as a design process, has the ability to deny architecture’s functional legitimacy by creating an architecture whose form does not deny the presence of function (elements such as shear and stress). Achieving this quality will require an evaluation of the customary process of creating figure-ground or solid-void relationships and consider a possibility where the two conditions are embedded within one another. He continues to imply that spacing will produce a displaced condition of the interstitial. In theory, the interstitial could be manifested as a “void within a void, an overlapping within space of space, creating a density in space not given by the forming of a container with a profile.”34 This process could destroy the boundaries that allow thresholds to be defined and question the formal attributes of a void within a void. The concept of transition inherent in threshold is the passage from one quality or state to another and may be challenged by the insertion of this new space type. Any characteristic that distinguishes a void within the experiential space of another void could result in a new adjacency between figure and ground, which would then necessitate a re-examination of the architectural definition of threshold. However, the lack of identifiable examples of this type of architecture or space is limited, making the concept one of theory and not of practice. This raises the question of whether an architectural space of this quality, or origin, is a possibility outside of the theoretical realm.

Spacing Limitations

The limitation stemming from the creation of this architecture from a formal architectural standpoint is two fold. The first difficulty is that there is no “model of invention” laid out for the designer, simply the thought of producing form that is opposite from everything tradition and architectural history. Eisenman points out that since Vitruvius established his ideas of commodity, firmness, and delight, designers have had a template for creation, a set of rules to follow to create architecture. Spacing as a process, with intentions to oppose convention, has no established script and no recognized or accepted procedure or typology. The second dilemma is that there are currently no value systems set up to evaluate an architecture conceived through a process of spacing. Therefore, the foundation of the revolution that makes spacing so intriguing is the same quality that prevents it from being both produced and evaluated. Eisenman offers a prediction on architecture’s viability of reality, claiming that only when the architecture can refute its association with sign, and the building is able to disassociate itself from an obligation to conform to a preexisting conception of envelope can an architectural revolution of this magnitude be created.

Eisenman elaborates by expanding the idea of spacing to incorporate becoming. In his writing Eisenman quotes French philosopher Félix Guattari who stated that a process of becoming might have a direction and energy that dealt with

34 Eisenman, Process 100.
forces and flows, which could be multiple, reversible, and de-formative rather than linear and transformative, reminiscent of traditional concepts. Similarly, Eisenman suggests that the process of spacing and the resulting area will “imply a certain movement as opposed to it’s [the transition space] former condition as a static interval.” This quality of movement and momentum could be intrinsically associated with the concept of the displacement of the interstitial and retreat from the stationary threshold. Eisenman believes that this concept of becoming would intercept the traditional design process at the point when two-dimensional plans are extruded. When form is conventionally extruded from functional diagrams the paths between spacing and forming must be broken. A deviation must occur at this point because Eisenman’s conception of spacing does not utilize function as a legitimizer of its form. Therefore, when the design is infused with the practicality of architecture, the realms of form and space, as suggested by Eisenman, intersect. The dilemma within spacing at this junction of design then becomes how to include the function and the ‘image’ without establishing the building container as a necessary resultant of their contribution.

As an example of this process, Eisenman proposes the superimposition of a functional diagram and a diagram of a DNA strand. The superimposition of the two create a third diagram whose singular identities are identifiable, but when combined create a formal obscurity and eliminate the possibility of a reversal to the original diagrams. The result is the creation of an architecture whose edges are indefinable, thus creating a blur. In Eisenman’s writings the concept of blur is inherently linked to the concept of becoming and defined as a disassociation between sign and subject. This proposal by Peter Eisenman, along with other theorists concerning spacing and blurred zones, has further decreased the specificity architecture struggles to place on the concept of threshold. The creation of this new architectural process, with unknown interstitial results, creates the breakdown of the physical concept of threshold as we understand it. However, the uncertainty that spacing has cast on the architectural process, and more specifically the traditional definitions of interstitial, will open the door to the emergence of a new series of adjacencies and connections. Eisenman’s discovery of a spacing process, and the connections that stem from it regarding the interstitial, will no doubt share similar characteristics with the traditional examples of transition explored by Siza, Johnson, and Wright. However, the concept of spacing and its ability to create multiple conditions within the figure-ground relationship will allow a depth of exploration and understanding that was previously unattainable.

35 Lambert 407.
36 Eisenman, Process 100.
Scale of Response

Eisenman’s writing regarding the evolution of the formal envelope and his suggestion for the progression between context and form concentrates the critique on the process, or methodology, of the design rather than the specific concluding form. His writings propose the initial identification of the interstitial condition, followed by the construct of program and structure to contain the preconceived interstitial. Eisenman’s methodology of creation is often focused on the overlap of existing conditions with historic environments and cultural landmarks, as explained in his writings regarding the Church for the Year 2000. The process of overlapping conditions, both existing physical conditions and psychological concepts through time, emphasizes the blurring of a single demarcating plane within the design. Often this blurring is visually perceived through the physical overlap of forms, creating an indistinct shell that mediates between existing and proposed conditions.

The methodology of this investigation is emphasized through the evolution of program, and its fluctuation through time. As later discussed, the inclusion of specific space types into the proposed design is established through the overlap of existing land use and future program necessities. This programmatic overlap is then overlayed with the existing site plan to establish the connection between the proposed design form, its programmatic elements, and the existing contextual architecture. Allowing the formal characteristics of the proposed architecture to stem from the interstitial, or overlap of conditions, allows the concluding form and sequence to reside in a state of transition, a space whose beginning and end is indefinable.
“Even bridges are more than simple feats of engineering. They create space around, and underneath themselves, and between the members; they lack only a skin”

-Nicholas Grimshaw
Architectural connections between design conditions of inside/outside, public/private, existing/proposed are intended to create a program, and form, whose thresholds become adaptive with time as well as integrate architecture into context. The identification of boundaries conceived through presencing relies on both the physical manipulation of form as well as the psychological manipulation of space boundaries. Allowing the dynamics of the site and its existing use patterns to permeate into the proposed design transfers the energy of context into the proposed work, forming a connection between the opposing conditions. Utilizing physical as well as psychological and conceptual architectural methods to visually dematerialize the exterior edge of the proposed architecture will begin to allow the built environment to become unified with its surroundings. The resultant form will integrate with the park space below, becoming indistinguishable from the context. By allowing the architectural qualities to permeate the boundaries of the container and blur the threshold between context and architecture, the built form is imbued with the energy of the context. The evaluation of urban environments propelled the study of psychological perceptions of space, leading to an initial blur of the architectural boundary by obscuring the site's ownership and existing program. The establishment of a specific site in New York City led to the establishment of a program and a methodology for the incorporation of proposed and existing conditions without erecting static boundaries.

Site

The investigation of areas of neglect, whose ownership could be fundamentally questioned, led to the study of Manhattan’s infrastructure spaces such as bridges, highways, and alleys. These areas were able to be psychologically claimed by both the government agencies as well as the private citizens who utilize them for personal use on a daily basis. From within this study came the emergence of the greenstreets park space, which borders the Brooklyn Bridge’s iconic base structure on the island’s lower east side. This space is maintained by the public, but set aside for skateboarding and general park space. Its severe underutilization as a park and as a public amenity allows for its appropriation. The space was also attractive for its ability to act as a linking agent between the residential development of the lower east side and the commercial stronghold of lower Manhattan’s financial district.

The psychological appropriation of space that increases the porosity of the edge condition must be integrated into
the form, program, methodology, and site to ensure a seamless gradient between conditions. The Greenstreets Park bridges between the lower Manhattan business district and the mass housing blocks to its north and has been consumed by parking lots and municipal storage. While municipal officials currently utilize some of the space adjacent to the bridge, the ownership of the park space remains in question. While signage suggests skaters are the primary occupants of the space, the numerous locked doors and barricaded passages suggest that the city maintains its ownership. The police department has also asserted their position as owners by positioning small guard houses around and within the site, regularly questioning those who infiltrate the boundaries of the park space.

To the sites southern side, local retail and restaurant space, as well as Pace University buildings turn their back to the bridge, simply utilizing the bridges edge conditions as a parking area. The bridges south-east edge is used as parking and equipment storage for the cities transportation department, specifically the division of bridges. The Greenstreets Park space is terminated by two streets, Rose St. to the west and Pearl St. to the east, that allow traffic to pass through the area beneath the bridge. The structure of the bridge between these two streets changes from the simple columnar structure of the bridges eastern edge to a series of barrel vaults constructed of masonry and brick. The brick vaults have been closed off by a later addition of brick to create a solid barrier between the park space and the hollow space beneath the roadway. In addition to the infill of vaults, several of the large passageways along the south-western edge have been blocked by permanent police barricades and construction equipment. The western edge of the bridge structure has been left unused. The police headquarters sits to the north of the site, they have utilized the south side of the bridge for their parking. The north-west edge, which carries character
unlike its northern counterpart, has remained a public park space. Interestingly the posted use for the park is for skateboarding and biking. The friction between its use as a skate park, often symbolized by vandalism and public disruptiveness, and as an NYPD outpost brings a psychological uncertainty about its actual ownership. However, it goes generally unused because of the difficulty of navigating through the space. The park space is bounded by the bridge structure to its south and by the structure of its off-ramp to the north. The space is divided between the two conditions by the ground plane which rises, like a wave, separating a walking path, basketball court, and handball court on the north from the main public space near the bridge. Because the space is not frequented by pedestrians to the extent of similar parks throughout city its use, although rare, is dominated by skateboarders and bicyclists. These individuals have appropriated the space and have installed several obstacles within the public space including jumps, ramps, handrails, and large masonry blocks for ‘grinding’. The objects and the space itself is marked by the residual black wax of the skating community, applied to the bottom of skateboards to mediate the connection between itself and objects.

The space actually beneath the bridge is hidden from the publics view by the previously mentioned brick infill. The Brooklyn Bridge is supported by a series of stone arches of varying widths. The vaulted spaces of the bridge’s underside are visible only through small grate openings, but appear to aesthetically maintain the richness of character that is evident in the adjacent Greenstreets Park. Completely underutilized as a linking element between the retail of lower Manhattan and the residential development to the bridges north, these spaces currently sit empty and abandoned, housing only the rubble that was left sealed when the bricks were erected. This space represents an element of the proposed architecture that must be developed in order to break down the static boundaries and blur the architectural conditions such as inside/ outside, public/ private, and existing/ proposed.

The haphazardly placed skating barriers utilized by the skaters are composed against the regular interval of several systems within the space. Further segmenting the existing park space is the colonnade of structure that allows the bridge’s off ramps to soar above the park. Along the sites northern edge a line of small trees and street lamps create another subspace within the zone. These site features break the existing space into sections, creating zones of space bounded by contextual features such as tree lines and structural columns. The evolution of multiple boundaries within a single spatial sequence imbues the architecture with a multiplicity that effectively devalues any single plane as the moment of transition between two opposing
conditions. Embracing this multiplicity as a design element means contributing to the layering of architectural and contextual elements within park space until it becomes saturated with. The space as a whole, encompassed by the bridge structure, and bordered by the city grid creates a physical expression of an unclassifiable space type, established only through the union of adjacent space types, sheltered by the form of the bridge and its context.
By confronting a program of multiple uses, the multiplicity imbued within the site can be emphasized within other aspects of the design, allowing each space type to fluctuate through time and space and creating porosity within the edge. This porosity, established as a result of the overlap of program as well as site, allows the architecture to break free of the typical building container and extend a gradient between conditions.

Program

The area adjacent to the Brooklyn Bridge contains the joint of three recognized Manhattan district boundaries, numbers one, two, and three. The analysis of these districts current land use shows no consistent patterns around the Greenstreets Park space. The individual analysis of each section shows a saturation of business/office in section one, industry in section two, and housing in section three. Exploiting this information led the study to combine multiple programs, representing each district, and allow them to fuse into a single architectural space within the park space.

Section one, comprised of the southern tip of Manhattan, has a great deal of business and office buildings, as suggested by the inclusion of the financial district. Predictably, its land use is comprised of a high number of office supporting business types (small retail, restaurant, etc.), and a relatively low number of housing development. Focusing on the land use area directly adjacent to the bridge site, a small commercial marketplace would be beneficial to the numerous retail restaurants, and potentially to some workers who may wish to buy food for a meal throughout their work day. While the market program originates from the commercial dominance of section one, its programmatic inclusion could also benefit the numerous housing projects directly to its north. Therefore a small commercial/residential market will be incorporated for section one of Manhattan.

The third district, to the north of the bridge, includes several residential areas including Chinatown, Little Italy, the Lower East Side, and parts of the East Village. Accordingly section three has a much more dense housing population than district one. The density of the residential establishment within section three, allows the integration of a complimentary program, such as a restaurant, to take advantage of section three’s population density, and compliment the market program of section one.

The second district within the site’s immediate context is section two, which moves from just beyond the bridge’s western termination point to the island’s western edge. Its adjacent land use is heavily industrial, suggesting a large work force. The incorporation of a transit station to compliment the market and restaurant uses, as well as the composition of zone two would be an appropriate. This program is strengthened by the proposition of the 2nd avenue subway line currently being planned along Manhattan’s eastern edge.
To create blurred boundaries within the program and form of the project the concluding design should force the boundaries of the three separate programs on the site to conceptually change through time, never allowing the occupant to decisively separate the individual programs into their typical static forms. As discussed by Eisenman and other theoreticians within this document, this can be established by overlapping the program types to establish the areas that are susceptible to periodic fluctuation. Forcing the building to adapt with time, a type of assumed and encouraged appropriation, both formally and programmatically will force the architecture from a static barrier between conditions. This is achieved through the incorporation of flexibility. A system of changing program through time within a standard framework allows the built structure to become dynamic as well as the psychological perception of space.

Methodology

The methodological precedent set by Eisenman, Tschumi, and process-oriented architects has illustrated that the layering of program and site can lead to architectural form. The question lies in whether the resulting form is then inherently ‘interstitial’ because of its process of becoming. The architects continued influence on aesthetics and function of the final form would suggest that it is not. However, the process developed by these designers may be adapted to incorporate elements of visual, formal, and psychological interstitial spaces, therefore de-materializing the zone between the architectural conditions first in concept and then in its translated physical form.

Peter Eisenman’s architectural process, that challenges the existing creation of architecture, begins with the void, or in this case the threshold between zones and program types. The ‘spacing’ of these transitions through the design would force the creation of a new understanding of the architectural problem of segregation. A process oriented approach that resisted the concept of forming, would attempt to create openings within the constrictive boundaries of divisive architectural elements such as walls and doors.

The concluding spatial architecture is conceived through the passage of time. All programs have fluctuations of occupied peak use as well as operating hours. While each program is intended to become intertwined with the others, they may not necessarily be functionally dependent on one another. Each program is evaluated within one ‘use day’ as well as in one use cycle. A ‘use day’ would evaluate how the program operates in space and how its population and site influence change throughout that one twenty-four hour cycle. Similarly, a ‘use cycle’ tracks the program through its use without regard to time.
of day. Rather the importance of the diagram lies with the perceived time and feeling of waiting for a table at a restaurant in relation to the time and feeling spent at that table. The programmatic diagrams are then aligned and compared with other programs to access the potential areas of overlap and appropriation within each specific program space. Understanding these programmatic fluctuations leads to the development of program with relation to other programs as well as site contexts. The perceived advance and recession of program and form allows the dynamic quality of the contextual demand on architecture to be represented in form. The design’s success lies within its ability to resist precision, and strengthen the vagueness of the solutions it produces with relation to the distinction between architectural conditions.

This architecture and its form should encourage a quality of porosity within the building’s envelope, allowing the exterior to pervade the building and interact with its occupants. This transition should be evident physically through the approach, through the circulation into and within the building, and within the theoretical concepts that establish the architecture.

Figure 4.13 - Delamination of surface to create occupiable interstitial

Figure 4.14 - Alignment of program use diagrams
This investigation in architectural space, focused through the field of the architectural threshold, and the strength of contextual connection which it can infuse initiates the dematerialization of formal divisions between interior/exterior, public/private, and existing/proposed. This dematerialization allows form to become an extension of the dynamics implicit in the specificity of each site. The dissolution of barriers within design is expressed through the implementation of one of two opposing methods. The first is to strike a single line between architecture and context and allow it to become blurred through materialistic and performative design decisions. This method is visualized in the work of Diller + Scofidio’s Blur Building exhibition, in which the exterior edge between the architecture and the lake becomes unidentifiable due to the material, fog, used to mask that edge condition. Secondly the barrier can be dematerialized by expressing the design transition through multiple thresholds, allowing the concept of arrival between two conditions to become blurred by creating a thick zone of transition. This method, utilized in this research, creates a zone of similar thresholds. The act of creating multiple thresholds between conditions reduces the importance each barrier plays as a demarcation between one condition and another.

This study and its conclusions reflect on fundamental architectural questions. Designers are tasked with creating barriers, acting as divisive elements, to establish structures throughout the world. While the incorporation of context is inherent in most construction, through material or formal gestures, assigning emphasis to that context leads to a design that extracts energy and character from contextual adjacencies. By allowing context to influence form and program the existing contextual conditions became a formal driver for the architecture. This was evident in the evolution of program form and the technique of architectural appropriation across the site. I believe that including site specificity as a chief component of the design strategy generates a character within the architecture as well as ensures its longevity within a particular community and site specifications.

While the creation of boundaries for issues of security and programmatic seclusion is sometimes a necessity within architecture, this investigation has established a set of ideas that extend past the articulation of form. The creation of overlap between existing and proposed is relevant to design issues of where to terminate any architectural element. This investigation fundamentally analyzes when the designers touch should be lifted from the site, and in what manner that transition should occur.
Bibliography


*Dogtown and Z-Boys*, produced by Jay Wilson, Agi Orsi, Daniel Ostroff, directed by Stacy Peralta, 1 hr. 29 min. Sony Pictures Classics, 2001. DVD.


