Spring 2013

The Tectonics of Turning the Corner: A New City Hall for Boston, Massachusetts

Hillary Barlow
*Syracuse University*

---

Follow this and additional works at: [https://surface.syr.edu/architecture_theses](https://surface.syr.edu/architecture_theses)

Part of the Architecture Commons

---

**Recommended Citation**

Barlow, Hillary, "The Tectonics of Turning the Corner: A New City Hall for Boston, Massachusetts" (2013). *Architecture Senior Theses*. 159.

[https://surface.syr.edu/architecture_theses/159](https://surface.syr.edu/architecture_theses/159)

This Thesis, Senior is brought to you for free and open access by the School of Architecture Dissertations and Theses at SURFACE. It has been accepted for inclusion in Architecture Senior Theses by an authorized administrator of SURFACE. For more information, please contact surface@syr.edu.
THE TECTONICS OF TURNING THE CORNER:
A New City Hall for Boston, Massachusetts

Hilary A. Barlow
B.Arch Candidate

Terrance Goode
Primary Advisor

Ryan Ludwig
Secondary Advisor

School of Architecture, Syracuse University Fall 2012
CONTENTS

I INTRODUCTION:
 03 Contention
 04 Abstract
 14 Glossary of Key Words

II CONCEPT/THEORY:
 19 Architectural History of the Corner
 26 The Disappearance of the Corner

30 TECTONICS
 31 Materiality: The Making of the Corner

34 SPATIAL & SOCIAL EFFECTS
 35 The Corner in Other Creative Spatial Disciplines

38 SCALE
 39 A Taxonomy of Corner Types: Corner Types at Different Scales

52 FORM
 53 Formal Investigations of the Corner

62 ARCHITECTONIC SYSTEM:
Corner Strategies in Case studies:
 63 Urban: Ildefons Cerdà’s plan for Barcelona
 69 Formal: Clark & Menefee’s Middleton Inn
 77 Programmatic: Koolhaas/OMA’s Kunsthall
 85 Tectonic: Mies’ Alumni Memorial Hall, IIT
 89 Detail: Scarpa’s Museo Canoviano, Possagno

III SITE:
 101 Context of Boston City Hall and Plaza
 105 Site Analysis
 107 Existing Conditions
 109 Programming
 111 Approach Via Four Corners

IV PROGRAM:
 125 Program and Plaza Proposal
 129 Degrees of Publicness
 133 Corner Strategies in Contemporary Civic Institution Case Studies
    Town Hall Hilversum, The Netherlands
    City Hall, London, United Kingdom
    The Scottish Parliament, Edinburgh, Scotland
    Austin City Hall and Public Plaza, Austin, Texas

V DESIGN:
Deployment of the Corner

VI APPENDIX:
 160 Annotated Bibliography
 162 Figure Credits
how architects “turn the corner” the corner “problem”

THE CORNER is a unique architectural condition that serves as a rhetorical device through its role in the configuration of space. How architects “turn the corner” or the “problem” of the corner has long been rooted in architectural discourse however as Eisenman notes, “corners are elusive and thus rarely thematized in architecture. For example, when Rosalind Krauss said that architecture will always have four walls—that is, an enclosure—she never said that architecture has corners, either external or internal.”

The corner specifically can produce multiple layers of meaning since the corner can define form either as a series of edges, surfaces or as a mass.

A number of explicit corners exist and their degree of definition can affect the perceived definition of space ranging from a fully defined box (a traditional ‘room’) to a mostly implied, phenomenally transparent space that can interact with other spaces that overlap or intersect it. The role and meaning of a corner is impacted by its architectural intention, materiality as well as its structural, constructional and spatial condition. The use of the corner as an architectonic system to orchestrate space is linked to the degree and character of social inclusivity/exclusivity, collectivity/individuality, publicness/privateness, determinacy or indeterminacy of use.

I contend that these social effects can become architecturalized through the corner, which as a tactic of spatial definition directly influences the inhabitation of space. The corner both reflects and becomes a means of reflecting the ranges of spatial occupation that in the context of a civic institution become politicized.
This thesis will use Boston City Hall and its plaza as a vehicle for testing the way that the corner and edge can allow for an interface and control behavior between those individuals within city hall and the public. Boston needs a new, functional City Hall as its current one is introverted and oppressive in its solidity. Despite its central location within the city, Boston City Hall’s plaza is devoid of activity and lacks public engagement. At present, the existing Boston City Hall deploys a closed corner at multiple scales creating a spatially detached, authoritative political presence of the government within the city.

Rethinking Boston City Hall via one’s encounter with the corner can reassess the potential for public intimacy with the democratic process.

Borrowing from the spatial techniques of corner conditions at multiple scales: the urban, formal, programmatic and detail, the corner becomes a means of creating an accessible city hall for Boston.
Historically architecture has exploited the corner in political dimensions impacting both political action and behavior. Thus, the corner is a means of defining or occupying space, engaging power relationships. Architectural theorist Kim Dovey, maintains that power is mediated by built form and that such mediations are inherently complex and multi-dimensional. A set of dimensions of place/power mediations along which dialectics of power in places are played out encompass: orientation/disorientation, segregation/access, social/universal, stability/change, dominant/subservient, place/ideology and literal/phenomenal. As the corner can manipulate our perception of space from different physical positions these social effects can be influenced by the spatial definition of the corner. Synthesis from the investigation of the corner will contribute to creating particular spatial affects that do not simply exude power but rather engage the public with government practices.

This thesis is not meant to solve the controversy regarding the contested reception of Kallmann, McKnennell & Knowles’ Boston City Hall. Rather, this thesis is a counter project to their design that uses the corner as a device to create a functional spatial paradigm. Critique of the nature of the existing building is a secondary agenda as the purpose of this project is to address and alleviate criticisms of Boston’s City Hall by demonstrating how lessons learned from “turning the corner” can orchestrate public intimacy by reassessing the jointure between the public and the democratic performance.

Precedents for studying specific architectural features as a means for revealing larger architectural ideas can be found both historically and within contemporary architectural theory. Architectural theorist Marco Frascari contends that, “the role of details [is] as generators, a role traditionally ascribed to the plan” and that “technology, with its double-faced presence as ‘techné of logos’ and ‘logos of techné’ is the basis for the understanding of the role of details.” Serlio and Claude Perrault contributed to changes within the classical tradition after examining...
the classical orders and more recently in *The Architectural Detail*, Edward Ford argues for the progress from an architecture of mass construction to one of “layered-construction” by exploring five different types of detail.4 While there are those who will agree with architect Rem Koolhaas that, “A joint is not an idea it is simply a condition”5 the corner has both a physical and conceptual presence.

Should architectural form and organization have a causal relationship with corners at various levels ranging from the detail to urban conditions, whether they are continuities or differentiations? The investigation will include testing the basic definition of the corner: the intersection of at least two planes through a formal taxonomy of corner types (open, connected, chamfered etc.).

While some may argue that the corner is disappearing in contemporary architectural design that preferences the parametric, the corner remains an orchestrator of space even if its control points are not orthogonal. Not only will this taxonomy classify two-dimensional and three-dimensional representation of corners but it will also examine the spatial effects, social implications, materiality and relationships between spaces for each corner type. Categorical designation of corner types developed through the taxonomy will lead to formal and scalar classifications.

These categorical designations of corner types developed from the taxonomy become a way to relate corners at a range of scales, from the urban to the joint. To compare the corners formally, I will engage in a dialogue between corners at different scales by first equalizing a corner condition from each of the five scales examined in the taxonomy of types: urban, formal (architectural), programmatic (individual room), tectonic and detail.
The examination of architects who have utilized a corner condition as an intentional architectural strategy at these scales will include but is not limited to Ildefons Cerdà, Clark and Menefee, Rem Koolhaas, Mies van der Rohe and Carlo Scarpa. This formal investigation will be followed by case studies of these five examples where the corner is not viewed as an autonomous condition but where the corner or a set of corners are examined holistically as well as for their intent as a tactic of spatial definition.

The formal investigation of the corner will be conducted by producing physical models of a corner condition from the examples listed above, where the corner is a considered stratagem by the architect in each instance. These five models of applied inquiry on the corner will either enlarge or reduce the scale of each isolated corner condition to generate a formal discourse of relationships between the corners, represented at comparable size. By neutralizing each corner condition in terms of scale and materiality the corners become

07. from left to right: Clipped corner of Barcelona, Ildefons Cerdà, Image: Cartographic Department of Municipality of Barcelona

Reentrant corner of Middleton Inn, Clark and Menefee Architects, Image: Richard Jensen

Mitered Corner of Kunsthal, Koolhaas/OMA, Photograph: Jason Brown

Additive Corner of Crown Hall, Mies van der Rohe, Photograph: Gregory Bencivengo

Corner as Joint, Museo Canoviano, Image: Richard Bryant

08. Neutralized Models of corners, built and photographed by author.
equalized and can be compared formally, distinct from their architectural intention. Similar to Toshiko Mori’s exhibition at the Venice Biennale 2012, *Dialogue in Details*, this exchange will speak to the common and unique conditions of the corners, exchanging technical, tectonic and historical ideas of the architects’ and their different applications of the corner.\(^6\)

Following the autonomous investigation of the corner, case studies of each of the five modeled corners will examine corner strategies and the spatial role of the corner in terms of context, organization, sequence, program and circulation. These investigations will map onto the extent and nature of social conditions effected by the corner. Investigating corner strategies in precedent studies through drawings and diagrams will help to understand how larger space making ideas of politics can and/or should relate to its details as well as the **spatial characteristics capable of being affected by the corner.** Can lessons learned about the role of corners in the configuration of space reassess inherit political ideas of control, power and community? As the orchestration of space defined or influenced by the corner can become politicized, I will critique how the existing Boston City Hall deploys the corner at multiple scales in addition to operating spatially. Such will be explored by case studies on recently built civic architecture where its spatial form exploits a power relationship between government workers and its public.
In today’s society, the relationship between architecture and political behavior is largely undetected. Such is the case with Boston, Massachusetts’ present City Hall, where the brutalist structure was once believed to broadcast Boston’s power and importance however time has shown it to be an unengaged object in Boston’s historical landscape with a plaza devoid of activity. This project proposes a new city hall and plaza design for Boston that proves through the lens of the corner, physical architectural attributes can politicize space through influencing social effects and orchestrating space to create public intimacy between those within city hall and the public.
Explicit Corners

degree of definition can affect the perceived definition of space

traditional room: fully defined box

implied phenomenal transparent space: allows intersection or overlap

role/meaning of corners impacted by:

**ARCHITECTONIC SYSTEM**

**SOCIAL**

Use of the Corner to Control the Perceived Definition of Space

Social effects/characteristics are capable of being affected by the corner as tactic of spatial definition

CHARACTERISTICS:
- social inclusivity - exclusivity
- collectivity - individuality
- publicness - privateness
- determinacy - indeterminacy of use
- participatory configuration

**MATERIALITY**

**FORM**

**SCALE**

**INTENTIONS**

**SPATIAL**

**Powers/Relationships**

**BODIES**
POLITICAL MEANING

Corner Reflects a Range of Spatial Occupation
In the context of a civic institution the corner becomes politicized

CIVIC INSTITUTION

HOW TO DEPLOY THE CORNER

Architectural Precedents?

BODIES in space

POWER Relationships
GLOSSARY
OF KEY TERMS
Within architecture, the detail is accepted as a piece of the larger architectural whole. Marco Frascari contends that, “any architectural element defined as a detail is always a joint.” According to this definition, detailing then becomes the functional and aesthetic joining of materials, constituents and building components. As Frascari notes, “the joint, that is the fertile detail, is the place where both the construction and construing of architecture take place.”

Bruce Martin asserts that all joints are conditions of adjacency between two or more objects. Thus, the architectural joint encompasses the joining of components and systems within building.

The architectural firm KieranTimberlake argue that, “the desire to join owes its existence to the fact of separation: without separation there is no need for joining; without joining we cannot comprehend what it means to be separate. Separation in architecture arises from the characteristics of the materials to be assembled into a building or from the evolution of site. Joining is the means by which we assemble building materials and buildings themselves into larger wholes.”

Corners can be both manifested through joining and as a joint. Carlo Scarpa is one such architect who employs the corner through the means of a joint, stating that, “The joint is treated as a kind of tectonic condensation; as an intersection embodying the whole in the part, irrespective of whether the connection in question is an articulation or a bearing or even an altogether larger linking component such as a stair or a bridge.”
A corner is the intersection of at least two planes that define space either as a series of edges, as a surface or as a mass.

Peter Eisenman argues that there are “No Corners After Derrida” and that while any solution to a corner is of necessity formal –that is geometric, physical and thus representational, or a signifier at some level its meaning (signified) can no longer be assumed to be stable. In this sense, Eisenman defines the corner as a site of multiple, potentially unmotivated significations of the possible destabilization of the formal as a basis for conceptualizing architecture.12

If Frascari defines all details as joints both theoretically and empirically13 and Bruce Martin contends that all joints are conditions of adjacency between at least two elements in space,14 corners are then a sub-category of joints which are a type of detail:

The corner reflects a range of spatial occupations that directly influence the inhabitation of space. This use of the corner to control the perceived definition of space can map onto the degree and character of social inclusivity/exclusivity, collectivity/individuality, publicness/privateness, determinacy or indeterminacy of use. These social effects can become architecturalized through the corner, as a tactic of spatial definition.

The spatial dimensions of the corner can take on political meaning in the context of a civic institution in a democratic society. The corner can manipulate perception of space from different physical positions and influence power relationships between bodies in space through spatial form.

12. Eisenman, “There are no Corners After Derrida,” 112.
II CONCEPT/THEORY

AN ARCHITECTURAL HISTORY OF THE CORNER

IS THE CORNER simply a modernist rhetoric? What is the theoretical inquiry on the corner condition? This architectural history of the corner will examine the evolution of the corner from its formal, tectonic beginnings to its social and spatial effects in contemporary architecture.
THE ARCHITECTURAL exploitation of the corner is deeply rooted in history both in its physical and conceptual presence. An architectural photograph or rendering frequently employs a perspectival approach that preferences the oblique; a condition indicative of the corner. In Eisenman's article, “There are no Corners after Derrida” he address the history of the corner in architecture with the conclusion that following the introduction of deconstruction by Jacques Derrida, “the corner can now be conceptually understood as a sign without a stable meaning.” While the response to the corner problem initially began as formal one its wide array of architectural responses is linked to spatial and social implications. Today, the corner remains a tactic of spatial definition that influences the perception of space; inherently linked to social effects that in particular contexts become politicized.

In ancient Greek and Roman times, the relationship of the viewer to the building based on the corner condition was used for both social and political purposes. The Greeks intended space to be conceptualized and seen by a viewer at a 45-degree angle to the building. The approach to the Acropolis along the 45-degree angle created a deliberate alignment with the sun that signified not only directionality but also spatial and political hierarchy. This diagonal relationship drew particular attention to the corner, manifesting a particular vantage point known as Greek Space.

Greek space derived from the corner in response to a tectonic condition. The material change of the Doric Temple from wood to stone created a corner problem that the Greeks and Romans solved in different ways. The change from wood to stone affected the temple structure, which in turn affected the corner. In a wooded temple, the Greek façade had the architrave’s triglyphs front the ends of the wooden beams in addition to being evenly spaced in front of the columns’ centerlines. With stone, the load of the architrave had to be moved to the last outboard column, which created an unequal gap between the triglyphs as well as an off-center relationship between the outboard triglyph and the outboard column.

A solution to this situation was not needed but rather desired by the Greeks for aesthetic purposes. The Greeks chose to move the outboard column.
in, off-center from the triglyph, as at the Parthenon. When applied to the corner at the side façade, this move made the corner bay at the front and side equal yet different from the other bays. The stoa appeared continuous but the void of the corner bay was somewhat smaller on both the front and side. From a forty-five degree angle the viewer could understand the symmetry about the corner, which frontally appeared irregular. As Eisenman claims this solution, which privileged the corner, “became the conceptual underpinning of the term Greek Space. What began as a utilitarian structural requirement and then became formal was now squarely lodged in the domain of grammar... the thing itself – the temple- became the sign of something that became known as Greek space when it evolved from a type of grammar to a type of rhetoric.”

The Roman’s alternate solution to the corner problem generated an emphasis on frontal-ity. Unlike the Greeks, the Romans maintained an equal interval and columnar distance on the front façade that required moving the outboard triglyph in to align with the centerline of the outboard column. Since the Romans’ sites were mostly confined, the gap between the front and side triglyphs at the corner was rarely noticeable; opposite from the open sites of the Greeks. Thus, the Romans favored a perpendicular relationship between the viewer and the façade that maintained aesthetic purity. Thus, as Eisenman states, “what evolved from a structural problem in the Greek instance and a site condition in the Roman context became a rhetorical canon.”

This emphasis on the exterior corner condition was replaced during the Renaissance with emphasis on the interior corner; a response to the development of internal courtyards (palazzo cortiles) as urban public space. During this time, the reentrant corner was heavily employed for both conceptual and aesthetic purposes. Two palazzo cortiles in particular demonstrate the reentrant corner dialogue: the Palazzo Ducal in Urbino and the Palazzo Santa Maria Della Pace in Rome.

At the courtyard of Palazzo Ducal, Urbino by Luciano Laurana, each façade ended with a column, which produced the intersection of two columns at the corner. To maintain a formal relationship at
the corner. To maintain a formal relationship at the corner, Laurana combined structure and ornament together by doubling the columns to create L-Shaped Piers.

Unlike Laurana’s move at Urbino, Bramante solved the corner problem by preserving a formal relationship. Bramante changed scale of the corner detail in order to maintain the consistent relationship of part-to-whole. The limited height of the Palazzo Santa Maria Della Pace produced a four-bay courtyard rather than the typical odd, three or five bay courtyard. To maintain a constant space in between the columns, Bramante superimposed the columns at the corner to establish a unity between geometry and space. While different approaches, both Laurana and Bramante’s response to the palazzo cortile was rooted in aesthetic and formal corner solutions.

Alberti’s corner solution at the Palazzo Chiericati in Vicenza, Italy combined the aesthetic and geometrically unified corners of Laurana and Bramante. Alberti responded to the “problem” of the double column at the exterior corner of the palazzo with a volumetric move. For Alberti, the order was a sign of structure and he embraced the two pairs of columns placed at the corner by combining them on a 45 degree angle that implied a third pair. This structural signification was the result of combining three plan typologies into one: palazzo, villa and loggia that simultaneously reinforced the perspectival vantage point.

During the Neoclassical period, emphasis was again given to vantage points that preferred the oblique and in turn the corner. Shinkel’s perspectival drawings of the Altes Museum, emphasized the diagonal approach and the closed corner of the building, which implied the building’s recession into deep space. Philip Johnson would later echo this favor for the diagonal with his designed approach to the Glass House.

While the palazzo cortiles and perspectival images dealt with corners of a defined box, Frank Lloyd Wright introduced a new spatial effect for the corner by destroying the box. This voided corner type created open space by “attacking the traditional room at its point of greatest strength—the corner.” In plan, Wight generated flowing space by dissolving the corner. At Fallingwater, Wright


employed tectonic methods of cantilevering volumes to manifest the corner as a void. This spatial condition directly influenced public and private space and promoted participatory configuration and collectivity versus individuality.

Following Wright’s corner was the modernist rhetoric of the corner as a didactic countermove. These designed corners created particular articulations of the corner, which generated an intended social effect. Gerrit Rietveld’s Schroeder House denied the corner in order to accentuate the transparency between inside and outside space. At the Barcelona Pavilion, Mies van der Rohe manifested phenomenal transparency with a series of planes that produced an indeterminate spatial organization that not only framed views but promoted publicness. At the Farnsworth House, Mies considered the corner as void to articulate the transparent relationship between indoor and outdoor space by having the vertical plane operate as a void.24 At IIT, Mies countered these transparent corner solutions by solving the corner problem with an additive corner. At each corner he exposed two I-Beams creating a reentrant corner that in its absence of closed definition became a signification of the corner. Robert Venturi continued the spatial dialogue between revealed and concealed corners by masking the corner in his design for his Mother’s House. Venturi detached the façade from the volume of the house so that the corner was present but not completely evident.25 The modernist response to the corner proved that the corner could embody an architectonic system-reflective in materiality, form and scale.

Contemporary architectural designs continue to employ the corner to influence the perception of space. Koolhaas/OMA’s Kunsthal is an example of where the corner was employed as a deliberate strategy. Koolhaas used the corner as a tactic of spatial definition to define the circulation armature of the museum. The corners are mitered to not only juxtapose materiality but to create a seamless sequence throughout the building.

While Eisenman may have claimed that the corner is unstable in its condition—the corner embodies an architectonic system that can influence the perception of space. In this sense the corner is unstable because it can either define collectivity or individuality, publicness or privateness, segregation or access, orientation or disorientation and determinacy or indeterminacy. The significance of the corner is dependent upon the architect’s intent and how he or she implements the condition within his or her architectural syntax.

24. Eisenman, “There are no Corners After Derrida,” 118.
25. Ibid, 118.
# Corner Type

<table>
<thead>
<tr>
<th>Corner Type</th>
<th>Intention</th>
<th>Scale</th>
<th>Spatial Effect</th>
<th>Social Effect</th>
<th>Tectonics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column (Structure)</td>
<td>Perspectival vs. Frontal Approach</td>
<td>Urban (Acropolis)</td>
<td>Approach on 45 degree angle privileged corner, frontality secondary</td>
<td>Rhetorical corner, combines structure and ornament with L-shape piers by doubling columns at corners</td>
<td>Superimposition of diverse plan typologies (urban palazzo, villa, and loggia)</td>
</tr>
<tr>
<td>Double Column</td>
<td>Reentrant</td>
<td>Architectural, Internal Courtyard, Urban Public Space, Detail</td>
<td>Unity between geometry and space; superposed column proportions for part to whole relationship</td>
<td>Spatial Density</td>
<td>Participatory configuration, publicness</td>
</tr>
<tr>
<td>Closed</td>
<td>Reentrant</td>
<td>Architectural, Tectonic, Void</td>
<td>Dissolve corner to create open space</td>
<td>Mitered corners interlock space and juxtapose materials</td>
<td>Remains an orchestrator of space</td>
</tr>
<tr>
<td>Void</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Materiality

<table>
<thead>
<tr>
<th>Ancient Greece/Rome</th>
<th>Renaissance</th>
<th>Neoclassical</th>
<th>Modernist Rhetoric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greek vs. Roman Space</td>
<td>Outside to Inside (Palazzo Cortile)</td>
<td>Internal Courtyard, Urban Public Space, Detail</td>
<td>Modernist Rhetoric Unstable (after Derrida)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Corner Type</th>
<th>Intention</th>
<th>Scale</th>
<th>Spatial Effect</th>
<th>Social Effect</th>
<th>Tectonics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column (Structure)</td>
<td>Perspectival vs. Frontal Approach</td>
<td>Urban (Acropolis)</td>
<td>Approach on 45 degree angle privileged corner, frontality secondary</td>
<td>Rhetorical corner, combines structure and ornament with L-shape piers by doubling columns at corners</td>
<td>Superimposition of diverse plan typologies (urban palazzo, villa, and loggia)</td>
</tr>
<tr>
<td>Double Column</td>
<td>Reentrant</td>
<td>Architectural, Internal Courtyard, Urban Public Space, Detail</td>
<td>Unity between geometry and space; superposed column proportions for part to whole relationship</td>
<td>Spatial Density</td>
<td>Participatory configuration, publicness</td>
</tr>
<tr>
<td>Closed</td>
<td>Reentrant</td>
<td>Architectural, Tectonic, Void</td>
<td>Dissolve corner to create open space</td>
<td>Mitered corners interlock space and juxtapose materials</td>
<td>Remains an orchestrator of space</td>
</tr>
<tr>
<td>Void</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Materiality

<table>
<thead>
<tr>
<th>Ancient Greece/Rome</th>
<th>Renaissance</th>
<th>Neoclassical</th>
<th>Modernist Rhetoric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greek vs. Roman Space</td>
<td>Outside to Inside (Palazzo Cortile)</td>
<td>Internal Courtyard, Urban Public Space, Detail</td>
<td>Modernist Rhetoric Unstable (after Derrida)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Corner Type</th>
<th>Intention</th>
<th>Scale</th>
<th>Spatial Effect</th>
<th>Social Effect</th>
<th>Tectonics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column (Structure)</td>
<td>Perspectival vs. Frontal Approach</td>
<td>Urban (Acropolis)</td>
<td>Approach on 45 degree angle privileged corner, frontality secondary</td>
<td>Rhetorical corner, combines structure and ornament with L-shape piers by doubling columns at corners</td>
<td>Superimposition of diverse plan typologies (urban palazzo, villa, and loggia)</td>
</tr>
<tr>
<td>Double Column</td>
<td>Reentrant</td>
<td>Architectural, Internal Courtyard, Urban Public Space, Detail</td>
<td>Unity between geometry and space; superposed column proportions for part to whole relationship</td>
<td>Spatial Density</td>
<td>Participatory configuration, publicness</td>
</tr>
<tr>
<td>Closed</td>
<td>Reentrant</td>
<td>Architectural, Tectonic, Void</td>
<td>Dissolve corner to create open space</td>
<td>Mitered corners interlock space and juxtapose materials</td>
<td>Remains an orchestrator of space</td>
</tr>
<tr>
<td>Void</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Materiality

<table>
<thead>
<tr>
<th>Ancient Greece/Rome</th>
<th>Renaissance</th>
<th>Neoclassical</th>
<th>Modernist Rhetoric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greek vs. Roman Space</td>
<td>Outside to Inside (Palazzo Cortile)</td>
<td>Internal Courtyard, Urban Public Space, Detail</td>
<td>Modernist Rhetoric Unstable (after Derrida)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Corner Type</th>
<th>Intention</th>
<th>Scale</th>
<th>Spatial Effect</th>
<th>Social Effect</th>
<th>Tectonics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Column (Structure)</td>
<td>Perspectival vs. Frontal Approach</td>
<td>Urban (Acropolis)</td>
<td>Approach on 45 degree angle privileged corner, frontality secondary</td>
<td>Rhetorical corner, combines structure and ornament with L-shape piers by doubling columns at corners</td>
<td>Superimposition of diverse plan typologies (urban palazzo, villa, and loggia)</td>
</tr>
<tr>
<td>Double Column</td>
<td>Reentrant</td>
<td>Architectural, Internal Courtyard, Urban Public Space, Detail</td>
<td>Unity between geometry and space; superposed column proportions for part to whole relationship</td>
<td>Spatial Density</td>
<td>Participatory configuration, publicness</td>
</tr>
<tr>
<td>Closed</td>
<td>Reentrant</td>
<td>Architectural, Tectonic, Void</td>
<td>Dissolve corner to create open space</td>
<td>Mitered corners interlock space and juxtapose materials</td>
<td>Remains an orchestrator of space</td>
</tr>
<tr>
<td>Void</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**EARLY 20TH CENTURY**

**MODERNIST RHETORIC**

1. Barcelona Pavilion, Mies van der Rohe, 1929
   - Material Change outside to inside: (Palazzo Cortile)
   - Modernist rhetoric unstable (after Derrida)

2. Farnsworth House, Mies van der Rohe, Chicago Illinois, 1951
   - Disappearance
   - Early 20th Century
   - Late 20th Century
   - 21st Century

**SPATIAL EFFECT**

- Participatory configuration, publicness
- Literal transparency
- Spatial density
- Void
- Individual room scale
- Slipping

**SCALe**

- 45 degree angle privileged
- Approach

**INTENTION**

- Frontality secondary
- Doric temple change

**CORNER TYPE**

- Mitered
- Additive
- Void

**TECTONICS**

- Unity between geometry and space: superposed column proportions for part to whole relationship

**MATERIALITY**

- Brick, plaster, steel, wood, glass
- Marble, red onyx, travertine, glass
- Steel, glass
- Stucco, brick, wood
- Travertine, concrete, glass
- Plastic, mesh, metal

**CONNECTION BETWEEN INSIDE AND OUTSIDE SPACE, SOCIAL INCLUSIVITY**

- Connection between inside and outside space, social inclusivity
- Indeterminate spatial organization, publicness through frames views and perspectives

**REMAINS AN ORCHESTRATOR OF SPACE**

- Mitered corners interlock space and juxtapose materials
- Structural, constructional, material signification
- Indeterminate spatial organization, publicness through frames views and perspectives

**DISAPPEARANCE**

- Kunsthal, Koolhaas/OMA, Rotterdam, 1992
- Lotus, Zaha Hadid + Patrick Schumacher, Venice Biennale 2008
- Crown Hall, Mies van der Rohe, Chicago Illinois, 1950-56
- Farnsworth House, Mies van der Rohe, Chicago Illinois, 1951
- Masked corner of Vanna Venturi (Mother’s) House, Robert Venturi, 1961-64
- Schroeder House, Gerrit Rietveld, 1924
- Barcelona Pavilion, Mies van der Rohe, 1929

**IMAGE CREDITS**

- Image courtesy of the author.
- Image: Patrick Schumacher
- Image: NAI Collection, UNIIH Archives
- Image: Gregory Bencivengo
- Image: Vladimir Paperny
- Image: Brennan Letkeman
- Image: Gregory Bencivengo
THE DISAPPEARANCE OF THE CORNER

SOME MAY ARGUE that the corner is disappearing in contemporary architectural design that preferences the parametric. Edward Ford maintains that, “whether fragmented or resolved, the articulated joint has fallen out of favor in recent years. From Los Angeles to Rotterdam, one hears the assertion that the joint, at least in visible form is dead...and that like other technological developments, enthusiasm about the possibility of a jointless architecture has obscured reservations about its necessity or desirability.”

Despite the increase of parametric design in architecture, the corner remains an orchestrator of space that influences power relationships even if its control points are not orthogonal. As the intersection of at least two planes in space-the corner can join materials or imply directionality through its orientation and configuration whether it be a connection or curved surface.
Is the corner problem simply a modernist debate? While discussion of the role and meaning of the corner emerged from the polemics of the 20th century, its presence is still valid in today's society as the corner does not necessarily have to exist in the XYZ axis. More complex conditions of the corner can occur, evident by recent fluid and organic designs where surfaces imply a loosely defined corner that directs space and movement. Parametric design has raised questions regarding the definition of the corner—evoking dialogue about directionality, organization, inside and outside relationships, convexity and concavity, as well as rotational bodies. If this is the case, when then does a corner stop being a corner?

A single definition of the meaning/role of the corner cannot be determined because its spatial condition influences a variety of spatial effects that in their own context and applied instance can have political implications. Thus the corner cannot be rigidly defined as meaning (x), as scales, type, social and political ramifications all encompass its definition.
Is the corner problem simply a modernist debate? While discussion of the role and meaning of the corner emerged from the modernist debate, it is influenced by a variety of spatial effects.

Convexity and concavity as well as rotational bodies are key factors in defining a corner. If this is the case, when then does a corner stop being a corner?

A single definition of the meaning/role of the corner cannot be determined because its spatial condition influences a variety of spatial effects that in their own context and applied instance can have political implications.

Thus, the corner cannot be rigidly defined as _______(x), as scales, type, social and political ramifications all encompass its definition.
MATERIALITY: THE MAKING OF THE CORNER

MATERIALITY is an important element in the making of corners. What is the relationship of specific and/or formal materials to corners? This investigation will examine existing corners made of either stone, masonry, concrete, wood, steel, metal, glass and plastic to form connections between its physical make up and its configuration. This study focuses on typical corner materials, it is not intended to map all possible materials that corners can be made of, nor does it claim that such relationships are true for all corners. Using categorical classifications of corner types it is evident that certain corner types typically or only occur in one material/a combination of materials.

As KieranTimberlake maintain, “some materials such as metals, can be rolled or extruded to change plane but others such as wood cannot be folded without ripping the structure of the material apart. In masonry walls stone quoins at the corners where walls join are a form of dovetail joint with the interlocking laps conceptually similar to the wooden dovetail common in handcrafted furniture. By contrast in the pressure-equalized wall the right angle joint is a stopped lap that has air space at the corner revealing the stratification of materials to be a new form of joining at changes in plane.”


MASONRY, CONCRETE, WOOD, STEEL, METAL, STONE

01. Temple Columns, Renaissance Palace Cortile (typical)
03. Barcelona Pavilion, Mies van der Rohe, Barcelona, Spain, 1928-9
04. Dominus Winery, Herzog & de Meuron, Yountville, California, 1996-8

CONCRETE
01. Church on the Water, Tadao Ando, Hokkaido, Japan, 1985-1988
02. Kimbell Art Museum, Louis Kahn, Fort Worth, Texas, 1972
03. Lovell Beach House, R.M. Schindler, Orange County, California, 1922

WOOD
01. Chapel of St. Benedict, Peter Zumthor, Sumvitg Switzerland, 1987
02. Middleton Inn, Clark and Menefee, Charleston, SC, 1985

STEEL
01. Farnsworth House, Mies van der Rohe, Chicago, Illinois, 1945-51

METAL
01. Walt Disney Concert Hall, Los Angeles, California, Frank Gehry, 2003
02. Eames House, Charles and Ray Eames, Pacific Palisades, California, 1945-1949

GLASS
01 & 02. Maison de Verre, Pierre Chaneau, Paris, France, 1928-32

PLASTIC
01. Arauco Express, Felipe Assadi, Santiago, Chile, Multi-wall Polycarbonate sheet
USEFUL LESSONS on the corner extend from actual work and theorization of art and related disciplines, particularly throughout the 1960’s with the emergence of Minimalism. Minimalist Art and Sculpture exploited the corner as a symbolically charged space. Activation, diffusion and spatial ambiguity were achieved by artists who primarily utilized the corner for its ability to influence perception. Minimalism focused on how the viewer experienced art work with his or her body and how the viewer’s perception of art and space changed as he or she moved through space.
Morris created large, repetitive geometric forms devoid of

Vanishing Point, History Lesson.”

perspectival approach

still life relief (1914)

Kurt Schwitters Menzba (1923-37)

perspectival approach

intersecting edges

powers of language

disorientation

light, darkness, perception and situation to

ILLUSION

optical

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLUSION

ILLU
A TAXONOMY OF CORNER TYPES: SCALE

The taxonomy of corner types investigates the relationship between corners at different scales as the corner is a scaleable condition from the urban to the formal. While architectural examples are given for each corner type, it is not to say that each instance of the categorized corner type can and should operate as its given example. The purpose of the taxonomy is to classify two-dimensional and three-dimensional representation of corners as well as examine the spatial effects, social implications, materiality and relationships between spaces for each corner type. The degree of corner definition at different scales can affect the perceived definition of space and establish relationships with corners at different scales through both continuities and differences.

Formal and scalar classifications were derived from the taxonomy's categorical designation of corner types.
FORM: Solid joint between two edges
SIGNIFIES: Mass and volume
PROGRAM: Office · Residential · Institutional · Education · Civic

ORGANIZATION

SPATIAL RELATIONSHIPS

MATERIAL SPECIFICITY

EFFECTS

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC

Villa Capra, “La Rotunda”
Palladio 1570
Vincenza, Italy
RECESSED

A break in continuous edge that sets back connection
Secret space and a series of edges
Museum · Mixed Use · Library
SLIPPING

FORM: Eludes fastening
SIGNIFIES: Planar form
PROGRAM: Cultural · Institutional · Museum

ORGANIZATION
SPATIAL RELATIONSHIPS
MATERIAL SPECIFICITY
EFFECTS

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC

Brick Country House
Mies van der Rohe, 1925
unbuilt
REENTRANT

FORM: Wraps around itself creating an inside corner flanked by two outside corners; defines an interior or exterior condition
SIGNIFIES: Planar form, edges and volume of space
PROGRAM: Cultural - Institutional - Museum - Preservation

ORGANIZATION

SPATIAL RELATIONSHIPS

MATERIAL SPECIFICITY

EFFECTS

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC
INTERLOCKING

FORM: Joined through overlapping connections
SIGNIFIES: Solid form and detailed connection
PROGRAM: Infrastructure

ORGANIZATION

SPATIAL RELATIONSHIPS

MATERIAL SPECIFICITY

EFFECTS

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE
(PROGRAMMATIC)

URBAN

TECTONIC

Log Cabin
1770
Valley, Forge

44
FORM: Truncated joint between two planes
SIGNIFIES: Volumetric void and mass
PROGRAM: Masterplan · Urban · Library

Ildefons Cerdà’s urban plan for Barcelona, Spain 1885
FORM: Volume of space defines surface connection
SIGNIFIES: Implied jointure, volume of space
PROGRAM: Cultural - Mixed Use - Residential

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC

ORGANIZATION

SPATIAL RELATIONSHIPS

MATERIAL SPECIFICITY

EFFECTS
ACUTE

FORM: Sharp angle that defines space
SIGNIFIES: Angled or deformed volume
PROGRAM: Cultural - Music - Retail

ORGANIZATION

SPATIAL RELATIONSHIPS

MATERIAL SPECIFICITY

EFFECTS

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC

Galician Centre of Contemporary Art
Álvaro Siza, 1993
Santiago de Compostela, Spain
DEFORMED

Organic or irregular intersection of planes
Dynamic volume and edge
Cultural - Mixed Use - Retail

FORM:
SIGNIFIES:
PROGRAM:

ORGANIZATION
SPATIAL RELATIONSHIPS
MATERIAL SPECIFICITY
EFFECTS

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC

Casa da Musica
OMA, 2005
Portugal, Porto
Intersection of planes concealed
Implied corner
Residential - Institutional - Commercial

FORM: Intersection of planes concealed
SIGNIFIES: Implied corner
PROGRAM: Residential - Institutional - Commercial

ORGANIZATION SPATIAL RELATIONSHIPS MATERIAL SPECIFICITY EFFECTS

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC

VOID

Denies articulation of edge

Rhetorical device and edgelessness

Residential - Commercial

FORM:

SIGNIFIES:

PROGRAM:

ORGANIZATION

SPATIAL RELATIONSHIPS

MATERIAL SPECIFICITY

EFFECTS

DETAIL

ARCHITECTURAL SCALE

INDIVIDUAL ROOM SCALE (PROGRAMMATIC)

URBAN

TECTONIC
THE CATEGORICAL designations of corner types developed from the taxonomy become a way to relate corners at a range of scales, from the urban to the joint. To compare the corners formally, a series of physical models equalize existing corner conditions at various scales were made: the urban, formal, programmatic, tectonic and detail. These models free each corner from scale; either enlarging or reducing the scale of each isolated corner condition to generate a discourse of relationships between the corners, represented at comparable size. The intent is to compare the strategy/lessons from these corners, to develop my own corner conditions at these scales for a new Boston City Hall and Plaza design (working in reference to, opposite from, etc.).

Each chosen corner configuration is further explored in a case study to see how scale relates to the overall intention/strategy of the corner. Materiality, size and form (section, etc.) are also considered.
urban
formal
programatic
tectonic
detail
Ildefons Cerdà’s Barcelona plan

**CLIPPED CORNER:**
Orients access by celebrating mass and volume
Acts as a reference to articulate movement and encourage collective usage of space

**CONTINUITIES:**

**MITERED CORNER:**
Similar to the mitered corner, the clipped corner emphasizes volume, spatial passages and aims to direct movement (if somewhat discreetly).

**DIFFERENTIATIONS:**

**CORNER AS JOINT:**
(CLOSED)
The clipped corner preferences a frontal approach by leaving the edge undefined. Unlike the clipped corner which operates as a space definer, the closed corner joint emphasizes a diagonal approach in addition to the definition of an edge condition.
ENLARGED
from Formal Condition:
Clark & Menefee’s Middleton Inn

REENTRANT CORNER:
Defined frame exudes privacy and orientation as well as interior and exterior definition

CONTINUITIES:

DIFFERENTIATIONS:

ADDITIVE CORNER:
Both articulate a defined boundary and repetitive architectonic condition utilizing the corner. The reentrant corner defines boundaries through overlapping “L”s and in this instance the additive corner defines boundary through exposed I-beams (structure).

MITERED CORNER:
The mitered corner interlocks planes to mask intersections at the corner and in turn be perceived as a secondary spatial condition. This is unlike the reentrant corner which wraps on itself to articulate a clearly defined interior or exterior space. This formal deliberately employs the corner to segregate space.
REDUCED
from Programmatic Condition:
Koolhaas/OMA’s Kunsthall, Rotterdam

**MITERED CORNER:**
The corner’s intrinsic connection creates a wrapper that promotes social inclusivity, publicness and indeterminacy of use.

**CORNER AS JOINT:**
(CLOSED)
While the corners appear to be at odds with each other both use a distinct corner assembly that details the joining of the corner: the mitered corner manifests the corner as a surface and the joint manifests the corner as a frame.

**DIFFERENTIATIONS:**

**ADDITIVE CORNER:**
The mitered corner conceals the jointure of the corner, interlocking materials together and implying material thickness. The concealment of the corner creates a seamless interior connection whereas the additive corner accentuates rigid definition by articulating a clearly defined structure at the corner.

**CONTINUITIES:**
REDUCED
from Tectonic Condition:
Mies van der Rohe’s
Alumni Memorial Hall, IIT

ADDITIVE CORNER:
Exoskeletal corner with revealed structure on exterior
Creates condition that is simultaneously public and private

CONTINUITIES:

CORNER AS JOINT:
(CLOSED)
Both corners outwardly express the jointure of the corner and connection to additional planes in space.

DIFFERENTIATIONS:

REENTRANT CORNER:
The reentrant corner acts as a continuous enclosure wrapping the edge while the additive corner contradicts a continuous spatial definition as its structural elements augments its form.
**ENLARGED**

from Detail Condition:
Carlo Scarpa’s Museo Canoviano, Possagno

**CORNER JOINT:**
Details a defined closed corner with the ability to transition the connection of space

**CONTINUITIES:**

**DIFERENTIATIONS:**

**CLIPPED CORNER:**
The clipped corner operates as a background corner—it is not a standalone condition. Similarly the corner as joint depends on additional material to purposely operate as a definer of space.

**REENTRANT CORNER:**
The reentrant corner acts as a continuous enclosure wrapping the edge while the additive corner contradicts a continuous spatial definition as its structural elements augments its form.
FORMAL AND SCALAR RELATIONSHIPS

INTENT

- Optimize transporation and traffic control
- Increase green space and daylighting
- Framed engagement
- Visual Connections
- Continuous circulation armature
- Expresses tectonic conditions
- Reinforces campus grid
- Interpenetrate indirect lighting onto plaster casts
- Formal manipulation of transparent membrane

EFFECT

- Encourages participation and collectivity
- Non-deterministic inhabitation
- Clearly defines public and private space and determinacy of use
- Social inclusivity and indeterminacy of use
- Emphasizes collectivity
- Stable spatial condition encourages participatory configuration
- Orients/Disorients cognition of space
- Unstable perception of space

NEUTRALIZED
Corner Conditions:

CONTINUITIES:
DIFFERENTIATIONS:
Diagram drawn by author.
When comparing the formal and scalar relationships to the relationships of intentions and effects of corner types, the categorical corner types had continuities and differentiations that related to other categories or effects than found in the formal and scalar relationship study. This result shows that the corner is an architectonic system which can share characteristics across scales but the architecturalizing of the corner embodies a system which cannot be rigidly define as it is derived from its spatial, social and politicized relationships.
Case studies of each one of the five modeled corners in the formal investigation will analyze the five distinguished scales: urban, formal, programmatic, tectonic and detail both as individual projects and within the projects themselves. In addition the studies will examine corner strategies and the spatial role of the corner in terms of context, organization, sequence, program and circulation. These investigations will map onto the extent and nature of social conditions effected by the corner.

The examination of architects who have utilized a corner condition as an intentional architectural strategy at these scales will include but is not limited to Ildefons Cerdà, Clark and Menefee, Rem Koolhaas, Mies van der Rohe and Carlo Scarpa.

**Case Studies:**
- **Urban:** Ildefons Cerdà’s plan for Barcelona
- **Formal:** Clark & Menefee’s Middleton Inn
- **Programmatic:** Koolhaas/OMA’s Kunsthal
- **Tectonic:** Mies’ Alumni Memorial Hall, IIT
- **Detail:** Scarpa’s Museo Canoviano, Possagno
PROGRAM/TYPE
urban extension plan for Barcelona

SITE
Extension to north and east areas of Barcelona

CORNER AS ARCHITECTONIC SYSTEM:

CONFIGURATION:
truncated corner, background corner

SCALE (S):
urban

MATERIALITY:
green spaces, wide avenues, city blocks

SPATIAL CONDITION:
- Clipped corners create implied figure
- Not a stand alone corner condition, reliant on set of two or more chamfered corners
- Corner oriented diagonal to cardinal points

SOCIAL CONDITION:
- Varied, non-deterministic inhabitation
- Space definer that orients public
- Encourage participation and collectivity between private, semi-private and public spaces

INTENTION:
- Optimize transportation and control traffic
- Improve day lighting and increase green space
ILDEFONS CERDÀ designed Barcelona’s Eixample or “Extension” plan for Barcelona in 1859, connecting the old city or Gothic quarter, Ciutat Vella, with Barcelona’s surrounding smaller towns. Cerdà designed the Exiample following a grid pattern with chamfered corners on each city block. The intention behind these truncated corners was to optimize transportation, green space and natural daylight within the city. By clipping the corners of each city block, the corner became a device for traffic control, where wider avenues enhanced pedestrian accommodation, movement of traffic and allocated additional space for horse-drawn carriages to easily make turns.

The configuration of the chamfered corner extends views around the block as one turns the corner extending the perception of space and establishing spatial order. The social implications of this corner condition target multiple scales as Cerdà’s plan sought for green space within the truncated city blocks to encourage participation and collectivity between private, semi-private and public spaces. The clipped corners also improve solar access, as Cerdà oriented the grid and street layout diagonal to the cardinal points to optimize apartment access to day lighting and street access to shade during the day. The implementation of a corner tactic at the urban scale of the Eixample can help to inform how Boston City Hall and its Plaza can and should deploy the corner.
CLIPPED CORNER
configuration

clipped, truncated corner
clipped city block corners
implied figure
spatial condition reliant on two or more clipped corners

SPATIAL + SOCIAL EFFECTS
Traffic control: wider avenues for collectivity and public space
directs transportation
creates green space

diagrams drawn by author based on Cerdà’s Eixample plan and envisioned development.
orientation and effect

**INTENTION**

Strategic orientation of clipped corner diagonal to cardinal points to improve day lighting and increase green space
spatial order

diagrams drawn by author based on the Centre de Cultura Contemporània de Barcelona’s exhibition ‘Cerdà I La Barcelona Del Futur: Realitat Versus Projecte, Exposición al CCCB, DEL 20.10.09 al 28.02.10 documentation
The city blocks or ‘manzanas’ have densified over time but the clipped corner has remained a definer/orchestrator of space.

Truncated city blocks to improve participation and collectivity between private, semi-private and public spaces.

Degree of definition

1859 1860 1891 1924 1976 1976
PROGRAM/TYPExn (Housing) with guestrooms, bathrooms , dressing rooms and terrace
SITE
Adjacent to Middleton Place on a bluff overlooking the Ashley River and its marshlands. An early phosphate mining operation left terraces cut into the bulff and the “L” form of the inn is sited along the L-shaped embankment of the uppermost terrace; defining the inn as a boundary between the forest and water

CORNER AS ARCHITECTONIC SYSTEM:

CONFIGURATION:
Closed, reentrant corner; series of nested corners, overlapping “L” shapes at multiple scales

SCALE (s): Formal
Site scale, Architectural Scale, Individual room scale and detail

MATERIALITY:
Wood, concrete, glass and glass block, stucco, masonry (piers)
Bathroom/Dressing Room: grey marble, white tile, stucco, glass
Bedrooms: oak flooring, cypress paneling, pine shutters, glass walls

SPATIAL CONDITION:
-Expresses full corner of interior and exterior conditions
-Corner acts as a frame that signifies edge and as an enclosure that signifies contained space
-Prefers the reentrant corner

SOCIAL CONDITION:
Defines boundaries of social inclusivity/exclusivity, privateness and determinacy of use

INTENTION:
-Framed engagement
-Viewed disconnection (diagonally)
**Middleton Inn, Clark and Menefee**
*Charleston, South Carolina 1986*

**IN CLARK** and Menefee’s Middleton Inn the constructed corner is a deliberate strategy. Organizationally the building consists of a series of nested corners, overlapping “L” shapes. The overall “L” configuration not only emphasizes the site’s edge but preferences the reentrant corner. This project emphasizes Clark and Menefee’s architectural syntax of defining the corner by marking the inner angle of either an interior or exterior spatial condition.³⁸ In expressing the full corner, the corner becomes a frame that signifies the contained space.

Middleton Inn is a useful case study on the corner for its use of materiality, full corner expression, and tectonic expansion on the corner through fame and enclosure.³⁹ This precise corner representation distinguishes place and time—an aspect essential for Boston City Hall, where the city is deeply rooted in historical and democratic contexts.

³⁸ Jensen. Clark and Menefee, 25.  
³⁹ Ibid, 27.
REENTRANT CORNER

nested overlapping “L”s

SPATIAL EFFECT:
Series of overlapping “L”s at multiple scales to define boundary of space

diagrams drawn by author using working drawings of Middleton Inn, Clark and Menefee, Syracuse University.
Reentrant Corner marks contained space distinguishing private and public space

Sketches on trace by author.

Diagrams drawn by author using working Drawings of Middleton Inn, Syracuse University.
DETAIL of Constructed Corner: Corner Jamb at NE window. Wooden frame of corner wraps room and signifies contained space, illustrated by perspective sketch.

PLAN SECTION OF CANTED WINDOW IN GUEST BATHROOM: articulates the reentrant corner in the y-axis, emphasizing the corner as a deliberate strategy.

Diagrams drawn by author using working Drawings of Middleton Inn, Clark and Menefee, Syracuse University.
PLAN SECTION OF WOOD/MASONRY AT CORNER:
Plan Section of wood/Masonry shows the material relationship of wood and masonry at the corner.

PLAN SECTION OF WINDOW AT PIER AND WOODEN CABIN:
Illustrates a reentrant corner at a larger scale than the typical detail of the wooden cabin. This corner wraps the exterior serving to act as an enclosure.

Diagrams drawn by author using working Drawings of Middleton Inn, Clark and Menefee, Syracuse University.
PROGRAM/TYPER
Museum for temporary exhibitions (7000 m²)

SITE
60m x 60m site on dyke embankment
Westzijdijk located between highway and edge of Museumpark in Rotterdam, sits adjacent to Nature Museum, crossed by secondary road and pedestrian ramp

CORNER AS ARCHITECTONIC SYSTEM:

CONFIGURATION:
Mitered Corner, Interlocking, Seamless joints

SCALE (S):
Programmatic
Architectural Scale, Individual Room Scale (continuous circulation), material detail

MATERIALITY:
Travertine, tarred concrete, glass
Contrasting materials (cheap, elegant, expensive, common) juxtaposed and spliced together

SPATIAL CONDITION:
- Corners define programmatic configuration/organization for flexible space experienced as continuous circuit with "no turns"

SOCIAL CONDITION:
- Promotes social inclusivity and indeterminacy of use
- Emphasizes collectivity through stable spatial order

INTENTION:
- Corner as tactic to define circulation armature
- Reveals, frames and distorts space for varied spatial experience
“The detailing in the Kunsthal is a mode of detailing that frees the attention for other aspects such as the way the ground is read, the sensing of abstractions, of transparency and translucency, of concrete and of the conditions themselves. The sensing of a whole instead of all that fixation on the joins and the encounters.” – Rem Koolhaas

MITERED CORNER

circulation armature

TECTONICS:
Deliberate juxtaposition of material at the corner

Sketches on trace done by author.

Corner details drawn by author based on Kunsthal working drawings, Koolhaas/OMA, Syracuse University.
Programmatic organization

FLOOR PLAN
1  BAR
2  RESTAURANT
3  ENTRY HALL
4  AUDITORIUM
5  HALL 1
6  GALLERY
7  VIP ROOM /PRINT SHOP
8  STAFF ENTRANCE

SPATIAL ORGANIZATION:
Continuous circulation sequence is configured around the four corners, manifested from the intersection of the road and ramp.
Program overlaps and intersects other spaces

Sketches on trace by author.
Drawings drawn by author based on Kunsthal working drawings, Koolhaas/OMA, Syracuse University.
ARCHITECTONIC SYSTEM:
Corners organize program, spatial sequence and tectonically represent overall spatial idea.
Sketches on trace done by author.
Drawings by author based on Kunsthal working drawings, Koolhaas/OMA, Syracuse University.
material juxtaposition

JOINING THE CORNER: Koolhaas gives an implied thickness to the return surface juxtaposing materials similar to the juxtaposition of program which overlaps and intersects spaces.

Sketch on trace by author.

Drawings drawn by author based on Kunsthalle working drawings, Koolhaas/OMA, Syracuse University.
SPATIAL + SOCIAL EFFECT:
The mitered corner reveals, frames, and distorts space as one circulates through the building. The juxtaposed materiality indicates this seamless transition from one space to the other.

Sketches on trace by author, based on Kunsthal working drawings, Koolhaas/OMA, Syracuse University.
PROGRAM/TYPE
Education: College of Architecture at IIT, with column free-open plan (120’x220’ main floor)
SITE
Illinois Institute of Technology, master plan by Mies based on a 24’ x 24’ grid
Koolhaas McCormick Tribune Student Center on campus creates dialogue with Mies’ Crown Hall on solving corner problem

CORNER AS ARCHITECTONIC SYSTEM:

CONFIGURATION:
Additive, Reentrant, Revealed Corner

SCALE (S): Tectonic
Urban (Campus Plan), Architectural Scale, Structural Module

MATERIALITY:
steel, glass

SPATIAL CONDITION:
-Presence of campus grid in absence of defined corner (revealed corner condition)
-Additive corner defines space through tectonic articulation

SOCIAL CONDITION:
-Promotes interior collectivity and publicness
-Stable spatial order encourages participatory configuration, adaptability

INTENTION:
Exposed steel frame denotes structural, constructional and material condition
“At IIT, the absent columns at the corners of the object-buildings present the nonpresence of Mies’ grid as a continuum of virtual building...the voided L of the corner column cannot be read as an attempt at dematerialization but rather is a virtual grid literally present in its absence.”

-Peter Eisenman

Crown Hall, IIT
Mies van der Rohe
Illinois Institute of Technology Campus, Chicago Illinois, 1956

**THE TECTONICS** of turning the corner is illustrated by Mies van der Rohe at the Illinois Institute of Technology Campus where the corner expresses a structural, constructive, material and spatial condition. Mies was commissioned to design the master plan for the IIT Campus that he based on a structural module of a 24’ by 24’ grid. This module was delineated in steel and allocated programs such as classrooms according to the grid. The exterior corner of Crown Hall expresses its steel structure following Mies concept of “universal space” where the exterior wall is not only employed as skin but illustrates the building’s clear span structure where steel frame is used to hang the ceiling. Expression of the exposed steel reframes the structure with the ground and this tectonic articulation has spatial implications.

Not all of the corners at Mies’ IIT buildings are expressed for structural reasons like Crown Hall. The exposed steel frame at Alumni Memorial Hall for instance, is wrapped in concrete fireproofing and then clad in steel to illustrate its concealed structure. Though nonstructural, the corner still deploys tectonic notions of the buildings construction. The corner orchestrating space through the construction and meeting of materials is a device applicable to both interior and exterior corner conditions of Boston City Hall.
ADDITION CORNER
structural expression

CORNER DIALOGUE:
Across the street from Crown Hall, is Koolhaas’ McCormick Tribune Center where he also encountered the corner problem. Koolhaas’ corner articulation is not as resolved or as integrated as Mies’ exposed additive corner.

TECTONICS:
The structural grid of Mies’ campus design is signified on the exterior corner of Crown Hall, which simultaneously signifies the building’s steel structure.

Drawings by author based on Crown Hall working drawings, Mies van der Rohe, Syracuse University.
**PROGRAM/TYPE**
Museum: 19th Century Canova Plaster Cast Gallery Extension

**SITE**
Commune of Possagno in the Province of Treviso in the Vento region of Italy
wooded hills, winding roads

**CORNER AS ARCHITECTONIC SYSTEM:**

**CONFIGURATION:**
Corner as Joint, Transparent Corner

**SCALE (S):** Detail
Individual room scale, detail

**MATERIALITY:**
Glass, Steel member, Concrete
Juxtaposes fixed materiality with movement of natural light

**SPATIAL CONDITION:**
- Formal manipulation joining three walls in glass corner with structural member
- Phenomenally transparent membrane intersected by light

**SOCIAL CONDITION:**
- Unstable perception of space (movement of light) established hierarchy
- Orients/disorients cognition of space

**INTENTION:**
Use corner to interpenetrate indirect lighting onto plaster casts
CARLO SCARPA employed the corner as an architectonic system in his design for an extension to the existing Museo Canoviano in Possagno by having the corner operate as a joint. Scarpa’s aim was to modify the typical museum condition that expects background walls of a collection of gypsum casts to be tinted. By manipulating the corner Scarpa inverted the typical opening in a wall condition so that a transparent membrane of glass eliminates harsh inward penetrations of light-indirectly illuminating the surrounding walls and softly lighting Canova’s original plaster casts. The sun’s rays move within the cube as the blue sky penetrates inward by means of the corner joint.

Scarpa solves the corner problem though the use of light and manifests his architectural intent by formal manipulation of the corner. As Frascari notes, Scarpa “solves it in a detail in the joint of three walls in a corner made of glass.” Not only was Scarpa’s clipping of the blue sky “a formal cause, but the result was the lighting of the wall, the final cause.” The glass corner manifests the presence of a void and juxtaposes fixed materiality of concrete, steel, and glass with the fluid movement of natural, indirect lighting. The resulting shadows and diffusion of light influence spatial conditions and establish hierarchy. This architectural manifestation of the corner condition exemplifies the corner as a tactic of spatial definition that shapes the perception and cognition of space which is pertinent to how the corner can be deployed in Boston City Hall to influence both public and private spaces.

43. Ibid, 510.

FLOOR PLAN
1 ARCADE
2 ENTRANCE HALL
3 BASILICA
4 HIGH GALLERY
5 LONG GALLERY
6 FORMER STABLES

REFLECTED CEILING PLAN
1 HIGH GALLERY

JOINT OF THREE WALLS IN A CORNER MADE OF GLASS
Formal manipulation results in the lighting of the wall without directly lighting the casts.
Operating as a joint, the closed corner manifests transparency which both orients and distorts space.
I love a lot of...natural light: I wanted to clip off the blue of the sky. Then what I wanted was an upper glass recess...The glass corner becomes a blue block pushed up and inside [the building], the light illuminates all the four walls. My bias for formal solutions made me prefer an absolute transparency. Consequently I did not want the corner of glass to tie into a frame. It had been a tour de force because it was not possible to obtain this idea of pure transparency. When I overlap the glasses I see the corner anyway especially if the glass is thick. One may see the reflection. Look, when I saw the reflection I hated myself. I did not think of it. These are mistakes which one makes in thinking, acting, and making, therefore [it] is necessary to have a double mind, a triple mind, the mind like that of a robber, a man who speculates, who would like to rob a bank and it is necessary to have that which I call wit, an attentive tension toward understanding all that is happening.

“–Carlo Scarpa
Explicit Corners
degree of definition can affect the perceived definition of space

traditional room: fully defined box

implied phenomenal transparent space: allows intersection or overlap

role/meaning of corners impacted by:

CORNER

ARCHITECTONIC SYSTEM

SOCIAL EFFECTS/CHARACTERISTICS

Use of the Corner to Control the Perceived Definition of Space
Social effects/characteristics are capable of being affected by the corner as tactic of spatial definition

CHARACTERISTICS:
- social inclusivity - exclusivity
- collectivity - individuality
- publicness - privateness
- determinacy - indeterminacy of use
- participatory configuration

MATERIALITY
FORM
SCALE
INTENTIONS

97
Corner Reflects a Range of Spatial Occupation
In the context of a civic institution the corner becomes politicized.
III SITE

BOSTON CITY HALL AND PLAZA
Designing a new City Hall for Boston, Massachusetts

BOSTON CITY HALL and plaza are at the geographical heart of Downtown Boston but fail to interface with the public. The site as well as the building has the opportunity to be approached from all four sides and is where the intersection of three major subway lines, historic paths, buildings and neighborhoods occur. This meeting place has the potential to exploit the multiple scales of the corner condition: urban, formal, programmatic, tectonic and the detail and use the corner as a means to influence the spatiality of the democratic process.

This thesis will encompass designing a new City Hall and Plaza for Boston, removing/replacing both existing conditions. At present the site is devoid of activity but by manipulating the edges, surfaces and intersections of the site and new city hall via the corner, the city center can manifest its inherently political nature and engage public intimacy.
WHY A CIVIC INSTITUTION?

As a tactic of spatial definition, the corner embodies an architectonic system that both reflects and it’s reflected by the ranges of spatial occupation that in the context of a civic institution become politicized. Thus, because the spatial dimensions of the corner can take on political meaning through the manipulation of space, the corner and/or edge becomes an interface for those within city hall and the public. While the role of the corner and its social effects could be tested in number of given programs, a civic institution politicizes the social and spatial effects of the corner, demonstrating its role in the orchestration of space.

WHY BOSTON CITY HALL?

In today’s society, the relationship between architecture and political behavior is largely undetected. Such is the case with Boston, Massachusetts’ City Hall, where the brutalist structure authoritates its monumentality but isolates itself from the public. Boston’s existing City Hall deploys the corner in way that physically, spatially and socially divides governmental workers and the public. This separation creates missed opportunities for public intimacy and engagement with the democratic process, unfortunate for a city with such a strong democratic history. The plaza can be approached from all four corners, but despite this accessibility the building remains sold and detached from its environment. As the corner is a scalar condition it can be used at multiple scales to create a new functional city hall. The centrally located, open plaza allows the corner condition to be exploited from each side.

Diagrams drawn by author.  
Existing corner conditions of Boston City Hall based on Boston City Hall working drawings, Syracuse University.  
Photographs taken by author.  
(from top to bottom)  
01. City Hall as enclosed box  
02. Exterior corner condition
WHY KNOCK DOWN THE EXISTING BUILDING?

The existing Boston City Hall was built during a period of Urban Renewal in the Brutalist style. Such being the case it is an inpenetrable, introverted volume that displays a dominant presence of government within the community but fails to be an accessible civic institution. Following the Brutalist style, a closed corner is repeated throughout the existing design, deliberately creating a physical and social divide. As the corner embodies an architectonic system, intervening to redesign corners of the existing condition would not only limit the corner’s potential but skew its meaning as its given spatial condition is the antithesis of this thesis’ intent in utilizing the corner as a means to create public intimacy between those within City Hall and the public.
WHAT’S WRONG WITH BOSTON CITY HALL?

WHAT ARE SOME WAYS A NEW CITY HALL CAN ALLEVIATE THESE PROBLEMS VIA THE CORNER?
TOO INTROVERTED

CREATE PUBLIC INTIMACY
ENGAGE POWER RELATIONSHIPS

TOO EMPTY

ORCHESTRATE
+ DEFINE SPACE

TOO BIG

EMPLOY CORNER RELATIONSHIPS
AT MULTIPLE SCALES

TOO UGLY

STRATEGIC MEETING
OF MATERIALS

Diagrams drawn by author.
SITE ANALYSIS:
Boston, Massachusetts

City Hall Plaza is located in the center of Government Center (spanning from Boston Common to the North End).
The plaza is surrounded by Congress Street and Cambridge Street, both arterial roads and is situated between Boston Common and the Rose F. Kennedy Greenway. Potential physical and visual connections include Faneuil Hall, Quincy Market, the State House, the Old State House, the Walk to the Sea, the Freedom Trail and the Rose F. Kennedy Greenway.
**EXISTING CONDITIONS:**

**Boston City Hall and Plaza**

**FOOT TRAFFIC:** Along the edges
Most foot traffic occurs across the plaza from the Government Center T Station to Faneuil Hall as a route to transportation and other city destinations. A high number of pedestrians also walk along Cambridge/Tremont Streets enroute from the Massachusetts General Hospital area to the State House/Boston Common area. The extremely narrow sidewalk along Congress Street prevents a lot of pedestrian circulation. Many bicyclists find the area hard to traverse due to the busy streets and lack of bike lanes.

**OWNERSHIP:**
Boston City Hall is owned by the City of Boston and the Boston Redevelopment Authority owns the Plaza it sits on. The privately owned buildings along the South side are responsible for the maintenance of the infrastructure underneath the plaza.

**WIND PATTERN:**
The Northwest corner is the most windswept.
**TOPOGRAPHY:**
The highest point of the plaza is near the Government Center T Station, from here to Congress Street there is a thirty feet grade change.

**INFRASTRUCTURE**
Below the plaza are an MBTA station, abandoned and currently used MBTA tunnels, a parking garage and utilities. The Southeast portion of the plaza is occupied by a parking garage used by City Hall and neighboring private buildings. Both the Charles River and Boston Harbor watershed runs though the plaza near the JFK Building.

**MBTA:**
- Government Center T Station (Green Line)
- Bowdoin (Blue Line)
- State Street (Orange and Blue Lines)
The abandoned Green Line Tunnel runs underneath Corn Hill

Diagrams drawn by author.
Cited Diagrams of existing conditions by Utile.
Timeline of City Hall, Architecture Boston.
PROGRAMMING:

One of Boston’s largest civic spaces, City Hall Plaza is a seven-acre roofscape. Such an open space in the center of a city is rare-yet rather than being occupied residents and visitors use it as a cut through or by-pass. A Majority of the time, Boston City Hall Plaza is devoid of activity. The only time a crowd gathers is for the few large-scale events that occur in the Plaza. From March to October events are hosted on the plaza and in the summer a concert and movie series is held.

Site Section Drawings by author, based on Boston City Hall Working Drawings, Kallmann McKinnell and Knowles, Syracuse University.

Programming based on City Hall Plaza programming schedule from 2011-2012

Photographs of Plaza Events by Utile Inc.

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAY 21</td>
<td>African Event</td>
</tr>
<tr>
<td>JUNE 3</td>
<td>Pride Event</td>
</tr>
<tr>
<td>JUNE 4</td>
<td>Filipino Indp.</td>
</tr>
<tr>
<td>JUNE 6-10</td>
<td>Scooper Bowl</td>
</tr>
<tr>
<td>JUNE 12</td>
<td>Portuguese Event</td>
</tr>
<tr>
<td>JUNE 21-27</td>
<td>Phantom Gourmet</td>
</tr>
<tr>
<td>JUNE 28-JULY 5</td>
<td>Harborfest</td>
</tr>
<tr>
<td>JULY 20</td>
<td>Columbian Flag Raising</td>
</tr>
<tr>
<td>AUG 16-21</td>
<td>Greenfest</td>
</tr>
<tr>
<td>SEPT 11</td>
<td>Guatemalan Flag Raising</td>
</tr>
<tr>
<td>SEPT 18</td>
<td>Costa Rican Flag Raising</td>
</tr>
<tr>
<td>SEPT 19</td>
<td>Hub on Wheels</td>
</tr>
<tr>
<td>OCT 1</td>
<td>Cruisin’ NE Car Show</td>
</tr>
<tr>
<td>MAR 15- MAY 15</td>
<td>Big Apple Circus</td>
</tr>
</tbody>
</table>

Northwest/Southeast Section
(parallel to Congress Street)
Scale: 1/32” = 1’-0”
CORNER VIEWS:
Four sided approach

- view of Northwest corner
- view of North corner
- view towards waterfront
- view of South corner
- view of Southeast corner

Photographs and drawings by author.
JFK Federal Building
MBTA Station
Existing City Hall

Photographs and drawings by author.
NORTHWEST CORNER APPROACH

JFK Federal Building
Existing City Hall
28 State Street
Sears Crescent
Photographs and drawings by author.
SOUTHEAST CORNER APPROACH
Photographs and drawings by author.
Explicit Corners
degree of definition can affect the perceived definition of space

traditional room: fully defined box

implied phenomenal transparent space: allows intersection or overlap

Use of the Corner to Control the Perceived Definition of Space

Social effects/characteristics are capable of being affected by the corner as tactic of spatial definition

CHARACTERISTICS:
- social inclusivity
- exclusivity
- collectivity
- individuality
- publicness
- privateness
- determinacy/indeterminacy of use
- participatory configuration

ARCHITECTONIC SYSTEM

INTENTIONS
Corner reflects a range of spatial occupation. In the context of a civic institution, the corner becomes politicized.
IV PROGRAM
Proposal for a New Boston City Hall and Plaza

THE CORNER can architecturalize spatial and social effects that in the context of a civic institution become politicized. Because the corner both reflects and becomes a means of reflecting a range of spatial occupation the corner can become an interface to control the behavior of those within city hall and the public. This program and plaza proposal intends to establish an accessible city hall that exploits the spatial and social characteristics of the corner to engage public intimacy between governmental workers and Boston’s public.

The existing Boston City Hall’s program was analyzed and adjusted to meet contemporary needs and new amenities and purposes for the plaza aim to create this public intimacy.
The space of the existing City Hall is underused as a majority of Boston’s governmental departments have moved to off-site locations and now occupy their own headquarters. This is in part due to the poor spatial organization of the existing City Hall. As the existing City Hall was programmed for more offices than presently occupy the building, this program proposal reduces the amount of program for the building, allowing what is properly necessary for the program.

At present the existing City Hall occupies nineteen percent of the site and the plaza eighty-one percent. Because the plaza is devoid of activity for a majority of the time this program proposal offers to re-activate the plaza by adding additional program and amenities to the site that take advantage of cultural and infrastructural resources. The footprint of the new City Hall will be worked out through design. Since this new design is not yet realized the ratio of plaza programming is based on the existing site distribution of program.

All program diagrams by author.
Information based off of documentation from City Hall and Boston City Hall working drawings, Syracuse University.
PROGRAM PROPOSAL
PLAZA PROPOSAL

EXISTING PLAZA 417,000 FT²

PROPOSED PLAZA 517,000 FT²

AREA DISTRIBUTION

NEW PROGRAM

166,800 FT²

60%

PROPOSED PLAZA PROGRAM* 517,000 FT²

PROGRAM DISTRIBUTION

*FT² dependent on city hall design

PARK EXTENSION

200,000 FT²

AMPitheater

20,000 FT²

Wade Pool/ Skating Rink/ Rally Space

35,000 FT²

Broadcasting

Hotel

8,000 FT²

25,000 FT²

Restaurant/ Gallery

10,000 FT²

35,000 FT²

Quincy Retail

Ext. + Gates

Transportation Hub

106,000 FT²

Potential Park Extension connecting Boston Common, City Hall and Greenway

Potential Wade Pool/ Skating Rink/ Rally Space of plaza

Image: Studio Luz

Activate Congress Street with retail, restaurant, gallery and/or hotel

Photograph by author

Extension of Quincy Market with retail spaces (local) and cafes

Photo by author

Potential for Transportation Hub connecting MBTA lines with City Hall

Photograph by author
DEGREES OF PUBLICNESS

MAYOR’S OFFICE

Emergency Management Office
Law Department
Mayor’s Office
Neighborhood Services
Press Office

ADMINISTRATION & FINANCE

Assessing Department
Engineering Division
Assessor Plans
Auditing
Budget and Program Management
Purchasing
City Record
Benefits and Insurance
Registry
Birth and Death Certificates
Treasury
Bonds
City Treasurer
Collections Division
Workers Compensation Services
Taxpayer Referral and Assistance Center
Collector of Taxes

CHIEF OF PERSONNEL & LABOR RELATIONS

Human Resources
Labor Relations
Retirement Board
Intergovernmental Relations
Housing and Neighborhood Development
Neighborhood Services

CHIEF OF ADVOCACY & STRATEGIC INVESTMENT

New Bostonians
Small and Local Business Enterprise

CHIEF OF PUBLIC PROPERTY

Animal Control
Arts, Tourism and Special Events
Trust Office
Consumer Affairs and Licensing
Election Commission
Voter Registration
Ballots
Census
Credit Union
Property and Construction Management

EXISTING

PROPOSED

This gradient maps the degrees of publicness with the most opaque being the most private and the more transparent being the most public.

How is publicness measured?
Based on site visits to the existing City Hall, readings and interviews of City Hall workers this matrix analyzes the exiting degrees of publicness of Boston’s City Hall in terms of what is available to the public whether it be physically or spatially.
In creating a functional city hall for Boston not every space needs to be accessible to the public; certain spaces and/or areas can be visible but not accessible. This corresponds to the power relationships manifested by both the social and spatial implications of the corner. While this proposal calls for a more ‘public’ program than that of the existing; public can be manifested through both physical and visual connections.

In addition to the five analyzed categorical designations of: government, business, visitors, residents and students, sub-categories do exist such as the relationship of elected officials to staff and pars of visitors. This will be further explored through design.
ADJACENCIES

Degrees of publicness can be manifested through programmatic adjacencies whether the relationships are physical or visual. The corner as a tactic of spatial definition can establish these connections which will be explored through design.

diagram by author.
TOWN HALL, HILVERSUM
Hilversum, The Netherlands
Willem Marinus Dudok
1928-1931

DEPLOYS THE CORNER:
CLOSED

INTENTION:
- Create a monumental Town Hall set within the park landscape (high tower acts as pivot of design)
- Emphasize movement and contrast with forms

SPATIAL CONDITION:
- Interplay of vertical and horizontal lines, planes and volumes with voided space
- Staggering of blocks with varying height and width
- Consistently compose contrasting elements around (except delineate entrance)

SOCIAL CONDITION:
- Blur the boundaries of the government program externally but clearly distinguish interiorly
- Operates as monument establishing hierarchy
CITY HALL, LONDON
Foster and Partners
185,000 FT2

DEPLAYS THE CORNER:
DENIAL

INTENTION:
- Express the transparency and accessibility of the democratic process
- Sustainable, virtually non-polluting public building
- Symbol located along the Thames River

SPATIAL CONDITION:
- Shape derived from geometrically modified sphere for optimum energy performance
- Continuous spiral circulation leads past Mayor’s Office and around Assembly chamber to “London’s Living Room”, which is public space for events and exhibitions
- Designs/programs plaza with sunken outdoor amphitheater which leads to exhibition center

SOCIAL CONDITION:
- Physical and Visual connection between the public and those within City Hall
- Employs power relationships through sequence and spatial organization

Photos by author:
(far left) Exterior of City Hall in London
(far right, from top to bottom)
Landscaped plaza of site with programmed outdoor space
Model of City Hall showing diagonal approach to building (preferences the corner).
SCOTTISH PARLIAMENT
Edinburgh, Scotland, 1999-2004
Enric Miralles
312,000 FT2

DEPLOYS THE CORNER:
ACUTE/CHAMFERED

INTENTION:
- To represent a national identity
- Blending the architectural form into the landscape

SPATIAL CONDITION:
- Non-hierarchical, organic collection of buildings which allow views of the landscape
- Separation of space: each council member has their own cell

SOCIAL CONDITION:
- Debating chamber intended to blur political afflictions with semi-circle layout
- Narrow corridors for casual interactions

Photographs by author.
(from top to bottom)
Debating Chamber of Parliament
Exterior acute corner condition

Elevation/Section showing debating chamber (power relationships)
AUSTIN CITY HALL AND PUBLIC PLAZA
Austin, Texas, 1999-2004
Antoine Predock
118,000 FT²

DEPLYS THE CORNER:
ACUTE/OBTUSE

INTENTION:
- Mediate city grid and natural realm of the waterfront
- Uses local materials to appear as if emerging out of ground

SPATIAL CONDITION:
- Structure angles away from surrounding streets and city grid
- Inflections from urban perimeter create series of informal courtyards
- Materials come together to create “Living Room” and terraces from the Second Street to the Town Lake (landscape)

SOCIAL CONDITION:
- Angular form creates interior light conditions
- Exposed circulation creates visual power relationships within and outside of City
- Outdoor terraces create viewing platforms
Explicit Corners
degree of definition can affect the perceived definition of space

traditional room:
fully defined box

implied phenomenal transparent space:
allows intersection or overlap

SOCIAL EFFECTS/CHARACTERISTICS

Use of the Corner to Control the Perceived Definition of Space
Social effects/characteristics are capable of being affected by the corner as tactic of spatial definition

CHARACTERISTICS:
social inclusivity - exclusivity
collectivity - individuality
publicness - privateness
determinacy - indeterminacy of use
participatory configuration
POLITICAL

Corner Reflects a Range of Spatial Occupation
In the context of a civic institution the corner becomes politicized

CIVIC MEANING

BODIES in space

POWER Relationships

Architectural Precedents?

HOW TO DEPLOY THE CORNER

POLITICIZES
In the design for a new City Hall for Boston, Massachusetts corners are a marker of architectural experience not in isolation but in a certain context. The most important aspect of the corner is phenomenal not formal as the corner and edge act as an interface to control behavior between those within city hall the public. The corner is used to give the citizens back their power by reclaiming city hall and its plaza as their own.

With the deployment of the corner, power is contextualized and is not to say that a certain corner always means (x). The corner changes and/or informs the perception of space with a hierarchy that exists through the different city hall and plaza sequences.
ARCHITECTONIC SYSTEM: Corner Strategy

URBAN: 4 CORNER APPROACH.

PROGRAM: CORNER GALLERIES
(CITY AS MUSEUM/MUSEUM AS CITY)

CIRCULATION ARMATURE:
OBLIQUE VIEWS
OBLIQUE (CORNER) VS. FRONTAL (EDGE)

TECTONIC: RETAINING WALLS,
PIERS, COLUMNS
(CORNER DISAPPEAR INTO LANDSCAPE)
URBAN: CONTEXTUAL RESPONSE
ARCHITECTURAL: PROGRAM ORGANIZATION

3. CORNER HIERARCHY

URBAN

Plaza
Mayor's Office
Non-Mayor's
Streets, Transportation and\nAdministration and Finance

ARCHITECTURAL

INDIV. ROOM

Chief of Property
Chief of Services
Chief of Budget and\nFinancial Management
Chief of Human\nResources

TECHNICAL

TECHNICAL
Corner as a tactic to define circulation armature: reveals, frames and distorts space for varied spatial experience expressing the full corner—the corner (interior and exterior conditions) becomes a frame that signifies the contained space (frame and enclosure)

- frame signifies edge (view disconnection)
- enclosure signifies contained space
As Boston is known as the City on the Hill, what if city hall didn’t simply sit on the hill but emerged from the hill? Large concrete and stone retaining walls anchor City Hall and define the circulation armature that accentuates oblique views. To correlate with the change in topography, the large retaining walls disappear into piers and then columns. The material of city hall speaks to Boston’s historic material presence but incorporates new civic architecture with concrete, stone, steel, aluminum and glass.
THE MAKING OF THE CORNER

CONFIGURATION: slipping, recessed

SCALE (S): architectural, tectonic

MATERIALITY: concrete, stone veneer, steel, glass,

SPATIAL CONDITION: Preference of one wall over the other with recessed glazing to emphasize access/denial

SOCIAL CONDITION: display the inclusivity/exclusivity of finance department

INTENTION: Corner as tactic to reveal higher power and define boundary
Corner as tactic to define circulation armature

access denial position in space
THE MAKING OF THE CORNER

CONFIGURATION: angled, masked

SCALE (S): urban, architectural, individual room

MATERIALITY: concrete, stone veneer, steel, glass,

SPATIAL CONDITION: Angled cantilever with stone wall wrapping mitered fritted glazing

SOCIAL CONDITION: display the hierarchy of power, transparency between government and public juxtaposition between public and private

INTENTION: Corner as tactic to denote power urbanistically promote participatory configuration
THE MAKING OF THE CORNER

CONFIGURATION: reentrant

SCALE (S): individual room, tectonic

MATERIALITY: concrete, stone veneer, steel, glass

SPATIAL CONDITION: Defines interior and exterior corner condition. Wraps around itself creating an inside corner flanked by two outside corners


INTENTION: Corner as tactic to signify contained space and frame views

153
THE MAKING OF THE CORNER

CONFIGURATION:
Open Joint as corner detail for voided corner

SCALE (S):
detail, individual room

MATERIALITY:
concrete, stone veneer, steel, glass

SPATIAL CONDITION:
Open corner joint references material thickness and allows light to penetrate though the gallery

SOCIAL CONDITION:
unstable position of space (movement of light, frame views of hierarchy)

INTENTION:
Use corner to interpentrate light into gallery and allow framed views of council chamber
THE MAKING OF THE CORNER

CONFIGURATION:
Bending corner with mitering of material

SCALE (S):
arbitrary, programmatic

MATERIALITY:
concrete, rain screen, steel, glass

SPATIAL CONDITION:
Bending deformation responds to context
Corners define connectivity between programmatic condition

SOCIAL CONDITION:
emphasizes collectivity and promotes social inclusivity

INTENTION:
Corresponds to corner as tactic to define circulation armature
Reveals and frames space
VI APPENDIX

Annotated Bibliography

Figure Credits

Scholarly research analyzing Palazzo Chiericati and Palladio’s manipulation of the corner. Investigates political and aesthetic reasons as well as motivations for treatment.


Literary work which explores four different architectural projects and their unique use of material and detail.


Essay examining Jacques Derrida’s discourse on rhetoric and the rhetorical figure applied to the corner. Claims that corners are elusive and rarely thematized in architecture. States that the corner’s status as signifier in the signifier/signified relationship has changed and it is now a sign without a stable meaning.


Series of five case studies that investigate detail and independent architectural element using the same site and program.


Study of five different definitions of “detail” in effort to answer the question “what is a detail?” using case studies and architects as examples.


Article describing Carlo Scarpa’s use of the joint and its relationship of part to whole in Scarpa’s architectural projects.

Article contending that details play the role of generators and that all details are joints.


Interview with architectural theorist, Michel Foucault, regarding his interpretations of space and power which is applicable to politics.


In depth study of joints and jointing and their role in building construction, providing an encyclopedia of joint types.


Article arguing that different interpretations of Boston’s City Hall can be examined through a critical understanding of the reception theory.


Architectural exhibition that consists of ten detailed wall sections, five from major architects and five from Mori which are work next to, in addition to or in reference to the creators. The intent is to create a dialogue between literal and historical, disciplinary and existential through moments of complex interchange and detail.


Explanation of teaching program which connects larger architectural ideas to material xpression through analysis of constructed detail.

FIGURE CREDITS

Fig. 1 Servei de Cartografia de la Mancomunitat de Municipis de l’ Àrea Metropolitana de Barcelona. Urban fabric of Barcelona depicting Cérda’s chamfered corners. Photograph. 8.5in x 8.5in.

Fig. 2 Richard Jensen. Constructed corner at Middleton Inn. Photograph. Clark and Menefee. (New York: Princeton Architectural Press, 2000), 10-88.


Fig. 4 Gregory Bencivengo. Corner at Crown Hall. November 26, 2012. Photograph from site visit.


Fig. 6 Anette LeCuyer. Summer House, Muuratsalo, Finland, 1953. Photograph. Radical Tectonics: Enric Miralles, Günter Behnisch, Mecanoo, Patkau Architects. 4x4 Series ed. New York: Thames & Hudson, 2001 (14).

Fig. 7 Peter Eisenman. Greek and Roman Temple Triglyphs. Plate. Peter Eisenman. “There are no Corners After Derrida.” Log 15 (New York: Anyone Corporation, 2009),112.

Fig. 8 Peter Eisenman. Courtyard corner at the Palazzo Ducal, Urbino, 1465-1473, Luciano Laurana. Photograph. Peter Eisenman. “There are no Corners After Derrida.” Log 15 (New York: Anyone Corporation, 2009),113.


Fig. 10 Peter Eisenman. Corner detail in the cortile of Santa Maria Della Pace, Rome c.1500, Bramante Photograph. Peter Eisenman. “There are no Corners After Derrida.” Log 15 (New York: Anyone Corporation, 2009),114.

Fig. 11 Peter Eisenman. Altes Museum. Plate. Peter Eisenman. “There are no Corners After Derrida.” Log 15 (New York: Anyone Corporation, 2009),112.


Fig. 15 Gregory Bencivengo. Corner at Crown Hall. November 26, 2012. Photograph from site visit.


Fig. 17 Netherlands Architecture Institute. Kunsthall Model. Photograph. NAI Collection, OMAR Archives. Available from: http://en.nai.nl/about_the_nai/nai_building/item/_pid/kolom2-1/_rp_kolom2-1_elementId/1_146684 (accessed November 29, 2012).

Fig. 18 Patrick Schumacher. Lotus. Image published in: Mark Garcia (editor), The Diagrams of Architecture, AD Reader, John Wiley&Sons, London 2010.

Fig. 20 Vladimir Tatlin. *Complex Corner Relief*, 1915 (Reconstruction 1979). Iron, zinc and aluminum, 78.8 x 152.4 x 76.2 cm London, Annely Juda Fine Art.


Fig. 24 Robert Morris, artist. *Untitled (Corner Piece)*, 1964. Painted plywood, 78 x 108 inches (198.1 x 274.3 cm). Solomon R. Guggenheim Museum, New York, Panza Collection 91.3791. © 2012 Robert Morris/Artists Rights Society (ARS), New York. Photo: David Heald © SRGF

Fig. 25 Robert Morris, *Untitled (L-Beams)*. 1965, Photograph: courtesy of Leo Castelli Gallery.

Fig. 26 Dan Flavin (American, 1933-1996) *Pink out of a corner (to Jasper Johns)*, 1963. Fluorescent light and metal fixture, 8’ x 6” x 5 3/8” (243.8 x 15.2 x 13.6 cm). Gifts of Philip Johnson. 2012 Estate of Dan Flavin / Artists Rights Society (ARS), New York67.1979.

Fig. 27 Robert Smithson (American, 1938-1973) *Corner Mirror with Coral*, 1969. Mirros and Coral, 36 x 36 x 36” Fractional and promised gift of Agnes Gund 86.1991.a-d

Fig. 28 Richard Serra (American, born 1939) 1969-70. *Equal (Corner Prop Piece)* Lead antimony, Plate 48 x 48 x ¾” (122 x 122 x 2cm), pole 7” ¼” (210cm) long x 4 ¾” (11 cm) in diameter. Gilman Foundation Fund. 2012 Richard Serra/ Artists Rights Society (ARS), New York 728.1976.a-b

Fig. 29 Glenn Seator, artist. *Three Corners (2001)*. Image: Courtesy of Mark Linder, from Minimalist art research.

Fig. 30 Steven Holl Architects and Vito Acconci, design architect. *Storefront for Art and Architecture*, New York, (1992). Photograph: Steven Holl Architects.

Fig. 31 Fredrik Nilsen. *Diana Thater: Knots + Surfaces*, 2001. Photograph.


Fig. 33 Gregory Bencivengo. *McCormick Tribune Center*, November 26, 2012. Photograph from site visit, Chicago Illinois.


Fig. 37 Thomas M. Keane Jr. *Timeline of Boston City Hall*. “Between a Rock and Hard Place: Maybe some things just can’t be fixed.” *Architecture Boston*, May/June 2005, 18-26.


