Views across Boundaries and Groupings across Categories:

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Presented to
The Academic Faculty

by

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to my mother, Parvaneh, the butterfly

and

in memory of my father
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In museum galleries, objects are placed together according to conceptual and spatial orders rooted in two distinct design strategies: curatorial and architectural. The two deploy their own particular design language and mechanism of seeing, classifying, grouping, distributing and displaying objects thereby structuring viewers' visual experience. Understanding the way in which viewers’ seeing, grouping and comparing objects are influenced by not only the nature of the objects but also their spatial arrangement is fundamental to the pedagogical role of exhibitions. Galleries, as non-discursive pedagogical apparatuses, shape the boundaries between different contents of knowledge, and the sequence, pace and the processes of its transmission. The thesis focuses on the recent history of the High Museum of Art (HMA), designed by Richard Meier, and opened in 1983; to better understand how exhibition design interacts with changing curatorial intentions within the context of a particular building shell. The study inquires whether paradigmatic shifts in curatorial intent generate shifts in the organization of space and whether the history of HMA is a sequence of variations based on an original spatial theme or it constitutes a non-linear history of discontinuities based on fundamental changes. The examination utilizes a rigorous morphological analysis of gallery layouts including patterns of co-visibility, cross-visibility, and formal composition against the background of the spatial grouping of objects according to the curators’ pedagogical doctrine. Alongside published books, journals, newspapers, and interviews, the study has relied on original data from the HMA archive including architectural sketches, photographs, slides, memoranda, and correspondence by curators and educators. Paradigmatic changes are identified in both curatorial and architectural design strategies, reflected in the layout of the second floor galleries and the manner in which objects are grouped in space. The analysis leads to a clarification of the tension and the interplay between curatorial intent and specific architectural qualities that arise in galleries. At the generic level, display layout is driven by considerations of visibility and co-visibility which can either be permissive or restricted. In its original spatial organization in 1983, the HMA galleries were characterized by a deliberate compositional strategy providing multiple views across spatial boundaries but also across classificatory categories. At the architectural level, the design of exhibition scenery suggested alternative decompositions of space into interlocking, layered and overlapping volumes and shapes. This provided visitors with cues that objects could be not only perceived but also understood from multiple points of view and alternative patterns of grouping, within or across curatorial classifications. In the current layout of 2003, the galleries re-introduced some of the spatial and visual qualities of the original within a much simpler scope. In the intermediate stage of 1997, the spatial properties of overlapping and interlocking were mostly excluded from the design. The fundamental transformation of the curatorial intention led to a more elaborate exhibition narrative by themes. The space was organized to frame views and to amplify curatorial compositions. On this basis, the study bonds the curatorial layout of objects with the architectural layout of space and traces their shifts. At all phases of the HMA transformations, nevertheless, exhibition designers were challenged to work within the constraints and confines of a given building shell, a given permanent collection of objects (rearranged and displayed on a regular basis) and within the framework of Meier’s architectural language, or at least their interpretation of it. That they could do so while exploring fundamentally divergent design and curatorial strategies is quite surprising. Thus, the trajectory of changes in HMA constitutes an intriguing case study on the multifaceted interplay between architectural vocabulary, spatial language, the curatorial narrative and pedagogical intents within a vibrant museum institution.
Chapter One: Introduction

1.1. Prelude: Galleries as Spatial Patterns

What accounts for the difference between what one sees and what has been designed for one to see in a display setting? Is there a correlation between what one sees and the path taken to arrive at that view through the arrangement of space? Does the spatial position in which a viewer is situated matter to how an exhibit is perceived? Is there any relationship between the viewer’s visual field, the viewed objects, the spatial arrangement and the transmission of knowledge in a museum layout?

Figure 1.1: a) and b) the pictures of galleries
  c) and d) the properties of two layouts from the standpoint of a situated observer
Figure 1.1 presents a case for engaging in a discussion that responds to these questions, which are fundamental to this dissertation. The four images in the figure address the interrelationship between visual perception and the configurational order of space and impels one to question the nature of spatial experience when one looks at a gallery as a perceptual field and as a built shape and to look for the structures of space that govern such an experience. In Figures 1.1a and b, the photographs of two different galleries represent an observer’s sight from a given situation and direction. One finds a number of familiar conditions within the perceptual fields of these two galleries. Each gallery is the creation made up of a relatively constant palette of architectural and spatial references: the interplay of white surfaces and interpenetrating volumes, and geometrical shapes with clear horizontal and vertical outlines. Each of the galleries establishes a visual framework for viewing individual displays as well as the visual connections among them. Although the scenes of the galleries are relatively comparable, the properties of their spatial layout arise from different design vocabulary and strategies. The next set of images (Figures 1.1c and d) capture the properties of the two layouts from the standpoint of a situated observer. The images suggest two different readings of the square geometry of the building shell, and two different ways of linking partial views to the layouts as a whole. While one spatial structure offers the viewer a sense of continuity, with glimpses to spaces beyond the one currently occupied, the other one creates a closed domain. In the plan of the first gallery, the installation elements intend to construct a layered vista condition that opens into a sequence of spaces (Figure 1.1c). The aim of the design is to simultaneously differentiate and integrate various objects and areas as part of the whole arrangement. The interrelated spatial zones and the openings provide multiple views and alternative paths to follow when exploring the exhibition narrative. In the plan of second gallery, in contrast, the spatial arrangement is more linear and the installation is organized in such a way as to construct closed, isolated vistas with minimal intersections between them (Figure 1.1d).
This account suggests that while the architectural vocabulary used in the two settings is similar, the underlying spatial logic systems are different. Apparent stylistic similarity conceals structural differences in the logic of space. Thus, the discussion leads to the question of why similar architectural vocabulary is deployed to achieve different spatial aims and how different types of layout might suggest different kinds of museum experience by framing and grouping displays in different ways. Should the discussion conclude that in a museum design that a gap between architectural language, defined as an arrangement of physical shapes, and spatial language, defined as a configuration of interrelated fields of seeing and moving, is inherent in all museum designs?

This dissertation presents a study of two distinct but interrelated and fundamental spatial structures that activate the relationship between space, objects, and viewers in museums: one curatorial and the other architectural. Each of these two structures deploys its own particular design language and mechanism of seeing, classifying and grouping exhibits to bring spatial and conceptual order to the heterogeneous collection of objects and thereby structuring a viewer’s visual experience. The study, therefore, raises two fundamental and interrelated questions: first, how do architects and curators define, design, and structure the layout of the display object and the display space?; and second, in what ways do architectural and curatorial patterns interact and influence each other to shape an emergent space embedded in galleries? Against the background of a rich and coherent body of literature (reviewed in Chapter 2), the dissertation links the transmission of exhibition messages to specific properties of gallery layouts. Specifically, the study investigates the manner in which the properties of a gallery layout create a stage for the displays and situate them in viewing sequences, thus helping to communicate the curatorial narrative. A display layout not only presents objects but also a narrative about the particular ways of seeing the objects. Objects are seen as both individuals and parts of sequences or groupings. Thus, the layout sets up a comparative field. The manner in which objects are perceived and compared is influenced by the structure of the visual field and the patterns of connection and separation in the spatial arrangements. In fact, the understanding of the ways in which a viewer sees, groups and compares objects is influenced not only by the nature of the
objects but also by their spatial arrangement, which is fundamental to an exhibition as a distinct mode of pedagogy. Museums have been deemed non-discursive pedagogical apparatuses in which pedagogy determines the strength of the boundaries between different contents of knowledge as well as the sequence, pace, and the processes of the transmission of knowledge (Pradinuk 1986; Choi 1991, applying Bernstein 1975). In museum studies, spatial configuration and presentation of knowledge have been treated as essential elements of a common social, cultural, and pedagogical function of exhibition space by a number of authors (such as Peponis and Hedin 1982; Hooper-Greenhill 1992; Markus 1993; Staniszewski 1998; Choi 1999; Newhouse 2005; Tzortzi 2005, 2007; Psarra et al. 2007).

While a rich body of literature deals with the architecture of the museum, few studies have addressed in depth both the curatorial and the architectural spatial strategies that influence the function of galleries, the grouping of objects, and the visual experience of a viewer. Therefore, this dissertation attempts to bridge architectural and curatorial museum studies within a single theoretical framework. Architectural design decisions could effectively and innovatively support curatorial and pedagogical intentions if the function of museum space is better understood. The study develops and expands existing morphological methods for display layout analysis to contribute to the development of a systematic and rigorous analytical instrument that can be used in museum design and evaluation.

1.2. Methodology

The dissertation traces the interaction between architectural and curatorial intentions in the High Museum of Art (HMA), located in Atlanta, USA, and designed by Richard Meier in 1983. In particular, the study holds a close-up lens to the HMA second floor galleries. This floor constitutes an interesting case for a number of reasons. One reason is that the initial spatial layouts of both the gallery and the objects (the collection of Decorative Art) were jointly shaped
by one architect, so the organization of the objects has become an integral component of the spatial design. In addition, it offers a rich spatial experience that reflects a variety of architectural and curatorial ideals and debates regarding modern art gallery design. Another reason is that the visual organization of its galleries is strongly associated with their spatial structures. And finally, the changing layouts of the galleries over the years cover a broad spectrum of different layout principles and curatorial strategies (from multiple to linear sequences of space; from chronological to thematic classification of objects). While the building form and public spaces of the HMA have been extensively covered by architectural museums studies, no published studies have yet addressed the quality of galleries as exhibition settings or the curatorial strategies that guided their design.

Since 1983, the HMA has undergone several stages of internal transformation to meet the demands of different installations as well as to contain the growing numbers of programs, collections, audiences, and the ever-changing institutional needs. Through a study of the HMA archival material, this dissertation was able to document the record of key events in the museum’s life and outline the trajectory of its architectural and curatorial transformation (Figure 1.2). Specifically during the past decades, two major internal renovations of the building took place (See the red bars in the figure). The 1997 reconfiguration by Scogin, Elam, and Bray Architects (SEB) and the 2003 remodeling by Lord Aeck and Sargent Architecture (LAS), both of which will be the focal points of the dissertation along with the original layout designed in 1983.

The dissertation tracks how different layouts express different curatorial paradigms that work within a constant architectural shell that contains an essentially constant collection of displays (Figure 1.3). Here the distinction between “shell” and “scenery”, originally introduced by Duffy (1974), is of relevance. The shell of a building encompasses the structure, the envelope, and the basic services that do not change during the lifetime of a building; scenery, with a shorter life than the shell, comprises interior design as it adapts to the specific, yet changing needs of the
occupants. Duffy uses the theatrical metaphor of stage sets to describe how the scenery arises from the arrangement of partitions, equipment, and furniture. By analogy, display walls, platforms, and cases are the stage sets for exhibition design. The study traces the deployment of stage sets to create different exhibition sceneries during the life of the HMA.
Figure 1.2: Trajectories of the architectural and curatorial alteration at the HMA: 1905-2003

A Chronology of Key Events

Curatorial Trajectory

- 1905: HMA is founded as the Atlanta Art Association
- 1926: Ms. H. Harwell High donates her home as an art museum and school
- 1928: Collection 3D paintings
- 1940: HMA opens to the public
- 1942: Repeat of the Henry B. Scott property, adjacent to HMA
- 1953: Promised gift of 25 Renaissance paintings and 3 sculptures from the Samuel H. Kress Foundation - need for a new building to house the growing collection
- 1955: Reginald Poland, Director, 1955-1962
- 1959: The Samuel H. Kress Foundation enriches the collection of European Art
- 1962: The bequest of Edward McBurney expanded the HMA's interests in decorative arts
- 1968: The French government gives Rodin's 'The Shade' sculpture to the Atlanta Arts Alliance
- 1970: The Frances and Emory Coke Collection of English Porcelain is donated
- 1972: Collection doubles in the decade to approximate 5,000 objects
- 1973: Fred and Mila Reiman collection of African Art
- 1976: The Virginia Carroll Crawford Collection of Decorative Arts is established

Architectural Trajectory

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Reconfiguration of the Galleries

- Richard Meier
- HMA's branch at the Georgia-Pacific Center opens as the HMA Folk Art and Photography Galleries
- Reconfiguring the Galleries
- Scaife, Elam and Bray Architects
- 1986
- 1991

Reconfiguration of the Galleries

- Lord Aeck and Sargent Architecture
- 2006
- 2008
- 2009
- 2011
- 2012
- 2013

Renoir's David Restored

- Renovation to Meier Building to house new education Center and permanent collection galleries
- 2004

Figure 1.2: Trajectories of the architectural and curatorial alteration at the HMA: 1905-2003
To trace the trajectory of the change in the properties of gallery layouts, this study utilizes different sources of data along with published books, journals, and newspapers. Particularly, the HMA and SEB archives constitute an original, significant, and unique archival resources and include architectural drawings, sketches, photographs, slides, official documents, memoranda and correspondence. Furthermore, regarding the 2003 galleries, the study employs direct observation, field studies, and interviews. The method of study consists of three main components. The first involves a syntactic analysis of the HMA architectural layouts in three phases of 1983, 1997, and 2003; the second examines the curatorial notes and conceptual maps and object layouts in the three phases; and the third presents an analytical and analogical profile of interactions across the architectural and curatorial organizations addressing how the two affect the logic of gallery layouts, the ways of grouping objects, and the modes of shaping knowledge over the years. The investigation outlines specific morphological properties of display layouts, applies an analytical diagramming technique, and maps the curatorial and architectural spaces. The analysis takes into account not only the architectural arrangement of space but also
the arrangement of objects and the deliberate curatorial intention behind it\textsuperscript{1}. To address the morphological analysis of the layout in a rigorous way, the dissertation includes the theory and the methods of the Space Syntax (introduced comprehensively in Chapter 5). The study particularly utilizes a rigorous process of spatial analysis and systematic representations of the visibility pattern to shape its argument. From a methodological point of view, the dissertation contributes to the existing knowledge by addressing more precisely the correlation between the ‘spatial grouping’ of objects and the architectural properties of layouts as well as the manner in which they interact with the creation of structured patterns of ‘co-visibility’ and ‘cross-visibility’. In addition, the dissertation offers methodological clarifications regarding the different modalities of co-visibility that are possible in museum space.

In the previous paragraph, a few terms that the reader might be unfamiliar with have been introduced. The following clarifies these key terms according to the ways in which they have been defined or used in the dissertation.

The spatial grouping of objects, as defined in the study, arises not from the stylistic, historical, or other classificatory labels of objects, but from the arrangement of objects in space; thus, it depends on a viewer’s perception of spatial setting.

The term *spatial layout* refers to the configurational pattern of subdivisions and connections of spatial surfaces around a particular floor area, not just to the polygon representing its spatial boundary. Such a pattern, as Peponis et al (1997) stated, determines the spatial sequence of viewing and the pace at which views change as one walks.

*Co-visibility* in a spatial layout describes the condition of a seeing zone or visual field created by a spatial setting, in which there is the possibility of seeing two objects of interest simultaneously. *Cross-visibility* in a display layout arises when more than one object becomes simultaneously co-visible across spatial boundaries.
1.3. Outline of the Thesis

In light of the brief introduction of the theoretical and methodological scaffolds of the study, the following section gives a concise description of the dissertation outline.

Chapter 2 reviews the curatorial and architectural debates on the spatial properties of the museums and exhibition layouts. It is aimed at providing a theoretical framework within which the dissertation is situated. The review specifically inquires about current discourses with regard to the classification and grouping of objects as pedagogical instruments in display layouts. Furthermore, the chapter investigates the manner in which viewers’ visual fields and paths through installations have been considered as means for enhancing the pedagogical function of museums. This review of the literature is structured in three sections. The first discusses the key component of an installation, “the object”, and its placing in a spatial context of viewing. Addressing the classification and the spatial grouping of objects, the review then moves from an individual object to the collection and the association among objects and the manner in which objects become visible in a display layout. The discussion, therefore, involves understanding the interaction between displays, boundaries, and visual fields in museum studies. The second section investigates the way in which the existing museum theories underline co-visibility, cross-visibility, and the sequential order of one’s seeing objects in space as the viewer moves through the galleries. The third section discusses museums primarily from the curatorial vantage point. It reviews the key paradigms of the curatorial display techniques manifested in the Museum of Modern Art in New York City, one of the most prominent and influential modern art museums. The review, thematic rather than chronological, draws on key theoretical statements by early modernists that insert the viewer within the interrelation of objects and space and challenge the presence of the passive observer in traditional galleries. The section looks at the particular conceptual framework within which the display technique of vistas is adopted in influential installations, including Barr’s installation in 1929 and d’Harnoncourt’s installation in 1946. The discussion essentially focuses on the manner in which curatorial strategies have addressed the
spatial dimension of the arrangement of objects by theoretical and perceptual principles. The review of literature identifies the manner in which the spatial properties of museums affect the displaying of objects and emphasizes on the spatial layout as a key tool for arranging patterns of viewing, framing, sequencing, grouping and comparing objects, and therefore as a pedagogical instrument for structuring the spatial and curatorial narrative. Thus, the review aims to provide a foundation of baseline curatorial knowledge pertaining to the interrelationship among objects, viewers, and space, a foundation upon which one can build a stronger understanding of the particular curatorial strategies of the HMA.

Chapter 3 introduces the HMA as the focal point of the study by providing a detailed description of the way the museum has evolved throughout history into the institution that remains today. The aim is to establish the groundwork for a spatial analysis of the HMA installations that will be carried out later in the dissertation. The discussion is structured into two sections. The first reviews the establishment of the HMA in 1903 and the growth of the institution until 1983 within the complex web of social, cultural, economic, and political influences. The second section focuses on the trajectory of change at the HMA from 1983 on and thoroughly examines the building designed by Richard Meier. The first part of the study discusses the architectural design intention and properties of the building and addresses the spatial arrangement of the museum layout including the rooms within the rooms strategy and the spatial experience of the museum within a viewer’s visual fields. To elucidate the formal properties of the HMA, the study also explores the theoretical framework of Meier’s formal language of design, particularly his relationships with Colin Rowe and Frank Stella. The aim is to interpret Meier’s key design principles that have been realized in the HMA building. To explain the curatorial strategies and intentions underlying the arrangement of the HMA objects, the review identifies how the curatorial process has addressed the selection, classification, and presentation of the permanent collection of objects in the 1983 layout, particularly on the second floor. Through a concise introduction of the nature of the objects in the permanent collection, the curatorial description provides a better sense of the overall character of the
curatorial department. The discussion then moves to the curatorial strategies and narratives about how the HMA classified and displayed objects in the opening installation of 1983. The discussion also addresses how the dominant architectural elements of the building shell presented opportunities and challenges to the curatorial strategies and realizations.

Chapter 4 follows the trajectory of changes at the HMA, focusing on two major internal transformations of the second floor galleries. The first was the layout for the permanent collection, designed by Scogin, Elam and Bray Architects, and completed in 1997 after the 1996 Atlanta Olympics Games; the second was the layout designed by Lord Aeck and Sargent Architecture and completed in 2003 (Figure 1.2). The chapter delves into the manner in which the curatorial and architectural designs of the modified layouts responded to definite institutional programs and different intentions through time. The chapter comprises two sections, the first section examining the re-installation of the HMA collection in 1997 and specifically addressing both curatorial and architectural design properties of the exhibition. The study reviews correspondences among the HMA curatorial and educational teams and demonstrates their wide range of inquiries about viewing, accessing, and classifying objects. In a similar theoretical structure, the second section investigates the HMA internal reconfiguration during 2003. Thus, together with Chapter 4, this chapter illuminates how the design of the layouts of objects responds to the curatorial intentions of each time period, establishing the foundation for the spatial analysis of these three installations through subsequent chapters.

Chapter 5 constitutes the analytical core of the dissertation. It systematically examines the spatial transformations of successive layouts of the HMA using a quantitative methodology. The chapter is structured in two sections. The first provides a concise review of the theoretical framework and methodological models of Space Syntax studies that will be used for the analysis of gallery layouts. In particular, the discussion focuses on the analytical techniques of line maps, convex spaces, and visibility analyses, and the concepts and measures of spatial integration, connectivity, and depth. The second section presents the application of the Space Syntax
theories and methodologies to the analysis of the three HMA layouts of 1983, 1997, and 2003. The analysis aims to complement the narrative offered in the previous chapters in which the descriptions of spatial changes were more intuitive. The discussion inquires about how the spatial layout structures the viewer’s visual field and paths which consequently influence the specific manner in which one perceives groups of objects. Spatial layout, thus, can turn into an active instrument in structuring the observer’s visual experience of galleries and augmenting the transmission of the curatorial narrative. The dissertation will investigate this topic in more depth in chapter 6.

Chapter 6 continues the analytical study by focusing on a specific gallery on the second floor of the HMA, rather than in the entire museum, to analyze on the more micro-scale of Gallery 204 the manner in which specific architectural design strategies influence the curatorial narratives. Through cross-comparison analyses, the examination aims to clarify and compare the layouts of space and objects in Gallery 204 over the years to further investigate the interaction between architectural and curatorial intentions. The chapter consists of four sections. The first, laying the groundwork for the examination of the gallery, opens with an thorough description of the layout of objects in the gallery in 1983, 1997, and 2003; the section, therefore, initiates the ground for the examination of the gallery. The second inquires about the manner in which individual objects have taken advantage of strategic locations in the gallery. The study makes use of the pattern of display co-visibility and cross-visibility to emphasize how objects are grouped in the perceptual field, therefore promoting comparisons across different classificatory categories. The third section shifts to a diagrammatic analysis of architectural sub-shapes to identify alignments and physical continuities in the gallery layout. Primarily, the examination concentrates on the geometrical properties embodied in the sub-shapes of the layouts to identify the overall formal organization of the gallery. The fourth section examines the interaction between the groupings, potentially determined by the spatial arrangement, with the classifications implied by the curatorial labeling of objects. The study explores how the spatial layout influences the arrangement and reading of the layout of the objects and how the spatial design of the
exhibitions has the potential to enrich viewers’ understanding the arrangement of the gallery and the curators’ pedagogical intention in multiple ways.

Chapter 7 integrates all aspects of the discussion and presents the findings of the dissertation. The concluding chapter compiles the similarities and dissimilarities of the three HMA layouts by highlighting the spatial principles that govern them. By addressing the analytical description of the visibility fields, the formal composition, and the spatial experience of a display layout, this chapter synthesizes the curatorial layout of objects and the architectural layout of space to provide a better understanding of the morphology of the museum.

Notes to Chapter 1

1 It should be noted that the study will not address the detail contents of art historical narrative, the technical concerns (such as lighting, color and material) nor the visitors’ behavior and cognition because these issues, while having a significant role in a museum, are beyond the scope of this dissertation unless spatial patterns frame them. The discussion, instead, has given emphasis to certain spatial properties in the layout of the objects and space which can systematically be analyzed.
Chapter Two: Objects and Arrangements: A Review of Literature

Outline

This chapter reviews studies of museums and exhibitions, with a particular focus on the manner in which the ordering and grouping of displays in space contributes to their pedagogical functions. Three questions are addressed: First, what are the current arguments and views with regard to the classification and grouping of objects as means of supporting learning. Second, how viewers’ movement, a characteristic dimension of museum visits, is taken into account in the planning of exhibitions and museums. Three, to what extent the curatorial paradigmatic installations have addressed the spatial arrangement of objects in their display strategies. The discussion outlines the answers to these questions in three sections. The first section of the literature review is devoted to the interaction between the displayed objects and space; the discussion proceeds from the individual object to the relationships between objects that express the curatorial principles of exhibitions, therefore to the classification and spatial grouping of objects. The second section examines how existing theories refer to visibility and accessibility in relation to manner in which objects are displayed, arranged and viewed in space. The discussion emphasizes the co-visibility, cross-visibility, and the sequential order of seeing the objects in space as a result of viewers’ moving. The third section of this chapter focuses on the key paradigms of the curatorial installation designs by reviewing primarily Museum of Modern Art in New York, one of the most prominent and influential modern art museums which has been known by its founding director, Barr, as an “experimental laboratory”.

The aim of this chapter is, therefore, three-fold: First, it sets the theoretical framework regarding the display of objects and the space of display. Second, while earlier studies have widely addressed the influence of layouts on the sequence and pace of viewing and grouping
objects, this study looks more carefully at spatial grouping as it emerges according to co-
visibility, cross-visibility and co-presence among objects and viewers, as it is intentionally fore-
grounded through design. Third, the literature review recognizes major curatorial paradigms
which employ the spatial elements of layout for narrating their displacement of objects.

2.1 Objects, Classes, Groups

2.1.1. The Object

The literature on the purpose of museums enumerates the collection and preservation of
objects, their display, and the education of the public as critical functions. A central issue for
museum design over the last centuries has been the complex correlation between *museums as
containers* and *objects as contents* of museum collections. Given that the display of objects is
among the principal purposes of museums, the discussion opens with the associations between
communicating the cultural meanings of an “object”- a typical central concern of museum
curators- and placing the object into a viewing context – the key concern of exhibition
designers. A substantial body of literature acknowledges the strategic role of the space on
staging an object and transforming its meaning according to the manner in which the object is
displayed (Duncan and Wallach 1978; Iser 1978; Jordanova 1989; Vergo 1989; Pearce 1990,
Lehmbruck 1974, 2001 and Newhouse 2005). An object is interpreted in relation to a viewing
context which includes the way in which it is displayed, the manner it is illuminated and the
descriptive, interpretative or classificatory language (usually in the form of labels) that is
associated with it. Every object, as Lehmbruck (2001: 61) emphasizes, needs a space if its
qualities are to be brought out”. Writers have discussed the manner in which displays construct
a context at various scales: the individual object, the local group of objects, or the whole gallery
space. Newhouse’s study (2005) offers a detailed account of the influence of context and the
placement of an object on how the object is defined and perceived. The spatial context, she emphasizes, includes a wide spectrum, which ranges from the frame around a painting, to the space around the frame, and further to the re-creation of a historic background. She further argues, through specific case studies, that the displacement of an object in different museums settings by different curators has changed the meanings of the object. The various interpretations of the meaning of a displayed object, therefore, emphasize the role of placement and the manner of display as specific curatorial devices.

Emphasizing on the role of the object placement, Falk and Dierking (1992, 2000) address museum learning as a function of seeing objects in a deliberately designed context. They argue that the museum viewing is not limited to seeing an individual object; rather it contains the physical, personal, and social contexts which construct the viewer's experience as a whole, or gestalt (1992). Their research conceptualizes a viewer's perception of galleries in an “interactive-experience model” as an interface among three overlapping contexts which has been later developed into the Contextual Model of Learning (2000). The model hypothesizes the dynamism of learning not as an isolated abstract experience but an integrated experience that is situated within layers of these three contexts. The discussion will return to the argument about the viewers’ experience in the display context and discuss it in depth further down in the chapter.

2.1.2. Classification of Objects

Over the last decades, a shift of paradigm has risen in museology associated with a questioning of the significance of objects as foci of attention and as catalysts in the learning process (Pearce 1986, 1994; Hooper-Greenhill 1991). Attention has shifted to the manner in which objects become classified in museums. Fundamentally, the classification of objects is based on abstract criteria shared by specialists and communicated to society. As a pedagogical instrument, classification frames the manner in which one compares objects by suggesting which sets of displayed objects are similar or dissimilar.
An “effective” exhibition, Kent (1932: 529-530) notes, does not consider objects individually but in a classifying scheme; hence objects “must be arranged in orderly and related sequence as respects the larger departments to which they belong, and the departments, also, must be arranged with due regard to their development, and their relation to one another-their sequence”. Similarly, to Jordanova (1989: 23), “all museums are exercises in classification” and functions by three levels of classification: First, placing the entire institution into a category based on the nature of its contents and its organizer; Second, arranging the interior of museums into major conventional zones based on time periods, countries or schools; and Third, labeling individual objects with reference to its authenticity and antiquity and offering a context to “read” the objects in a particular way. Jordanova (1989: 25) elaborates the process of gaining knowledge in the museums for viewers “whether they are aware of it or not, both reify the objects they examine, treating them as decontextualised commodities, and identify with them, allowing them to generate memories, associations, fantasies”. She, thus, investigates the bond between museum and knowledge in three ways: first, looking at objects; second, focusing on the display methods which facilitate the construction of meaning; third, comparing different objects to differentiate distinct kinds of knowledge conveyed by museums. Therefore, the ways in which objects are displayed initiate, though do not entirely determine, the viewers’ learning experience. An ideal museum, she states, generates the novelty of discovery through displaying objects. However, her argument does not illuminate how the spatial dimension of display helps viewers to read the principles of classification and the meaning of displayed objects. Peponis and Hedin (1982: 25) examine the pedagogic and social implications of display layout and demonstrate how layout alterations reflect changes in the forms of knowledge transmission; for instance how subdivided and fragmented layouts which lack a clear overall structure individualize learning and produce a strong separation of different groups of objects and different interpretative arguments without making the underlying principles of classification visible. The authors correlate the social transmission of knowledge to architectural space as a ground for “the socialization of people into knowledge”.
Similarly, Markus (1993) refers to museums as classifying devices where viewers are pulled through the entire classification system by moving through galleries. To him, museums function through the classification of knowledge where objects are spatially presented as members of a certain class to reflect a given theoretical position; hence, the classification of objects are “by school, period of production, material, place of origin, or by function, and the act of locating such classes of objects according to specific rules about their position in an ordered universe, is a spatial mapping of scientific or artistic theory.” (Markus 1987: 468). Classification systems, Markus (2002) argues, are often characterized by a hierarchical tree structure which maps knowledge by dividing it into major fields and then continuing in subdivisions through combining together similar categories, and separating dissimilar categories (Figure 2.1). The principles of the classification are the rules employed to decide similarity and dissimilarity, therefore, classifications “encapsulate power structures, ideas, practices and beliefs”, Markus (1993: 19) notes.

Figure 2.1: A diagrammatic representation of the brief for the Burrell Art Gallery in 1970 showing the hierarchical structure of its classification system. The diagram classifies objects and spaces based on the similarity and dissimilarity where each section with its subdivisions set at different level in the text. [Markus’s diagram based on original by Salman Othman]
2.1.3. Grouping of Objects

In contrast to the classification which is based on abstract criteria already shared by a culture or explicitly proposed by a curator, the sense of spatial grouping arises from a viewer’s perception on site, when she visits museums, and depends on the arrangement of objects in space. Because grouping, as the term is used here, is perceived according to spatial arrangement, it depends on the manner in which objects become co-visible. In a spatial layout, co-visibility is the possibility of a shared visual field or a ‘seeing zone’ generated by the spatial setting; for instance in a gallery, co-visibility of objects arises when more than one object becomes visible at a time. However, co-visibility is not always a principle of grouping. Sometimes the field of co-visibility may be seen as too distracting taken as a whole, and grouping within the field may be used to focus attention to particular subsets of objects. In other cases, co-visibility may correspond to deliberately intended patterns of grouping.

Spatial Grouping or Isolation of Objects

The discussion of the spatial grouping or isolation of objects bears on contradictory points of view regarding the relationship between objects. These could be recapitulated in the critical differentiation between two modes of competing pedagogical intents: an ‘aesthetic’ exhibition and a 'contextual' one (Vergo 1989: 48).

The ‘aesthetic’ exhibition is fundamentally shaped by understanding “a process of private communion” between a viewer and an object which is considered to be experienced “though quite what that experience is meant to consist of, no one seems prepared to say” (Vergo 1989: 48). The viewer, hence, is considered to engage into intimate association with objects, so that the object is isolated and allowed to speak of itself. Authors (like Rich 1927, Githens 1931, and Simonson 1932) argue that focusing on an individual object, which leads to a deeper understanding of it, should be facilitated by space. To Simonson (1932: 537), every display object should be isolated and framed by its space; or if not individually displayed, objects should be
grouped at least with only a limited number of other objects “even then, every wall space should be broken up wherever possible with angled planes, alcoves or projecting screens so that no more than one picture or one vase is seen at one time”. In such context, curators of art museums, like “department stores sales managers”, should display the objects in a way to take the viewer’s attention “to the point of selling” them the objects (Simonson 1932: 534).

Contrary to the above, in ‘contextual’ exhibitions, the displayed object corresponds to associated “informative, comparative and explicatory” contextual material (Vergo 1989: 48). Here, the object has rather little inherent value as an object of contemplation as it is validated by its meaning “as a token of a particular age, a particular culture, a particular political or social system, as being representative of certain ideas or beliefs”.

Comparing and contrasting the two modes of exhibiting, Vergo (1989) argues against the idea that in an aesthetic exhibition, objects should be left to speak for themselves since most of the objects are remarkably taciturn. At the same time, in the contextual exhibition, the object, diminished to a token, has no voice of its own any more. The contextual exhibition influences the reading of the object and controls the interpretation of embodied knowledge while in an aesthetic exhibition this remains as an uncontrolled process. Therefore, while an aesthetic exhibition clearly generates a single interpretation of the object in a de-contextualized way, a contextual exhibition enables the object to be recognized in a multiple interpretive frameworks.

2.1.4. Classes, Groups, Boundaries and Visual Fields

Quite clearly the way in which objects are placed in subdivided and arranged space in order to control their co-visibility is important to the communication of both classification and grouping. Indeed spatial grouping may be used to reinforce viewers’ sense of classification. Classification, however, always works from the “top down”, from pre-established abstract criteria to their expression in spatial arrangement. Grouping, as the term is used here, works from the “bottom
up”, to suggest that objects seen together in an arrangement partake of a larger idea. Ellen and Reason (1979: 222) distinguish the categorization which is as an informal and unplanned ordering (similar to grouping) from classification which is rule-bound and occurs where there are coherent systems of categories. Classification, hence, employs and arranges categories into a systematic order where spaces, people or objects are distinguished in relation to their differences and similarities.

The impact of the spatial arrangement of display objects on the classification and the pedagogical function of museums has been addressed by a number of authors. For instance, Hooper-Greenhill (1999: 181) suggests that the spatial organization of a museum should reinforce the sequence of the exhibition storyline and the classified objects: “spatial subdivisions should relate to the subdivision of subject-matter” to facilitate the transmission of knowledge. She argues that an exhibition builds up in “a set of defined stages which each of them has a specific activates” (1999: 19). The transfer of spatial elements from bubble diagrams to floor plans provides and materializes the progression and scale of planned concepts and experiences. The configuration of spatial boundaries, hence, could help to define the notion of objects classifications. Similarly, Markus (2002) discusses the ordering of knowledge in museums by applying the linguistic classification systems to the ways in which space is divided, clustered and labeled. While, in a classificatory system, similarity is defined by clustering, dissimilarity is established by boundary. The spatial elements of such barrier can be materialized by walls, spatial distances and different floor levels. Thus to him, applying conceptual and then spatial ordering to a heterogeneous collection of objects are an alternative principle for classifying and grouping objects.

There have been studies both from the point of view of classification (such as Markus 1993) and grouping (such as Peponis et al 1997, 2004). In the course of the discussion this distinction will be important when one looks at the interaction between displays, boundaries and visual fields. Markus (1993: 23), as discussed earlier, argues that buildings convey power through spatial segregation and subdivision with limited accesses and choices to “control interfaces between
people and between them and objects such as museums exhibits”. On the contrary, buildings make a bond through spatial connection to allocate encounters between individuals. Peponis et al (1997: 40.01) suggest that: “boundaries are used to create patterns of enclosure, contiguity, containment, subdivision, accessibility, and visibility” and analyze how layouts affect the pattern of exploration by allocating open visibility and accessibility. Based on how far thematically related individual objects were spatially closed or separated, the authors categorize layouts to: weakly grouped layouts or strongly grouped layouts. The study demonstrates how the thematic organization of objects effect pattern of viewers’ exploration hence how design of space can influence the ways objects are perceived and cognitively mapped. Through a series of paired case studies of museums, the interaction between the layout of space with the layout of objects has been interrogated by Tzortzi (2007) to demonstrate how the spatial design relates to the curatorial intention and how the spatial organization of galleries and objects shape viewers’ experience of museums.

Psarra et al (2007: 70) also study how the correlation “between the spatial configuration, the narrative strategy and the visitors’ experience in the Museum” has been articulated in the history of MOMA, NY. Their investigation reveals ways in which the spatial sequence and interconnectedness merge to reinterpret the pedagogical message. While no explicit distinction between classification and grouping is drawn in these works, they support the idea that classification implies abstract criterion, and therefore can operate across spaces while grouping implies perception, and therefore would tend to operate within spaces or realms of co-visibility.

Cross-visibility and Cross-comparison

Fundamentally, a museum has been “a Place to See Things” in the most advantageous condition (Githens1931: 130). The sense of vision, in fact, has a dominant position in developing one’s first spatial perception and understanding of a display layout. Goodman (cited in Weil 1990: 54) states that the key purpose of a museum is to open the eyes of observers, to prevent
“blindness” and to facilitate the ways objects organize viewers’ experience “by stimulating looking, sharpening perception, raising visual intelligence, widening perspectives, bringing out new connections and contrasts, and marking off neglected significant kinds”. Similarly, the bond between viewing objects and acquisition of knowledge, Jordanova (1989) identifies, is an essential element for operating museums.

In a display layout, cross-visibility arises when simultaneously more than one object becomes co-visible across spatial boundaries. The spatial relation of a displayed object with other objects, therefore, can augment the visual comparisons across-classes thus facilitating the knowledge transmitting and supporting the pedagogical aspects of display. Brawne (1965) underlines the visual impact of objects as the objects earlier seen influence the perception of the ones to come. Within galleries, viewers learn about various types of objects by focusing on an object and then adding information about the other ones to compare and to contrast objects from the perspective of various disciplines. Similarly, Bal (2001: 161) inquires about what happens when in a gallery, one object is adjacent to another, “so that you see the one out of the corner of your eye while looking at the other?”.

Cross-comparison among objects, authors such as Kent (1932) argue, amplifies the viewer’s understanding of the objects through discriminating similarities and differences of classes of objects. In fact, as a pedagogical strategy, the Smithsonian Center for Education and Museum Studies refers to “Compare and Contrast” as a method to spatially facilitate analysis of similarities and differences of collections of objects. In a display layout, different modes of defining visual fields may generate or restrict different possibilities for comparisons among visually connected objects. The comparisons among objects can be constructed and framed in galleries, through various spatial ways, consisting of a viewer’s angle of vision, position and distance. An effective display space, therefore, is composed into a whole while being structured by the conditions of sequencing, co-visibility and cross-visibility of objects.
Co-visibility and Co-presence

Furthermore, the visual organization of museums has broader functions than the establishment of patterns of classification and spatial grouping. These have to be taken into account in any analysis of museum space. The visual organization of museums allows for the viewers to mutually exhibit to each other in the layout: “to be the objects of each other’s inspection” (Bennett 1995: 50-51); hence viewers become not only the subject to the knowledge but also the object of knowledge and are “rendered visually co-present to and with one another”.

Galleries operate not only as a kind of narrative machine but also a social machine by structuring viewers’ relationships within the spatial layout (Huang 2001). In the museum layout, the social encounter between visitors has been addressed and interrogated by a number of authors. For instance, Hillier et al. (1996) and Hillier and Tzortzi (2006) have referred to the informal encounter between visitors as a function of the spatial organization of museums. Comparing different museums, Peponis (1993: 60) precisely demonstrates how the spatial layout generates viewers’ patterns of visibility and a “built choreography of movement and encounter”.

Stavroulaki and Peponis (2003) show how Carlo Scarpa arranged displays in Castelvecchio in such a manner as to encourage viewers to move around them and to see them in different perspectives and in different relationships to one another, within a carefully controlled visual field. In a subsequent study, the authors’ analysis (2005) enriches visibility analysis by considering the lighting of space in addition to the spatial arrangement of objects. The study shows how light modifies the visual filed and creates conditions in which the same byzantine icon can appear dominant, attenuated, or equal in relation to other icons with which it is co-visible, depending on the viewer’s position. In this manner, movement causes viewers to re-interpret the relationships between the collections of objects.
2.2. Views, Movements, Sequences

2.2.1. Objects, Views, Paths

In all but the simplest and smallest galleries, movement is a major aspect of museum experience. Collections are seen only through moving and the association between movement and visibility becomes fundamental to museums as sites of situated learning. Movement is important in several ways. First, it creates different kinds of sequences in the viewing of displays, depending on the degrees of freedom and choice afforded by the layout at various scales. Second, given a particular layout, movement brings viewers to positions from which they are able to get overviews or partial overviews of the collection, rather than being entirely absorbed by individual objects or groups of objects. Third, movement leads viewers to look at the same objects from different angles, and, much more importantly, in different patterns of relationships within the visual field. In all these ways movement is an important aspect of museum experience and hence an important consideration in museum designs. Studies such as Choi’s (1991) examined the effect of spatial structure on visitors’ movement in museums and concluded that layout influences movement in two significantly different ways. First, restrictive layouts impose a single deterministic sequence of movement so that all paths share the same structure; second, more densely connected layouts operate according to a probabilistic model whereby the spatially more integrated spaces attract more visitors and more repeat visits.

In the spatial arrangement of display layout, authors such as Lehmbruck (1974, 2001) discuss that the paths to and around objects are fundamental to the configuration of space. In fact, to systematize the infinite number of path variations, Lehmbruck (1974) developed a typology of circulation patterns in gallery plans based on five basic forms: arterial which is a continues path in a rigid linear sequence without alternative routes; comb which is a major path attached to niches that can even allocate a two-way flow; chain which has a linear pattern like arterial but encloses a chain of self-contained and interconnected spaces; star which contains a central space with a
sequence of radiating spaces and block which is a non-system and self-directed space with free random circulation (Figure 2.2). These five fundamental patterns, Lehbruck notes, could be employed in a gallery plan individually or collectively to structure the path of viewers. For instance, the collective typology of circulation could generate patterns such as linear, free, corridor, alcove or composite forms.

Figure 2.2: The Lehbruck’s basic typology of circulation patterns

**Sequential Order of Seeing and Moving**

A key issue in gallery design, therefore, is the creation of specific routes which embody curatorial intentions about how the objects should be seen and in what sequence. The pattern of spatial movement is of interest because it conducts viewers’ experience and stimulates the order of understanding and viewing objects in galleries hence facilitating the transmission of knowledge across visual fields. To see display objects, a viewer moves through the spatial field that relates her to the objects. The visual experience, the order and sequence of seeing objects are fundamental to the display arrangement and the museum design. Authors such as Brawne (1965, 1982, 1992) emphasize the ways in which the spatial configuration of galleries organizes the configuration of seeing and moving within layout through division of boundaries and entries. To Brawne (1982: 11), the perceptual experience of seeing an exhibition is rather “a mosaic
built up in our mind” produced by “serial viewing”, since the comprehension of “a whole museum” and even the display objects “at a glance” is impossible. The sequence of the curatorial narrative is therefore unfolded to viewers according to “a series of images seen in sequence” (Brawne 1965: 13).

2.2.2. Dictated Sequences and Free Paths, Limited and Open Views

In museums, as discussed, the viewer does not perceive all the objects at the same time, but rather in a spatial sequencing while moving through galleries. Galleries integrally offer and structure a series of spatial events13 which imply a form of spatial narrative14. Museum and exhibition layouts may aim to define particular viewing sequences, as a way to control the viewers’ understanding of an exhibition, or they may allow multiple views and path choices. Similarly, they may seek to define particular vistas, lead viewers to specific views and limit the overall field of co-visibility, or they may encourage more open views. Open views can include not only enhanced patterns of co-visibility but also patterns of cross-visibility. Enhanced co-visibility or cross-visibility, as discussed earlier, may be desired as enrichments of the potential visual comparisons that viewers may undertake. Or, they may be treated as distractions likely to confuse a particular exhibition narrative.

The visual organizations of galleries have been compared by writers like Krauss (1996) and Hooper-Greenhill (2000). The two extremes models of organization are: First, the didactic visual organization model with controlled visual fields, clearly bounded galleries without internal windows, and objects ordered in a historical sequence, all intended to frame visitors’ interpretations according to curatorial narrative. Second, the model of visually interrelated spaces, using interior windows and pierced partitions to create an interrelated viewing experience. The vista becomes a distinctively powerful concept: “the sudden opening in the wall of a given gallery to allow a glimpse of a faraway object and thereby to interject within the collection of these objects a reference to the order of another” (Krauss 1996: 347).
Subdivisions of a display space, therefore, could shape and inform the sequence of viewing the exhibition and facilitate the pedagogical interactions; as Hooper-Greenhill (1999: 333) argued “sequence can help the viewer to grasp the separate items as part of a larger whole”. Furthermore, Hooper-Greenhill notes that museum learning initiates various forms of the 'conversation' between objects and viewers; and while some viewers prefer to follow a given sequence, others prefer a random way. An exhibit, therefore, should provide and encourage different modes of body movements and interaction with objects. In contrast to “the unstructured presentation of objects”, there are inclinations toward “rigid sequences” which offer “thematic cohesion” though their fixed sequence do not response to “the variation of interest among visitors” (1999: 181). Similarly, authors (such as Shettel 1968; Miles 1988 and Zetterberg 1968) depict the rational sequence of exhibitions as enhanced pedagogical apparatuses and argue that the display objects should convey and build up smoothly a sequential teaching in layout because “education is not achieved by random exposures, but in a planned sequence” (Zetterberg 1968: 25). Yet they suggest a non-rigid sequence to allocate viewers’ choices and interest. Conversely, there are studies (such as Bernardo 1972; Glicksman 1972) which argue that linear sequencing is not necessary for the exhibition efficiency; and instead it is more essential for a spatial organization to provide an overall sense of intelligibility.

Hillier, Peponis and Simpson (1982: 38) describe two types of social encounter patterns from the point of view of the organization of visitors’ movement. One is a pedagogic and ceremonial pattern which is generated by the spatial organization of display layout and is “architecturally amplified by allowing larger spaces, axial dispositions of rooms and main lines of traffic” to enhance the social encounter. The other is an exploratory and private pattern which promotes “an intimate relation” with the objects and is provided by clear spatial relations and sequencing. Authors, like Searing (1986, 2004), von Moos (2001), Montaner (2003), and von Naredi-Rainer (2004), have used an architectural criterion to basically compare two categories of museum buildings: the ones with the chain of rooms and the open ones. The diverse types of circulation
have been traced by Glaeser (1968) in the “archetypes” of two ideal and opposite display layouts: a free plan wherein objects establish the integral element of the composition and the circulation implies choices of viewing and moving as viewers can select where they wish to go and to see; versus a rigid plan wherein the viewer’s movement is fixed and defined through didactic and narrative sequence of galleries. In the same discussion, to Hill (2005: 8), the structure of circulation is “weak” when there are several alternative routes around objects. On the contrary, a structure is “rigid” with “low entropy” when objects are densely displayed within “few alternative routes” around and the correlation of each part to the whole is systematically clear.

There have been critics on both kinds of the layout circulations, such as the free plan provides no rules which may imply confusion rather than freedom. Therefore, it has been no agreement on which kind of circulation is better or how much circulation should be controlled. Levin (1983: 63) represents the dilemma in a statement for an ideal museum design which is “a preplanned circulation scheme” that not only “provide a viewing sequence” but also “leave the viewer free to approach specific parts of the collection without being forced to go through entire museum”.

Hence, the discussion here points out that there are conceivably different modes of spatial control and also different ways of getting them wrong; either over-dictate or under-guide the viewer.

*Museum Fatigue*

The discussion up to this stage has addressed one of the most fundamental debates pertaining to the display layout which regards how the configuration of circulation paths affects both the function of displays and viewers’ experience. A number of studies have pointed out how that viewers’ circulation, their choices of paths, and ways of narrating and arranging space are intrinsically linked and influencing each other. For instance, Pepons, Wineman and Conroy and
Dalton (2003) showed how the viewers’ contacts and engagements with objects has been associated and influenced by spatial arrangement of objects and spatial parameters. One of the earliest studies on gallery design is the “museum fatigue” by Gilman (1918: 399) which shows how the spatial divisions and viewers’ choices of paths among objects influence their learning experience. To avoid fatigue, he argues, the varied collections should be divided into fewer objects and spatially arranged into “sections not directly connected” hence only the viewers with an interest in a certain section freely enter it, without stepping in another sections. Such model of display provides the selective views, accesses, and choices to “each separate room”. The notion of museum fatigue has been studied by observational methods to analyze how viewers’ learning is affected by the manner in which objects are grouped, the location of objects and shape of the gallery (Loomis 1987). The main cause of museum fatigue, Melton (1933, 1935) hypothesized, is the “object satiation” which could be minimized by raising the heterogeneity of display objects. In similar argument, recent studies propose that visual variety and stimulation could assist to reduce the viewers’ mental fatigue in display layout (Falk et al 1994).

To recapitulate, thus far, the review of literature suggests that spatial layout is a key instrument for framing the viewing of displays and communicating ideas about them. The review emphasized how the patterns of connection, separation, sequencing and grouping of objects function as pedagogical devices. By structuring the visual field and movement options, display layouts influence the particular mode in which groups of objects are perceived and compared. Hence, the review of the literature leads to the conclusion that the dialogue between museum layout, exhibition layout and object display remains critical in museum studies and is increasingly addressed from the points of view of both museology and architectural research. In the next section the emphasis shifts from the general ideas that have informed studies of this dialogue, to some specific curatorial paradigms that have influenced exhibition design. The purpose is to understand more closely how curatorial intentions are served by specific design strategies at the scale of the exhibition, rather than the museum building as a whole.
2.3. Objects and Arrangements: Curatorial Paradigms

The point of departure is the work of Staniszewski (1998) *The Power of Display* which is unique for its detailed documentation of the changing curatorial principles and design strategies over the life of a major international art museum, the Museum of Modern Art (MoMA) in New York. The work combines the subject of the history of display within a broader awareness of the socio-cultural framework that informed curatorial and display strategies. Staniszewski documents and decodes a spectrum of installations, 1929-70, and the associated viewing experiences that they staged for the viewers. To her, installation design is an “aesthetic medium and historical category”, therefore an object when publicly displayed never stands alone: “it is always an element within a permanent or temporary exhibition created in accordance with historically determined and self-consciously staged installation conventions” (1998: xxi). Thus, display design assumes power and comes to express power, a fact that she appropriately denotes by the expression “the power of display”.

The power of display, during the first half of the twentieth century, was essential for the International avant-gardes in what has been described as “total environment” which visualized galleries and their elements as “integrated interiors” and “dynamic experiences” for viewers who interacted with objects (Staniszewski 1998: 14). This notion of installation transformed and influenced design of the public exhibition space during the next decades of the twentieth century. The following discussion mainly concentrates on reviewing the certain key curatorial installations that has clearly employed the spatial attributes of the gallery layout. The study interrogates how these paradigmatic exhibitions in the curatorial principals have addressed the interrelationship between objects, space and viewers, in a broad level in the first half of the twentieth century and more focused in MoMA, NY as documented by Staniszewski. There have been analogies between MoMA and a ‘laboratory’, by both Barr and Lowry, as a place of thinking, looking, experimenting and learning (Staniszewski 2001; Lowry 2004). The review of MoMA’s installations, furthermore, offers a paradigmatic study of the “institutionalization of
modern and contemporary art in the United States” (Staniszewski 1998: 57). Given its influence on the art museum installation methods in the US, the study of MoMA is considered paramount for contextualizing the overall debate about the High Museum of Art, the focus of this study.

2.3.1. Objects Grouping: the Doctrine of “Correlation”

From 1920 to 1960s, a pioneering movement in exhibition installations grew in Europe and the United States. Specifically, the exhibition design turned into an essential attribute of aesthetic practice initially within the European avant-gardes. Emerged in the early twentieth century, the international avant-gardes have been recognized as the prehistory of the dominant installations at MoMA (Staniszewski 1998). It is, therefore, essential to briefly represent the key theoretical features of the influential installations, such as Kiseler’s, Lissitzky’s and Bayer’s.

“Varied Transparency”

A radical shift from the “rigid constrains” of traditional exhibition technique was Kiesler’s new language of formal composition for gallery installation. He placed objects in dense installations - referred often as “salon style”- in an ahistorical approach to art, the viewer and exhibition design. As the curator of the 1924 International Exhibition of New Theater Technique at the Konzerthaus in Vienna, he created a new ideological scaffold for installation design entitled “Leger and Trager” or “L and T” (Staniszewski 1998: 5). The interactive “L and T” system separated the objects from the architecture of the room as it was composed of freestanding display units which enabled dynamic interactions between the object and the viewer. In Kiesler’s new framework for “viewing art”, units could be adjusted according the viewer’s eye level and her viewing preferences for the creation of meaning. The objects were physically detached from the walls and were brought into the viewer’s space and time. A unit, therefore, was flexibly arranged in ways, in which an object “could be displayed independently or grouped with others”. Kiesler called such structural fluidity “varied transparency” which was described by Staniszewski
(1998: 8) as follows: “the open, transparent formal properties of the L and T system evoked an ever-expanding, infinite sense of space, constant with contemporaneous De Stijl, Suprematist, and Constructivist concepts of space and time that abolished the spatial closure and fixed viewpoint of classical perspective”. The system of playing of forms was integrated with lighting system where light bulbs highlighted individual or groups of works.

The “Science of Relationships”

Another influential exhibition designed by Kiesler was created for the permanent display of Peggy Guggenheim’s collection in her Gallery ‘Art of This Century’ in New York City, 1942. The installation was based on the use of a standard piece of furniture that can be construed as a chair and can be used in multiple ways to support displays; described as the Eighteen Functions of the One Chair (Figure 2.3). Within four galleries, multiples of the Kiesler’s chairs were exhibited as single units or in groups with an “open” fluid system in which “different combinations” of objects create “different meanings” (Staniszewski 1998: 8). The function of objects, therefore, was established by their context and syntax in the display spaces. In 1930, Kiesler theorized his exhibition method in his notion of “Correalism” depicted as “the science of relationships”, as continuously changing, evolving and interacting forces of the universe in life and art. In the 1961 Second Manifesto of Correlation, Kiesler (1966: 573) stated:

“The traditional art object, be it a painting, a sculpture or a piece of architecture is no longer seen as an isolated entity but must be considered within the context of this expanding environment. The environment becomes equally important as the object, if not more so, because the object breathes into the surrounding but also inhales the realities of the environment no matter in what space”.
This concept was reliant on a viewer for the construction of meaning and set up a dynamic interactive interrelationship between viewer, the object and space. The idea was to eliminate the disconnection and isolation of interior space and objects and emphasize their integration instead; as Kiesler (1996: 108) noted: “the desire to coordinate parts of various plasticities into a related ONE, has replaced the isolated object on the wall and in space”. Kiesler’s doctrine of correalism considers that an object: first, has a relationship to other objects; second, can not exist by itself; third, relies on its organization with its environment; hence fourth, its reality is a "co-reality" (Kiesler 1996: 131). For instance, one method for creating correlation and integration within galleries, he describes, is the appropriate dimensioning between one unit and another since change of one unit would have radical influence on the whole spatial composition: “the intervals between the units became of major importance to the correlation of the total work of art” (Kiesler 1996: 55).

The Interrelation of Objects, Viewers and Space

Similar to Kiesler, El Lissitzky, one of the key protagonists of the Constructivist movement, underlines the concept of a dynamic, viewer-interactive installation which is freed from the architectural elements of galleries. Lissitzky designed an abstract art gallery space at the Hanover Landesmuseum during 1927-1928 for the display of New Art entitled the Abstract Cabinet. The
design was a departure from the traditional galleries with viewer’s passive experience to an interactive, dynamic space. In the viewer-interactive cabinets, while the viewer navigates through galleries, the surface of walls changed depending on the viewer position within a spectrum of white to black. In his design, the four walls of gallery are no more supporting screens for the paintings but rather an optical background. The paintings, Lissitzky (1970:150) described, were dependent on the position of the viewer therefore could be “appear against a black, white, or gray background- they have been given a triple life”. The Lissitzky’s installation, thus, proposes that the function of an object is “intertwined with a particular viewer at a particular moment” which produces an ever-changing interaction (Staniszewski 1998: 68).

**Viewers with “Fields of Vision”**

The Kiesler’s and Lissitzky’s notion of the association between the viewer and viewed objects was pursued further in 1930 by Herbert Bayer, a former member of the Bauhaus. The foundation of his installation design method was clearly captured in his sketches the ‘Diagram of field of vision’ (1930) and the ‘Diagram of 360 degrees field of vision’ (1935); both enclosed the association between panels of a gallery space to a viewer’s field of vision (Figures 2.4 – 2.5a). Rather than hanging the panels to the typical wall areas, the panels were tilted above and below eye level to possibly increase the viewer’s experience in a dynamic space beyond the physical limits of the rigid room. The diagrams augmented the viewer’s field of vision on all directions even the ceilings and floors and to amplify Bayer’s field-of-vision formula, an eye took place of the viewer’s head (Staniszewski 1998). An exhibition, in Bayer’s method, was not visualized in an idealized and timeless space; rather, it was dynamically experienced in a specific time and space by a moving observer through her field of vision to build a dynamic interrelation among objects(Figure 2.5b).
Figure 2.4: ‘Diagram of field of vision’, Herbert Bayer (1930) which became foundation of his installation design for the architecture and furniture gallery in the 1930 Exposition de la Société des Artistes Décorateurs, Paris

Figure 2.5: a) ‘Diagram of 360 degrees field of vision’, Herbert Bayer, 1935; b) diagram of MOMA plan, Bayer, 1938 for an installation of Bauhaus 1919-1938, demonstrating his method of addressing the viewer’s dynamic presence in galleries

Thus in the first half of the twentieth century, the Avant-Gardes influential installations offered a new notion of space in displaying art by dynamically interrelating the object, the viewer and her movement\(^9\) in galleries. The installation methods “intended to reject idealist aesthetics and cultural autonomy and to treat an exhibition as a historically bound experience whose meaning is shaped by its reception” (Staniszewski 1998: 27). Such vital “power of display” and conceptions of spatial interiors were followed in MoMA especially during its first decades by innovative exhibition installations. The subsequent discussion will address them.  

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2.3.2. Mapping inside the White-box

The first decades of twentieth century are also associated with the concept of the “white cube” exhibited by MoMA which became the modernist paradigm of display. One of the most prominent models of exhibition installation, the “white cube” represented a neutral architecture for displaying art. In fact, two key museum directors play critical roles in evolving the notion of neutrality of display space; one is Alexander Dorner (1893-1957), the director of the Landesmuseum in Hanover in 1922 and Alfred Barr (1902-1981), founding director of the MoMA in New York City in 1929. Influenced by Dorner’s ideas on the interrelation of art and space, Barr designed the MoMA exhibitions with a modern arrangement of display space (Kantor 2002). Despite the similarity in theoretical foundation to Dorner, Lissitzky and Kiesler, Barr formulated a different ideological display space by neutral-colored context for the object where the “viewing subject” became analogous to the “art objects” (Staniszewski 1998: 70). Traditionally, the interrelation of object, viewer and space was characterized by the tension between multiplicity and individuality of relationships. Barr’s neutral exhibition method initiated a new style by creating a one-on-one relationship between object and viewer “face to face” and “eye to eye” (Figure 2.6). His method for a new language of display, thus, magnified the autonomy of the object and the viewer in the installation design.

Figure 2.6: Alfred Barr, 1967, looking at Alexander Calder’s sculpture Gibraltar
At the time of MoMA’s first exhibition, Cezanne, Gauguin, Seurat, van Gogh in 1929, Barr redefined the traditional interrelationship between objects and spatial display in an architectural manner which influenced the generation of several innovative museological practices for the next decades. His departure from the decorative exhibition installation formed the neutralized space, or “white cube”, with a sense of de-contextualization. The modern placement of objects on “a neutral, monk’s cloth, aesthetic ‘shell’ ” revealed the object as something universal and underscored the autonomy of modern culture (Staniszewski 1998: 66). The installation method enhanced a sense of independence for an ideal, immobile viewer and a sense of independence for art objects which were installed on neutral-colored pedestals or wall surfaces at just below ‘eye level’, with good spacing between them. Such widely space intervals framed a “field of vision” corresponding to each object which allowed it to “stand on its own” as an individual. The coherent composition of objects was not anymore about the symmetrical placement or size of objects; rather it moved beyond the aim of providing a satisfying visual composition with the intention of displaying a more intellectual and logical sequence by chronological order, genre, period and content.

The One-way Diagrammatic Map

In the MoMA exhibition of the 1936 Cubism and Abstract Art, similar to other Barr’s installations, the objects were well spaced with descriptive labels in a logical sequence based on period and style. Barr literally visualized the linear structure of the exhibition in his famous flowchart (Figure 2.7a). The diagram captured the evolution of modern art by classifying the displayed objects into schools or styles and representing the sequence of this development with arraying words and linking lines. Tufte (2006: 20) points out that Barr’s diagrammatic map flowed in “one way, without the back-and-forth possibility of mutual exchange” without any double-headed arrows; hence, the ensuing spatial order of galleries was conceived as a linear arrangement. The art chart was used as “a dust jacket for the catalogue, a table of contents for the show, an organizing history of modern art displayed throughout the museum itself”. Nouns were mapped
on a grid of time and type of art created a “rich visual space in which to locate the words”. The nouns varied in size and were visualized with two colored to distinguish internal and external influences.

Figure 2.7: a) Alfred Barr's chart depicting the evolution of Cubism and Abstract Art, 1936; b) the display layout of MoMA, 1939

In the MoMA early exhibitions, the Barr's flowchart and ideology of art have been echoed in the spatial organization of galleries over years (Duncan and Wallach 1978; Platt 1988; Grunenberg 1994, 1999). Particularly in the 1939 layout of MoMA, Barr's ideology mapped in the original open display space by subdividing space to a linear sequence of small rooms and reducing the long vistas through galleries (Figure 2.7b), as Duncan and Wallach (1978: 37) analyzed. A clear main path, which provided fewer choices for changing routes, structured the viewer's linear sequence of viewing and moving through the history of modern art. Therefore, similar to the Barr's flowchart, the path began with Cubism and ended with Abstract Expressionism; while the objects outside the modern art history were exhibited in the galleries alongside the major paths or in the dead-end spaces.
Thus, MoMA initiated in 1929 two fundamental and influential shifts from traditional exhibition installations: the “white cube” paradigm of display; and grouping objects chronologically based on type and style. Across the world, these two display ideologies have been broadly implemented by a number of museums for several decades.

2.3.3. Vistas: the Display Technique of “Overlapping Vistas” and “Visual Comparisons”

MoMA’s Director during 1949-68, Rene d’Harnoncourt enhanced the aesthetic qualities of modern design installation during 40’s by staging theatrical displays, manipulating cross-viewing, lighting and color effecting to create for the viewers better chances of visual comparisons (Staniszewski 1998). To d’Harnoncourt, the installation design was a creative medium and an opportunity to make an innovative work. A key feature of his installation plans was drawing each object of exhibition, all grouping, and all gallery views, entitled ‘vistas’. The turning point of his method was his curation of the 1946 exhibition Arts of the South Seas in MoMA which raised the insufficiency of traditional display methods to visually articulate the inter-relations among Oceanic cultures. Therefore, d’Harnoncourt proposed a new display method centered on ‘vistas’ to provide the viewer more alternatives for visual comparison and stated that such technique of presentation is based on recognizing the fact that:

“The field of vision of the visitor does not have to be limited to the units that are in the path of his immediate physical progress through the exhibition and that any given point vistas should be open to him into these sections of the exhibition that have affinities with the displays in the unit in which he stands.” (cited Staniszewski22 1998: 111)

The Theoretical Concept of “Affinity”

An analogy between the curatorial styles of Barr and d’Harnoncourt has been drawn by Staniszewski (1998). While both were interested in displaying the aesthetic attribute of modern art, Barr’s the 1936 exhibition Cubism and Abstract Art with the linear organization is differentiated from d’Harnoncourt’s the 1946 exhibition Arts of the South Seas with display method of vistas. Unlike Barr, d’Harnoncourt criticized literary methods, such as captions,
arrows and didactic material, as poor devices for experimenting with visual relations among objects and groups. He implemented the display technique of ‘vistas’ based on the theoretical concept of “affinity” (Figures 2.8a).

Figure 2.8: Diagrams for Arts of the South Seas, 1946: a) d’Harnoncourt’s chart of affinities; b) d’Harnoncourt’s diagram of vista

In the exhibition Arts of the South Seas, objects from different geographic areas, such as Australia and Polynesia, were assembled and divided into twenty cultural areas. In his diagram (Figure 2.8a), d’Harnoncourt mapped and grouped the objects into a chart of stylist affinity: “natural forms simplified”, “natural forms geometricized” (Staniszewski 1998: 111). The spatial organization of display layout echoes the d’Harnoncourt vista diagram. A “network” of galleries with wide entrances structured the exhibition which through composition of its wall partitions provided for the viewer “a series of vistas that “organically unified the show”. Figure 2.8b determines how viewers’ vistas interact with patterns of movement and where the visual openings are located in the plan. The display space, therefore, shaped a series of “overlapping vistas” that instructed visitors to visually connect similar objects and cultures in different areas and “to compare and harmonize the content of one area or gallery with that of another” (Figure 2.9). Different hues of colors in ceilings and lighting were used for different galleries aimed at
revealing the radical contextualization of the objects. The viewer had to dynamically involve in the creation of meaning in the galleries by putting together different sections of the exhibition. In fact, d’Harnoncourt associated “the viewer’s experience to that of a traveler moving from one country to another, observing contrasts between and similarities of cultures” (Staniszewski 1998: 115). The theoretical concepts of d’Harnoncourt’s installation appear to draw interesting resonances to the HMA gallery layout in 1983 which will be discussed in the next chapter.

Figure 2.9: A viewer’s series of vistas from Solomon Islands galleries to Polynesia and Easter Island galleries, Arts of the South Seas, 1946. The overlapping vistas permitted the viewer to simultaneously compare the objects in these three different areas based on similar characteristics.

Stylistic Comparison

As one of the most universalist exhibitions of MoMA, d’Harnoncourt’s 1948-49 Timeless Aspects of Modern Art juxtapose a range of objects from ancient era to contemporary modern art to emphasize that “modern art is not isolated phenomenon in history” (Staniszewski 1998: 85). Displaying a diverse collection of objects, d’Harnoncourt’s universalist installation celebrated the twentieth anniversary of MOMA. Its orientation gallery included a map of the world representing the origins of the fifty-six displayed objects; a timeline from 75,000 B.C.E to 1948 and also a massive ground plan of exhibition embodying the reproduced displayed objects.
next to the viewer’s path of circulation which was a dotted line. The galleries used spotlights in a dramatic theatrical manner to de-contextualize the objects in a space designed to appear timeless. In the contrast to the Barr’s chronological order, the installation had an intensive stylistic comparison by paring objects from different periods based on affinities of form and content. In the orientation gallery, there was a printed label introduces to the viewers the installation statement of purpose, rooted in the concept of affinity:

“The problem of understanding the affinities between works of art is not unlike that of understanding affinities between people. All of us are familiar with the experience of meeting persons who remind us strongly of someone we have known before. This experience can be based on the likeness of features and body or similarities in ways of thinking and acting. Both the physical and the mental similarities are sometimes accidental, sometime the result of basic relationships such as kinship or similar environment”. (cited in Staniszewski 1998: 129)

The notion of affinity obtained an anthropomorphic dimension in d'Harnoncourt’s other exhibition at MOMA, the 1968 Picasso Sculpture exhibition. At this installation, objects were paired and grouped based on affinities of form and content. The objects were exhibited within neoclassical galleries against the neutral-colored walls. One of the consistent attribute of installation was the displacement of the sculptures which were faced to the viewer in a one-on-one mode. The installation created between the anthropomorphized object and the viewer a sense of human relationship which gives the impression that d'Harnoncourt’s advanced the affinities among objects to an affinity between the object and the viewer.

The above section reviewed a series of specific display designs and their principles, mainly focusing on the installation of paradigmatic exhibitions at MoMA. The reviewed cases demonstrated that the issue of space has been evidently embedded in the curatorial debates for displaying objects and interacting with viewers. Within these exhibition installations, the curators conveyed their abstract idea and intention through the display layout, as a case by the spatial or visual interconnections between galleries. Thus, the diversity of displays strategies could characterize the curatorial installation designs, and furthermore could demonstrate the importance of spatial implications in every one of them.
2.4. Synopsis

The foregoing review established the theoretical background of this study by proceeding from the interaction between the display objects and space to the ways in which the exhibition designs have addressed the role of a viewer and her field of visibility as she moves within galleries. The literature review recognized the spatial arrangement and grouping of objects as characteristic instruments of display design in debates on museums. It has been addressed how earlier studies have extensively addressed the power of display layout on the viewing and arranging objects in space. The discussion, in fact, underlined the co-visibility, cross-visibility, and the sequential order of seeing the objects in space as an outcome of viewers’ moving in display layout. Furthermore, the review of the existing literature identified the ways in which the spatial arrangement of objects has been taken into account by the key curatorial paradigmatic installations for narrating their strategies, principally in MoMA. The discussion, thus, established a background on the spatial dimension of display objects which would contribute to the overall thesis and would be helpful to contextualize the HMA and its architectural and curatorial shifts through years - the argument to be developed in subsequent chapters.

Notes to Chapter 2

1 The review does not attempt to include studies that deal with technical issues of displaying, nor does it address the display material; instead it focuses on the specific morphological properties of objects display and spatial display.

2 The term “object”, in this study, is used to refer to any artifact displayed in museum galleries. The aim is to focus on the spatial relationships between objects in the gallery setting rather than making distinction in terms of their styles and artistic discourse. For an in-depth discussion on ‘object’, ‘thing’ and ‘artifact’, see Pearce’s Museum Objects and Collections: A Cultural Study (1992: 4-6).

3 The root of the term “museum” is often traced back to the ancient Greek terminology for cult sites dedicated to “the muses (mouseion)” (Abt 2006: 115) and the Ptolemaic mouseion at Alexandria founding c.331 BCE in which the key function was a place similar to a library for philosophers, historians and researchers (Vergo 1989; Hooper-Greenhill 1992).
The meaning embedded in objects, Hodder (1987) notes, is threefold: First, their significance meaning through which objects effect on the world; Second, their symbolic, structural and coded meaning through which objects communicate; Third, their content and historical meaning through which objects associate with past.

In fact, the amalgamation of an object and space reaches its most overlapped condition in an installation art which creates an artistic condition by addressing the attributes of a specific space. In From Margins to Center: the Spaces of Installation Art, the art historian Reiss (1999: xii) defines an installation art as “an assemblage or environment constructed in the gallery specifically for a particular exhibition.”

The physical context embeds “the architecture and ‘feel’ of the building, as well as the objects and artifacts contained within” (1992: 3) and strongly influence what viewers observe and remember. The personal context is embedded in the relationship between the “personal” and “physical contexts” and integrates various experiences and knowledge (1992: 2). The social context is embedded in the contact with other people. The physical context embeds “the architecture and ‘feel’ of the building, as well as the objects and artifacts contained within” (1992: 3) and strongly influence what viewers observe and remember.

In a classification system, Greenhill (1991) noted, the meaning of object is fluid since the curators, with their own internal systems, classify and display objects with other objects of their type. Thus, the interpretation of an object, presented with different class of objects, can take different meaning in relation to the interpreters’ knowledge, time and place.

The establishment of a systematic and classified collection in museums probably goes back in the mid-340s BCE when Aristotle and his students collected, studied and classified botanical specimens by an empirical methodology (Abt 2006:116).

Pollock takes Vergo’s comparison beyond to the level of exhibition as an “encounter” which is “a form of research and a form of art. Or rather there is an aesthetic consciousness at work in trying to find forms of presentation and contextualization that are sympathetic to the art works I am dealing with. That is radically different from academic work or curation that imposes a frame upon works and makes them the objects of knowledge and display” (cited in Raney 2003: 155).

Furthermore, the visual perception of display layout through movement as a series of visual fields has been examined by Psarra and Grajewski (2000). They study the influence of space on viewers’ cognitive experience. In a comparative analysis of contemporary and historical museums, Psarra (2005: 85) addresses how museum architecture shifts “from a container of knowledge to an active participant in the viewer’s experience”; hence “from “knowing” to “showing” and “telling””. However, neither study explicitly distinguishes between successive frames of co-visibility and patterns of spatial grouping that emerge within individual frames or recur across several frames.


In the modern era, Bennett (1995) notes, historicity becomes the key rule for human to ‘know themselves’; hence, museums, physically or virtually, create a social network of visibility in space.

Emphasizing on the chain of events in a display layout, Silverstone (1994: 162) argues that a museum is a place similar to the contemporary media that communicates, educates, tells stories and refers to a space and time outside the gallery walls. Therefore, the logics which underline the arrangement of objects, he states, are not determined only by the principles of classification, but by links to the categories of time and space through ‘orientating’ and ‘clocking’ of both objects.
and viewers. ‘Orienting’ implies the reference points in time while ‘clocking’ engages another aspects of time defined by the rule of ‘sequence’ and pace of instantly experienced events ‘from moment to moment’ and day to day (Kantor and Lehr 1975, Reiss 1981). Clocking, therefore, requires a chain of events which entail sequencing, pacing, scheduling, frequency and duration to control viewers’ movement in museums in a visible way.

The sequential narrative of museums often employs a historical arrangement of objects which have raised various spatial analogies between walking along sequences of objects in art galleries and reading a history book while interpreting knowledge and narrative (Fisher 1991). Inquiring how one reads display objects, Hill (2005) points out that several of the museums studies have taken display space as a kind of text with visual grammar which its meaning needs to be decoded. As a space of knowledge, similar to a museum, the space of a book is where texts and images are situated and interrelated by conceptual and physical structures. Similarly, authors such as Saitowitz (1990) refers to museums as an instrument of thinking similar to books, where the relationship between objects and viewers is established by selection and categorization. Furthermore, comparing between each gallery room and each chapter of a book, Krauss (1996: 343) writes that one proceeds a museum “from space to space along a professional path that ties each of these spaces together, a sort of narrative trajectory with each room the place of a separate chapter, but all of them articulating the unfolding of the master plot”. In the same way, Carrier (2003: 61-62) indicates how display objects shape a narrative and how curators determine what a viewer see in order to reveal the history by floor plan of museums, similar to book chapters: “a walk in a museum is a narrative under another name”. The analogy between walking, seeing and reading narrative of history is enhanced further by the comparison between the moment one pauses in “a book between chapters” and the moment one “steps out of the narrative presented in galleries” at resting points of a museum. In a different scale, Brawne (1982) compares the sequential experience of space for a viewer walking in a museum and in a town. Similarly, writers such as Hulten (1974) emphasize on resemblance between the spatial structure of a city and a museum where similar to the network of paths, squares, dead-ends and interlocking spaces, one can move and pause with the alternation of interest within a system of galleries that relate rooms which alternate to each other.

The first model is exemplified by J.N.L. Durand’s design proposal for a museum (1802-1805) which establishes a central courtyard with the adjacent enfilade of galleries. Searing (1986: 18) identified the “Durandesque tradition” in three key museums of the twentieth century: the Guggenheim Museum (1943-1959) by Frank Lloyd Wright in New York, with its central space “where one circulates and simultaneously views works of art”; the Neue Staatsgalerie (1977-1984) by James Stirling in Stuttgart, with a rotunda bounded on three sides by chains of galleries; and the High Museum of Art (1980-1983) by Richard Meier in Atlanta which is the focus of this thesis study, with a central atrium surrounded by a sequence of galleries, to distinguish moving and viewing functions. The second model of museums is established by transparent and open spaces of mid-nineteenth century exposition buildings, like the Crystal Palace in London which MoMA reveals its modified example (Searing 2004).

Defined as visitors’ awareness of objects

Defined as visitors’ physical interaction with objects

In fact, various researchers (like Robinson 1928; Melton 1933, 1935; Melton et al 1936; Borun 1977) confer the “attracting” power and “holding” power of display objects by observing the number of viewers around objects and the length of time spent to look at them as indicators of viewers’ interest to the exhibition. The result indicated that in contrast with the large setting of objects, viewers of smaller collection spend more time viewing the objects due to the less distraction of the confined space.
19 Similar to Kiesler’s, Lissitzky’s, and Bayer’s field-of-vision instillation methods, Mies van der Rohe recognized the moving viewer as an integrated component of the display layout. His spatial configuration augmented the free-flowing sense of movement of a viewer in a fluid space where “space is channeled rather than confined – it is never stopped, but is allowed to flow continuously” (Johnson 1947: 58).

20 The art critic O’Doherty (1986) coined the phrase ‘white cube’ in his article ‘Inside the White Cube: The ideology of the Gallery Space’ on 1976 which underlined the significance of the neutral environment for displaying art.

21 In a creative way, Dorner not only reorganized the collection of paintings by styles and chronology but also reconfigured the gallery spaces. By formulating the idea of “atmosphere rooms”, he aimed to present a minimal context for the objects within the display space to facilitate an understanding of the past time and to locate the objects so that they can “speak for themselves” (Cauman 1958: 91). He examined every historical era in a coherent glance by means of spatial and atmospheric qualities such as flooring, ceiling, furnishings, and windows. His modern and innovative approach of the notion of atmospheric context influences the creation of neutrality and the ‘sterile’ white box.

22 This is part of an unpublished manuscript at the MOMA archive: d’Harnoncourt, letter to Stevens, cited in Omer “The Art of Installation II”, 29-30.

23 This concept was presumably adopted from his collaborator Robert Goldwater (Staniszewski 1998).
Chapter 3: Architectural and Curatorial Trajectories of the High Museum of Art - 1903 to 1983

Outline

One of today’s leading art museums in the southeastern United States, the Richard Meier-designed High Museum of Art (HMA) opened in Atlanta in 1983. Throughout its history, the HMA has evolved within a complex social, cultural, economical, and political framework, as documented in Figure 1.2. This chapter presents a chronology of the gradual emergence of the HMA; furthermore, it explores the architectural and curatorial principles of the museum as well as the relationship between the two. The discussion, in the first section, opens with a brief history on the HMA evolution; the second section moves to an in-depth examination of the original building designed by Meier, particularly the spatial history of the second floor, reviewing first the architectural and then the curatorial intentions behind the HMA display spaces. Thus, this chapter aims to identify how spatial concepts are formulated in both the architectural and curatorial strategies of the HMA and, furthermore, how the two strategies interact with one another.

3.1. HMA Pre-1983: the Institutional Chronology

The first notion related to shaping the HMA emerged in 1903 at the home of Samule Evins through meetings of eight progressive and wealthy women whom perceived a need to promote “the fine and applied arts” ("High Museum of Art" 1994). In 1905, the HMA was founded as the Atlanta Art Association1; in 1926,2 the association obtained its first permanent home thanks to a
donation by Mrs. Joseph M. High of her family's residence (Figure 3.1a). The building was located in one of Atlanta's elite districts near the intersection of Peachtree and 15th Streets, in the midtown arts and business region. The Atlanta Art Association was subsequently renamed the High Museum in Ms. High's honor and in October 1926, it hosted one of the city's grand central exhibitions. Opened to the public on 1928, the interior of the building held no public character as Russell (1983: 1) described:

“The street was very pretty. The house had an easygoing side way spread to it that made it looks like a place in which one could walk in, sit down and live happily ever after. But a museum? A museum that could bring the visual arts under one single roof in a major city? Someone had to be putting us on.”

Within a few years, the association began to organize a range of cultural events3, from bringing exhibitions to Atlanta to conducting art classes and hosting lectures. President J. Carroll Payne stated that the HMA aimed not only to display paintings and sculptures but also to support and promote “the art spirit in the community” because “the museum is more than an end in itself, it is a means to bring beauty home to the rank and file of the people and to declare the great gospel of art for humanity” (cited in Hill 1941: 114). Accommodating various social roles, the spatial layout was large enough to include galleries, an art school, offices, and later on an added skylit gallery and children's sections (“High Museum of Art” 1994). In the 1940s, adding space to the High and increasing the collection was proposed by Thomas K. Glenn, who suggested constructing a gallery to house only paintings donated in memory of loved ones. In 1941, Memory Lane opened as “an intimate small gallery, perfect in detail, and quietly charming” (cited in “High Museum of Art” 1994: 32); however, since the exhibits must be approved by donors, the museum staff could not often control the quality, style, period, artist or subject matters. At the same time, for the growing collection, physical expansion was needed; for instance, a significant collection from the Italian Renaissance was offered to the HMA only if it could build an appropriate facility for the collection, as the High house was not fireproof, air-conditioned, or secure. Despite a history of outgrowing its space, the museum “had no space specifically designed for adequate display until 1955” (cited in “High Museum of Art: The new building”
In 1955, the museum entered a period of major growth by moving to the home of Edgar P. McBurney, a new brick building adjacent to the old mansion High house. The High house contained gallery space and a children's area and the majority of the fine art collection and exhibition space was housed in the new climate-controlled new building. However the museum's functional display space did not extensively grow and had no space for further expansion. In the 1960s, the Atlanta Art Association evolved into the Atlanta Arts Alliance, which was founded in memory of Georgia arts patrons who had died in a plane crash during a museum-sponsored European tour. In their honor, the Atlanta Memorial Arts Center, constructed near the existing museum, which currently houses the Atlanta Symphony Orchestra, the Atlanta College of Art and the Alliance Theater, opened in 1968.

In 1963, Gudmund Vigtel, associate director of the Corcoran Gallery of Art in Washington, D.C., became the director of the HMA and served until 1991 (Figure 3.1b); he stated “I came to Atlanta strictly because of the vision expressed at the time, not because of the museum, because it wasn’t much then. When I came, we could put the whole stuff in a Volkswagen including the director” (“High Museum of Art” 1994: 36). Under Vigtel’s direction, the museum evolved “from a small, inwardly focused museum into a leading art institution of the region, with national distinction in a number of collections, exhibitions and programs” (“High Museum of Art” 1994: 42). Within the new collections, Vigtel strived for distinction, diversity, and inclusiveness to reflect the cultural interests of Atlanta. Hence, he insisted on moving into the African and African American art. The records indicate that during Vigtel’s direction “programming had moved toward genuine balance. Strict quality standards had been imposed for exhibitions and the permanent collection. Staff had been strengthened. Membership had increased not just in numbers but in range of citizens” (“High Museum of Art” 1994: 39-40). Under Vigtel’s direction, the museum held almost four thousand objects, more than twice as many objects as it used to hold. The most significant as well as space consuming collection held the decorative arts, which, by the middle of the 1970’s, had become the main attraction of the HMA. The rapid growth led to both benefits and drawbacks for the museum, particularly in terms of the spatial layout
“because space in the museum was tight, special arrangements were required for larger exhibitions. They usually spilled out into the Galleria, the central area of the Arts Center that connected the High to the performance halls”. In 1978, a note stated that “the reality of physical limitations allow only a small portion of the High’s permanent collection to be displayed at any one time” (“High Museum of Art” 1994: 40). The HMA modest amount of space had to accommodate as well the crowded events, thus “in a sense, the High was imprisoned in its own success”. Vigtel pointed out the need for growing spaces: “we weren’t going to grow into a useful museum if we couldn’t grow physically. I really nagged for more space” (“High Museum of Art” 1994:39). In the Long Range Planning Report, Vigtel emphasized on the spatial extension of the museum as the result of the institutional growth:

“The success of our future rests squarely on our ability to increase our space. Improving our collections with discernment will be absolutely essential, but services to the community in terms of education and recreation are going to be crucial to our future success. We will be measured by the growth of our collection, but we can survive as an institution only on our usefulness to the community. All this implies much more space than what we have now” (“High Museum of Art: The new building” 1983:11).

Given the fact that the museum could primarily display merely “twenty percent of its permanent collection at any given time, and lack of space severely limited its ability to host traveling ‘blockbuster’ exhibitions” (“High Museum of Art: The new building” 1983:11), the 1974 Long Range Planning Report concluded that the museum needed to expand. The endeavor, to enclose a building of around 250,000 feet in the 21st century occurred when no major fund-driving was
taking place. Toward building a new facility for the museum, Coca-Cola magnate Robert W. Woodruff offered a $7.5 million challenge grant in 1979 and museum officials exceeded the grant, raising $20 million. This vital support provoked the museum Expansion Committee to initiate advance studies, procedures, and organizational arrangements for the purpose of studying and estimating the costs of constructing a new building on the Arts Alliance block. In February 1979, the study by Heery & Heery, an architectural and engineering firm in Atlanta, concluded that at an estimated cost of $15 million, a building of 150,000 square feet could be constructed on the north end of the Memorial Arts Building ("High Museum of Art: The new building" 1983). The intense research and planning for the construction and fundraising phases of the project were prepared by Task Forces that divided their specialties into four research areas: Mission and Audience, which analyzed audiences and the primary purpose of the museum in terms of services and programs; Departmental Emphasis and Space Needs, which suggested a spatial organization and distribution of the departments according to their functions; Design and Construction, Arrangements which launched the selection process of "an architect and general curators, and a system for project supervision"; and Funding Resources and Approaches, which provided fund-raising plans ("High Museum of Art: The new building" 1983:12-13). In December 1979, reports were finalized with a close collaboration among the Task Forces, the expansion committee, Vigtel, the museum staff, and the Atlanta community. Two major components of the operational phase were announced; a fund raising phase and a design and construction phase, the latter of which established a Building Committee for selecting an architect and general contractor, administrating the construction, and monitoring the budget. The search for an architect was announced and publicized in architectural journals in February and March of 1980. By April, from the initial list of more than seventy-five firms, fifty architects submitted their official documents, which the Building Committee narrowed down to fifteen qualified firms and requested that each illustrate its "philosophy of art museum design" ("High Museum of Art: The new building" 1983: 14). By May, the list was shortened to six firms, which presented their designs to the Committee as well as to the curators of the HMA. In June 1980, Richard Meier & Partners of New York City was selected by the Committee and the Museum’s board of
directors to design the new building (Figure 3.1d). The criteria for choosing Meier were “based on his past work, his understanding of art and art museums, his previous clients’ enthusiasm for his integrity and professional excellence, and for his position as a leading designer in the field of architecture” (“High Museum of Art: The new building” 1983: 14). At the time Meier was selected as the architect of the HMA, his institutional designs were already well known, as they had won commissions from the Museum for the Decorative Arts in Frankfurt in 1979 (1979-1985), and beginning the Arp Museum in 1978 (1978-2007), and earlier, the firm had completed pieces such as the Atheneum (1975-1979) and Aye Simon Reading Room, Solomon R. Guggenheim Museum (1977-1978).

As a matter of fact, Meier’s design proposal was developed not only from “his own esthetic sense” but also from “parameters” recognized in the HMA written plan, which had founded various major decisions about the design of spatial layout (“High Museum of Art: The new building” 1983: 15), specifically prepared by Vigtel (Figure 3.2c). A well-defined program written by Vigtel outlined major themes of operation such as “audience, staff and volunteers, programs and services, the collection, and security and energy control, and gave specific space allocations for exhibition, administration and support functions”. Museum administrators required:

“A functional design accommodating the realities of museum operation, inflation and energy control, and yet the building needed to be a work of art itself, a showpiece of craftsmanship. It should invite the visitor inside to its displays and activities, and create a calm, harmonious environment for easy viewing and logical progression. It was important for the new structure to harmonize with its neighbor, the Memorial Arts Building, which would continue to be home for the Atlanta College of Art, Alliance Theater, Atlanta Symphony Orchestra and the umbrella organization of the four components, the Atlanta Arts Alliance. The design furthermore needed a clear sense of orientation, not only internally, but also in its relationship to the Memorial Arts Building and the area’s other principal landmark, Peachtree Street”. (“High Museum of Art: The new building” 1983: 15)

In July 1981 witnessed the ground breaking for the new museum with the campaign slogan of “a museum big enough for Atlanta”. By August 1983, the museum’s staff and collection were entirely transferred to the new $20 million new building of the HMA.
3.2. HMA 1983: The Opening

Opened to the public on October 15th, 1983; the 135,000 square-feet new building tripled the space of the previous home of the HMA and enabled the institution to increase more inclusive displays of its collections in the new space, which was programmatically composed of 46,000 square-feet\(^6\) of gallery space (cited in the HMA Catalog on building statistics 2003). Thus, approximately thirty percent of the building was allocated for the display space while the remaining 89,000 square-feet, away from exhibition areas, was used for accommodation backstage for both the museum inhabitants and visitors.\(^7\) In addition to the display spaces, the HMA accommodated a ground level courtyard, a reception area, an auditorium, the museum shop, a cafe, a members’ lounge and storage and support spaces for administrative functions (Figure 3.2). The successful design of the HMA, which effectively met the functional requirements of the program and served the needs of the operation, has been referred to in Vigtel’s statement:

“…the building’s distinctive qualities grew out of the detailed program which had been prepared by us and that his [Meier’s] design included all of our specifications for particular spaces, their purposes and their interrelationships. … Functional requirements have been translated into an esthetically satisfying balance of natural setting and imaginatively varied interior space – an environment for the visitor’s private enjoyment and contemplation.” (“High Museum of Art: The new building” 1983: 18)
Soon after opening, the HMA building attracted national and international attention by receiving a number of design awards, including the Distinguished Architecture Award from the New York Chapter of the American Institute of Architects (AIA), the Bronze Medal Award from the Georgia AIA chapter, the Award of Excellence from the Atlanta Urban Design Commission, the Georgia Association of Museums Award; and the Honor Award, architecture's highest recognition for excellence in design from the American Institute of Architects in 1984 and later in 1991, the AIA cited the HMA building as “one of the ten best works of American architecture of the 1980s”8. Recently in 2005, the HMA was honored on a U.S. Postal Service stamp series of “Masterworks of Modern Architecture” (Figure 3.3). The architecture of the HMA was referred in a stream of reviews as “triumph”, “one of the most beautiful buildings in the United states”, “inventive, workable, and essentially pristine” and “a building that demands to be scrutinized, much like sculpture” (“High Museum of Art” 1994:41). Gaskie (1984: 118) mentioned the HMA as “undeniably a jewel and Meier’s finest work to date.” Similarly, Freeman (1989) referred to the building as one of the top ten national art museums and one of the Meier’s most magnificent public statements and ambitious buildings he has completed yet. In fact, Meier was awarded the 1984 Pritzker architecture prize for designing the HMA. Goldberger (1983) described the HMA...
as one of the best museum designs any city has constructed. Each museum building, he argued, is the product of a battle between art and architecture, where on the one extreme, the presence of a powerful architecture overwhelms the art without understanding it, or in other cases, the building has no architectural presence to hold the art within it. Not often, a museum belongs to none of these extremes while the HMA, Goldberger believed, is a conquest of museum design. In fact, Meier discussed that in the HMA design, he intended to create spatial qualities that offered people an experience of the art of display as well as the art of architecture (“High Museum of Art: The new building” 1983). Vigtel also emphasized the co-existence of art and architecture as one of the prerequisites of designing a new space for the HMA:

“A building for us which in itself will become a major center for the visual arts, as important as the objects it contains. They will greet our visitors in harmonious co-existence. We want a building which will attract and welcome people and at the same time serve us effectively in every functional sense.” (“High Museum of Art” 1994)

Figure 3.3: “Masterworks of Modern Architecture” stamps, June 2005, illustrating twelve exceptional paradigms of modern architecture, included the HMA
At the intersection of Peachtree and Sixteenth Streets, the white mass of the HMA sat within a gently sloping corner lot between the red brick Presbyterian Church on its north side and the neutral concrete box of the Atlanta Memorial Arts Building on its South. The museum was constructed of concrete slabs and steel columns and frame. Meier’s white porcelain-enameled steel panels⁹, which were applied to the foundations and skeletal structure of the building, distinguished the HMA from adjacent buildings and the green context, celebrated “a great jewel in the artistic crown of Atlanta,” as proclaimed by Mayor Andrew Young. The distinction of the building with its surroundings symbolically delineates the HMA as a magnet for the city, which was one part of the program agenda Vigtel stated (“High Museum of Art” 1994). In his architecture statement, Meier (“High Museum of Art: The new building” 1983: 19) discussed that:

“The High Museum of Art refers to typological tradition of the Enlightenment and attempts to resolve the best of the old and the modern notions of the art museums. Our intent is to encourage discovery of aesthetic values and to convey a sense of the museum as a contemplative place. … The design of High Museum developed as series of architectonic responses to context in the broadest sense, understood to include not only functional, programmatic, and typological concerns, but also the physical, social, and historical context of the city.”

The HMA architect declared that the progressive role of the city of Atlanta as a developing cultural center had a strong influence on the HMA design as a major public building and art repository. This notion was symbolically embodied in the design of an extended ramp that wove together the building, the street and the city (Meier 1999). Situated in a pedestrian-oriented midtown neighborhood of Atlanta, the ramp connects the exterior to the interior: from one end, it reaches the street and city while from the other end, it fuses to an interior ramp becoming a major formal and circulatory element in space (Figure 3.4).
3.2.1. HMA 1983: Architectural Principles - Richard Meier

The following section focuses on the HMA building designed by Meier and pursues an in-depth examination of the architectural dimension of the museum. Interwoven with this discussion is another discussion on the formal language of Meier, which will be addressed in the last part of this section.

The spatial organization of the HMA has been referred to as a modern synthesis of classical themes, such as the implication of the basic forms in its central and symmetrical organization. Rykwert argued that Meier molds and merges elementary forms into complex volumes in ways that highlight the power of metaphor (cited in Meier 1984). The overall organization of the
museum, as can be seen in Figure 3.5, suggests an intention towards geometrical order and primary forms. Principally, the plan consists of two geometrical orders, described as follows.

Figure 3.5: The spatial organization of the HMA: a) axes; b) entry; c) program; d) circulation; e) structure; f) enclosure

The Spatial Organization of the Layout: Squares

The first order is composed of Meier’s pure geometric shapes: a square, a quarter-circle, and their divisions. The study of the architect’s sketches and diagrams in the early stages of the design demonstrates the evolution of the design concept based on a square subdivided into a set of rotating or overlapping squares while signifying the importance of a spatial core (Figure 3.6).
The essential position of the square has been emphasized by Meier himself: “The parti consists of four quadrants with one carved out, to distinguish it from the other three - the missing quadrant becomes a monumental quarter-circle glazed atrium” (“High Museum of Art: The new building” 1983: 19). Most of architectural critics have as well commented on the square. Balfour (1984: 27) discussed the spatial organization of the building and argued that:

“[The High] gains its power by the conflict between two orders; a large square in plan is divided into four quarters, three containing equal squares. The fourth explodes into a contradictory radial order. The three equal squares hold corner towers (a distinction not articulated internally) which bridge together to form the galleries.”

Figure 3.6: The HMA earlier sketches illustrating the progress of the design decision, specifically emphasizing the overlapping and sequence of the square rooms - the rooms within the rooms - as well as the visual and spatial connection among them

Figure 3.7: Installation and architectural layout plan of the second floor galleries in 1983
The carved out quadrant was developed into a four-story skylight atrium that defines an orienting space with the circulation ramps on its edge. The three equal quadrants hold galleries and marginally mesh the ramps and the atrium. In three of its six floors, the building enfolds various display spaces for the heterogeneous collection of paintings, furniture, and sculptures. Around the atrium are two layers of display space with a solid white wall creating a barrier between them, as shown in the plan of second floor (Figure 3.7). One is an L-shaped layer next to the atrium. The layer consists of external galleries of open space with fusion of natural and artificial light. Far from the atrium is the other layer, which encloses a series of internal galleries that are smaller and more intimate than the external ones. Meier created a semi-enclosed smaller room inside each of the three corner internal gallery rooms, presented in his early sketches as a square inside of a square and known as the rooms within the rooms (Figure 3.8). The architect’s diagrammatic representation demonstrates the overlapping and sequence of these squares in addition to the visual and spatial connection among them, as shown in the Figure 3.6. Each of the smaller rooms also contains internal window openings in the shape of a square. The spatial quality of these rooms within the rooms will be discussed in more detail in the subsequent sections.

Figure 3.8: The configuration of the rooms within the rooms within the HMA galleries
The Spatial Organization of the Layout: Grid and Columns

The structural system of the building generates the second geometrical order by an orthogonal grid of the circular columns placed in regular 21-foot intervals, as shown in Figures 3.5 and 3.7. The grid system and the columns define the essential order of the HMA plan by not only bringing different spaces together into a coherent whole but also by modulating the mass and breaking up the scale of the space. Peponis (1997; 2005) analyzed how the HMA architectural intentions are marked by the disposition of the otherwise regular grid of columns: the columns are situated in a variety of spatial contexts as if they embodied the spatial circumstances addressed to the viewer. Peponis (2005: 128) showed that the architecture of the HMA “clearly emphasizes grids as ordering devices, not least by making the columns prominently visible as architectural elements”. The simple and powerful formal vocabulary of the HMA building-constructed on a seemingly simple principle of the square - has been addressed by Michael E. Shapiro, the Nancy and Holcombe T. Green, Jr. Director of the HMA since March 2000, in his afterword and reflections on the HMA:

“For eleven years I have been encouraged and cheered by the building every time I see it or go into it. You might ask, “How can a building have this continuously nourishing effect on a person for more than a decade?” let me share some reflections on my personal relationship with the building. … In Richard’s hands, these squares were manipulated to embrace curves and vectors …. The circular columns, placed at regular intervals in the galleries, form a Euclidian dialogue between circle and square shapes that run through the building….extraordinary to see the extrapolations of Richard’s formal vocabulary…it is a place to see and a place to be, a miracle on Peachtree Street”. (Meier et al 2006: 288).

The HMA design has been discussed by Hess (1977) as a modern movement “of carving some order out of the cavernous area” and “a grid of windowed rooms, streets, avenues, colonnades, and long walls which both tie the raw volumes down to human scale and offer a chance to display giant paintings at their best”. Furthermore, he noted that while the building relationship to viewers is Classical; the variety of changing spatial sizes and shapes is Baroque; “everything is simultaneously consistent (height of ceilings, rhythm of axes, perpendicularly of joints) and ambiguous logical and theatrical”.
At the same time, it is notable that the columns create a strong sense of architectural presence in the galleries, which has been criticized as an unneeded “glorification of the column system” (Fox 1983: 105). The spaces of the galleries, hence, fall to pieces by grids of columns that have been the target of different curatorial critics, referred to in the next section in the curatorial study.

Spatial Experience of Layout: the Atrium and the Ramp as the Choreographed Route

To unfold the HMA spatial experience, it is best to portray the building as the way in which the viewer movement is shaped by the distribution of the spatial obstacles and boundaries (Figure 3.9). One passes the external ramp and enters the building through a piano-curved reception pavilion, which at its end turns to the light-filled, four-story atrium. Balfour (1984: 27) described that “at first there is nothing to suggest where to go, or what the experience might be. The junction is so abrupt that it seems as if the architect wishes the visitor to take stock, readjust to the demands of the architecture and begin carefully to read and experience.” Through an uninterrupted progression, ramped circulation invites one to the upper floors in which gallery spaces encircle the atrium. The atrium and the ramp orient viewers to the internal organization and remain fixed syntactic points of reference in navigating up and around the galleries. In each floor, balconies open to the atrium and bring various ranges of vantage points. A viewer has a constant sense of the atrium space from various levels and vantage points of the building, as Goldberger (1983: 2) described:

“And the movement through the museum is designed so that we move back and forth from gallery to atrium to gallery again, changing levels on a system of ramps that offers views of the city outside as well as views that turn back inside. So while there is a sense of quiet, even devotion, to the needs of art inside the galleries, there is none of the hermetic sense of some museums. At the High Museum we move back and forth from the experience of art to the experience of architecture - and each enriches the other.”
Thus, the ramp creates a sense of curiosity and changing standpoints when one views the objects through cantilevered landings and alternating points of entry to each gallery floor (Meier 1984: 320). Meier’s design, Fox (1983) argued, establishes a sense of “happening,” which stimulates the viewer’s curiosity and reacts to the museum fatigue and confusion through the spatial openness, clarity, and variety. The gradual rise of the viewer’s path through the ramp transforms a low viewpoint into a high one, so the objects can be seen and re-seen from various levels, angles, and distances (Meier 1984). As Maxwell (1984: 68) described:

“Each change of floor level requires at least two, usually three, traverses of the quadrant. Even to move from one floor to another, to continue our perusal of the works of art, sets us in motion like the pendulum of a clock – the repletion reinforcing the abstract nature of the experience. Is this some kind of re-enactment of the abstract poetics of pure motion, the step-by-step evolution of a figure in space? Or is something more metaphysical, the white noise of silent machine, like Duchamp’s image of two planes harboring a ball of twine? The regular unfolding of the narrow ramp around its curved wall is in any event an unexpected substation for the convention of the grand staircase. While it delineates -and causes the observer to delineate-a geometrical figure, it enables him also to occupy a notional center from the periphery – a center which leads into the recesses of the museum galleries. It is altogether a strange notion, and it exercises an unusual appeal, tinged with danger, like the space of a dream. The regular grid of square opening perforating the spinal wall adds to this sense of transgression by the suggestion of an incomplete or ruined building, offering escape at the same time as reinforcing the sense of control, as if we were in some kind of rationalist penitentiary dedicated to perceptual movement.”

A number of writers and critics have marveled at the spatial experience and quality of the ramp and the atrium. In one comment, Shapiro stated the one of the magnificence events of the HMA is “watching the silhouettes of people against the white wall behind them as they proceed along the ramp” (cited in Meier 2006: 288). Everyone on the ramps, Balfour (1984) described, is
displayed and framed through the square openings of the panel wall. Furthermore, Peponis (2005: 130) noted the choreography of visitors’ co-presence and the encounter pattern which arise as a result of movement, as an aspect of the experience of the HMA:

“From the galleries, people on the narrow ramp are seen as silhouettes against the light, moving in procession. Around the galleries people mingle, moving and facing in different directions. In the exhibition areas, people come in and out of the field of vision along the stratified visual depth, usually moving transverse to it, as if in a pattern of hide and seek.”

The spatial quality of the HMA constantly provokes “observation on the move, promoting the head to turn, encouraging an appreciation that could not be other than mobile, despite the apparently static character of the architecture”, Cassaràa (1997: 9) noted. The perception of space has been created through forms “capable of changing visually alongside” the viewer. The visual quality of space, Cassaràa noted, goes beyond “a stimulus as an instrumental element” in the HMA spatial organization:

“[it] is precisely opposite of the move made by Lichtenstein in his early work, passing from three-dimensional to the two-dimensional, dissolving into a succession of intersecting planes the most mundanely corporeal object; thus flattering out the spatial corporeity in a frozen situation of space inside space, of time without time, of room within room, but without depth, without nostalgia.”

The entire spatial experience of the HMA, Campbell (1984) argued, is a promenade through architectural sculpture performed by the visitor that sets a slow, ceremonial dance throughout space and light. To him, the HMA is both a civic place and a display instrument. The body of visitors and objects perceptibly differentiate against the uniform whiteness of the geometric background. The neutral sense of the spatial setting is emphasized by the monochromic surfaces, essentially white, which are sensitive to each change in the light and the view. The monochromic program of architecture has been characterized in John Hejduk’s postscript as “Melville’s Moby Dick, the thought of whiteness” (cited in Cassara 1997: 378). The daily performance of light and shadow augments the sculptural quality of the white atrium and the series of galleries that held it, and related to it. The HMA, Cassaràa (1997: 9) noted, embeds “the overlapping of circulation itinerates and lighting systems”. Kelly and Rifkin (1994: 5) portray how the interior
ramp system and the solid atrium walls mediate between the light-filled central space and the art itself. Meier (1984: 311) declared in his statement that the consistent preoccupation of light, beside its functional aspect, embeds a metaphoric role for the spatial experience of the museum as a place of aesthetic illumination and enlightened social values and “the primary intention of the architecture is to encourage the discovery of these values.” Meier (1999: 10) has referred to the role of the museum as an institutional space that not only contains “human activity” but also vigorously facilitates “the shaping of human action” into something “meaningful and rewarding” to celebrate the transformation of the human body performance. In a broader context, the architect stated that his museums have been designed in response to “the quality of space, the way light came in, the way it accommodated all kinds of activities and events. It became a community center as much as a museum” (cited in Loos 2005: 2). To him, the reason that designing a museum is stimulating is twofold: “I love all kinds of art. And second, the museum is really the most important non-secular community space that exists in the world. You see a whole cross section of people you never see in any other situation. There's no finer type of institution one can design for.” Vigtel highlighted that the viewer should be comfortable and able to benefit from the exhibitions within a peaceful setting for easy viewing and logical progression:

“We hoped for a building which would stand out by its design and craftsmanship, draw attention to itself, and beckon the visitor inside to enjoy the display and activities. … It seemed important to give a clear sense of orientation to the various aspects of the interior, as well as to the outside…” (Cited in Searing 1982).

Amplifying such visual quality and easy orientation, when Meier released the drawings for the HMA in April 1981, he stated that:

“The building is designed to welcome the visitor, to arouse interest and curiosity and yet convey its sense of purpose as a contemplative place. It is a many-faceted structure, not intended to awe or overwhelmed. It presents a variety of spaces, scales, and views, while maintaining a clear relationship of the architectural parts, so that visitor retains his orientation.” (Cited in “High Museum of Art: The new building” 1983: 16)

The four-story atrium, Meier described, was an interpretation of Frank Lloyd Wright’s design of the Solomon R. Guggenheim Museum in New York City (Figure 3.10):
“By the manner in which we separated vertical circulation and gallery space, we have been able to maintain the idea of the referent central space filled with light...exhibition spaces are so arranged that one can look across the atrium from one gallery to another; it is therefore possible to see a work of art within a gallery close up, or, coming around on the ramp, to see it again from a different perspective. Thus, in addition to the changing perspectives of objects, visitors have a full panorama of internal circulation and views of the atrium and the outdoors” (cited in Searing 1982: 111-12).

The analogy of the HMA atrium to the modernist design of the Guggenheim atrium is configurationally logical; as in both atriums, the central syntax, circulation system, and the open vistas pull together the distinct parts of the whole composition and construct a lyrical equilibrium. The ramp of the HMA, however, operates more as a breathing monumental space in contrast to the enclosed galleries. While the ramp system of the Guggenheim does function as a gallery space for displaying art pieces, the ramp of the HMA utilizes the occasional observation of art pieces from the inner band of the galleries lining the two sides of the atrium. The division of circulation and exhibition delineates the central role of the atrium as organizing the system of movement. In contrast to the exhibitions, the atrium includes windows to provide natural light as well as framed views to the outside.

Figure 3.10: The Solomon R. Guggenheim Museum in New York City, designed by Frank Lloyd Wright
Spatial Experience of Layout: Galleries

Within the HMA gallery layout, the interaction among viewers, objects and architectural promenade provide a range of spatial experiences. The programmatic configuration of internal boundaries invites the viewer to alternative viewing conditions. It incorporates spatial clarity as well as variety with moments of surprise, delight, and openness by glimpses across the atrium and multiple perspectives to objects from one gallery floor into another. Within the galleries, the staged internal slots and openings frame the essential spaces where the routes take the visitor through penetrated planes and surfaces that continually refer to what is being seen (Figure 3.11). The framed views to the exterior and interior spaces operate as an orienting device, where through them; one is constantly able to look back and forth on the routes traveled or the routes yet to come. The spatial organization of the galleries, hence, offers viewers cross-references, multiple vistas, and intimate and large-scale viewing to maintain the various requirements for displaying the collection of objects (Meier 1999). Such visual and spatial qualities of galleries have been pointed out in various critical reviews of the HMA. Gaskie (1984) emphasized how the panoramas from gallery to gallery and across the atrium provoke comparison. She describes how glimpses of yet-unseen objects around the galleries enhance the spatial quality and how within galleries, multiple vistas and cross references constantly return to the atrium. The architecture of the windows in the galleries, therefore, echo a sense of surprise as viewers could catch glances of objects through them from different locations. The multiple vistas provide an active and fluctuating perception of space from zooming out to a vast space to zooming in to a small setting; hence, the wall openings provide as exciting an experience as exciting as the objects. Goldberg (1983: 2), the architecture critic for The New York Times, elaborated on the observation of the objects from various vantage points, at both close and distant vantage points:

“But providing a sense of changing perspectives is the central theme of this installation, and it is done with considerable skill. Virtually every piece of art, from the tiniest teacup in the museum’s extensive decorative-arts collection, to the Rodin sculpture that sits at a central point in the second-floor galleries, is installed in such a way as to permit it to be viewed from different vantage points. … The wood-floored gallery rooms themselves are relatively neutral, with limited light and views to the outdoors, and they provide the necessary chance to see each work at
close range, without distraction. But the walls from gallery to gallery and the partitions within each gallery are cut away to provide window-like openings, permitting not just spatial variety but, more important still, an alternative view of most pieces at more distant perspective.”

![Figure 3.11: The HMA galleries](image)

The HMA archival note on 11/22/1996, as well, depicted that “internal window openings create spatial variety in the galleries by natural light, framed vistas, multiple scales, and glimpses into other galleries, the atrium and the outside.” Inside the gallery spaces, Shapiro portrayed, “vista windows allow visitors to see objects several rooms away, beckoning them to proceed further” (cited in Meier 2006: 288). Correspondingly, Irace and Fox (1984) addressed the spatial openings and wide doorways at galleries that take the visitor forward with views of forthcoming objects. Multiple vistas, she argued, amplify viewing perspectives for each object and generate new juxtapositions of bordering galleries, which could elucidate, in particular, the chronological organization of exhibition. With regard to the internal window openings and the grouping of objects, Maxwell (1984: 74) stated:

“It is noticeable that the absolute division of space within the plan libre has been modified by the introduction of internal window openings to create something more likes a series of rooms. The succession of smaller spaces has been tailored skillfully, perhaps too completely, to the specific objects of display and their appropriate grouping. All these more conservative features and the attention the architect has paid to detailed requirements of the brief, result in an environment which is compliant and accommodating. They no doubt do a great deal to soften the impact of a building which in its main features might appear doctrinaire...the patterns of regular square windows appears retroactive, a gesture towards the neo-classicism of Libera or Loos”.

In fact from the point of entering to the museum, Balfour (1984: 27) described, the viewer was positioned in a multiplicity of frames:
“Frames which turn spectator into performer, turning floor into stage, and wall into set. … Significantly it provides a new social setting in which to enjoy art. In the galleries where the aedicula enclosures are pierced by window like openings, the experience recalls the domestic roots of the art museum, creating an intimacy with the objects that enhances their pleasure. There is an unresolved conflict in all this. Meier writes that the building is designed to encourage people to experience the art of architecture as well as the art displayed. And this has led to two orders of architectural experience.”

Balfour continued that while the public architecture is dramatic and appealing, the gallery architecture performs a modest position to stay well scaled for the objects they enclose. The galleries and the atrium balance scales of each other as the ramp system mediates between them; however, despite the fact of the variety of spatial scales, they establish equilibrium between architecture and art. The association of the building and the object has been addressed by Meier (2006):

“If there are principles, they are principles that guide the relationship between the building and the work of art displayed within, the quality of the experience in relation to the works of art and the building context. If there are forces competing for attention in the design of museums, they involve the disparities between large-scale and small-scale objects … the goal is to understand and communicate the scale relationship. I believe that different objects should perceive in different ways. Yet, as an architect, one can not assume in designing a space that a particular object will always be there.”

Different objects, hence, are seen in different spatial settings according to the scale and lighting condition. Light within galleries, whether direct or filtered, natural or artificial, verify in tune by the needs of the displayed objects. The monotony of repetitious spaces is broken down by multiple scales and various heights of the ceilings, the walls, the columns and the alcoves. The intimate scales of the gallery spaces are in contrast to the enormous mass of the atrium they enclose. The design of the rooms within the rooms creates intimate rooms within larger rooms (Figure 3.8) and carries out the same intention of multiple scales to punctuate the galleries and to provide “the intimate-scale viewing of the paintings and sculpture” (Cassara 1997: 325). Similarly, Fox (1983) mentioned that the rooms within the rooms allocated the viewer to perceive objects “in new interrelationships and from varied vanishing points.” In fact, the spatial scales and the tension, Piano mentioned, are the significant features of the HMA: the building is not static, and “it has life and air” (cited in Loos 2005: 2).
Thus, spatial variety is created in the galleries by natural light, framed vistas, multiple scales, and a glimpse into other galleries, the atrium, and the outside. Meier referred to the spatial variety of galleries as the dynamic interaction of viewers and installation that enliven the spaces: “We tried to highlight each piece through wall and background color, scale, the use of platforms and vitrines – to show it in a way that makes people want to look at it. The viewer’s perception keeps changing. It’s not a static encounter but a sequence of events.” (cited in Fox 1983: 105).

The internal galleries, however, have often been criticized for being articulated in a dominant architectural language. Fox (1983) described the HMA as more than just a social or public space, but also as a very architectural space where the crowded layout pushes viewers through the display space. Authors, such as Stephens (1987), noted that the galleries were sized in a too intimate mode that does not allow a long-distance view of the displayed objects. Balfour (1984: 27) argued while “viewing the art in the museum is enjoyable” it is “not as compelling as experiencing the architecture”.

Overlapping of Systems: “Where the Movement System is a Viewing System”

Meier discussed that the HMA is an introverted building that generates a connection between viewers and viewing the objects in order to underline the integral part of experiencing the museum as a socio-cultural event (Cited in Fox 1983). In fact, Meier (2006) illuminated the significant experience of being within the building of the museum as a social event, in which the system of movement system is also a system of viewing:

“Visiting a museum is not an experience dedicated solely to the viewing art. In a museum, one sees people, and one sees to the outside…spatial expression and of curatorial philosophy and what is interest me is a synthesis of the two… the design of a museum is often analogous to a city in terms of circulation. The museum is an urban experience made comprehensible by its organization, where the movement system is a viewing system…the essential urban dialogue takes place between type and incident, between public and private, between the city’s regular tissue and discontinuity…I believe it is possible to see my work as a sequence of investigations into the spatial interchange between public and private realms. The goal is to provide spaces for people to come together as social groups, spaces for individual contemplation and solitude, and for the flow between these two extremes. This interchange has perhaps its greatest potential for expression in the creation of the museum”.
The Notion of “Multiple Views in Displaying an Object”: Frank Stella

Meier’s notion of constructing multiple views in space and shifting perspectives is rooted in his interest in the visual arts and his conception about the built work as a ground for experimental perception (Galloway 1995). Fox (1983) emphasized while designing the Aye Simon Reading Room in 1978, Meier realized: “how wonderful it was to see a work of art close up and then move away and see it in another perspective”.

While studying at Cornell, Meier was required to take interdisciplinary courses in the fine arts and literature in parallel with architecture, and after graduating, during his early career in New York, he worked simultaneously as both an architect and an abstract expressionist artist. For a period of time in 1960s, Meier shared a studio with Frank Stella, who at that phase, was producing large scale works of hard-edged geometrical abstractions. Since then, the two friends have shared a persistent mutual intellectual and esthetic cross-relationship. Their cooperation could be symbolized in an exhibition titled “Collaborations: Artists and Architects,” organized by the Architectural League of New York in 1980. In various events, Meier has elaborated his thoughts and inclination for “multiple views in displaying an object” by referring to Frank Stella’s works (Galloway 1995: 6). In 1983, contemporaneous with the time of the HMA opening, Meier wrote an introduction for the exhibition catalogue of Stella’s “Shards” series and illuminated the complex quality of visual perception in the artist’s work:

“While Stella’s work has always been distinctly architectonic in nature, it is really only in the work since 1970 that he has dealt with space in a three-dimensional, confrontational way. In his shift to three-dimensional work, Frank Stella began to impinge upon and occupy what had previously been neutral territory: the space between the viewer and the painting. While addressing the nature of perception through the multi-layered complexity of these large-scale works, he discovered that the ideal point of view was in fact not singular but multiple.” (Meier “Thoughts on Frank Stella,” cited in Frank Stella: Shards 1983: 2-3)

Initially, Meier’s own method for the creation of “multiple points of viewing art” was visualized in 1977 in an exhibition installation for the New York School and again in the Frankfurt Museum
(Meier 1984). Here, Meier’s design of the installation for the exhibition of the New York School will be briefly addressed.

“Shifting Views”: New York School Exhibition, 1977

In 1977, within just a few weeks, Meier designed, constructed and installed temporary galleries for the New York School at the Empire State Museum in Albany, New York, for the artwork that depicted the reaction of painters and sculptors to the New York “cityscape”. The objects, some oversized nearly 30 feet in width, had varied scales, but the conventional sequence of gallery rooms could not sufficiently exhibit these range of sizes. Hence, the scale of partitions and appropriate viewing conditions become the major issues of exhibition design (Meier 1984). Meier articulated the perception and organization of the interior space in his lecture at Harvard University, Graduate school of Design, George Gund Hall, December 9th, 1980:

“At that time, in seeking ways to make the exhibited objects –some of them huge in scale – visible, we discovered that the ideal point of view was in fact not singular but multiple. In general, it is most desirable to be able to see a work close up, then to move away, then to see it again in a different context, then perhaps to get glimpses of it from a number of different perspectives.” (cited in Meier 1982)

To accommodate the works, Meier metaphorically considered the installation in galleries as an abstract microcosm of the city itself, a spatial condition for “the urbanity of the art on display” (Meier 1984: 223). Across the rectangle of the plan, the temporary partitions formed an urban landscape that provided a variety of features from which to connect the objects. Two wide major paths overlapped with four “streets” of narrower colonnade corridors (Figure 3.12). Towards the end, these four cut enclosed inside large cylinders. The white vertical surfaces became the major elements that defined space and reconstructed the tension of a metropolitan itinerary and directed the visual experience of space as Cassara (1997: 82) stated “[the white panels] stopped just short of the ceiling, which is simply painted black, and are cut out, perforated to frame passages that allow glimpses of fragments of artworks or sections of spaces.”
A sense of being both inside and outside, described Meier (1984: 223), was inherent in the galleries, as “the viewer was able to rediscover previously seen works from new perspectives and to take advantage of long axial views, glimpsed though window planes, and layered spatial relationships.” Galloway (1995: 6) pointed at opening walls: “The result resembled a three-dimensional collage of shifting views and fresh perspectives of the sort that open up during a stroll through the streets of New York; these multiple views, which revealed individual works in varying constellations, were further intensified by window-like openings in many of the walls”. Thus, the exhibition design employed an overall quality of visual continuity in the rigid existing layout and manifested multiple points of view.

The spatial principle of generating “visual shifting” in the New York School Exhibition was followed later, between 1978 and 1985, in Meier’s museum projects at the Frankfurt am Main Museum fur Kunsthandwerk and the HMA. Frampton (cited in Meier 2003) argued that Meier’s design of the Frankfurt Museum, which originated from four basic cubes, was related to the
basic spatial organization of the HMA, designed during the same period, structured around four squares in the plan. At the Frankfurt Museum in 1979, the spatial organization conducted the viewer throughout a prearranged didactic and evocative sequence of display spaces (Figure 3.13). By framing and referring to the displayed objects, the sequence of space allowed objects to form their own setting. In such an atmosphere, Meier (1982) invited viewers to perceive the art of architecture with the art displayed in it. The function of museums, Meier (1982) discussed, expanded from collecting, housing, and displaying objects to educating people during the Period of Enlightenment. The architect recognized these functions in the spatial qualities of both museums to offer viewers an ambience that encouraged both meditative and immediate moments of discovery during their interaction with the objects.

Figure 3.13: The Museum of Decorative Art, designed by Meier, Frankfurt 1979

Meier’s Formal Intentions

Certain design strategies of an architect establishes his formal design language and differentiates his design operation from others, Bafna (2001) stated. A number of authors (such as Rykwert 1984, Frampton 1991, Galloway 1995, and Cassarà 2005) have referred to Meier’s formal
language, which characteristically emphasizes geometrical order and modularity in the spatial and visual composition of his buildings. For instance, Galloway (1995: 2) referred to Meier's “distinctive geometric form-language, with its fugue-like variations on circle, square and rectangle” and the fusion between his interior and exterior spaces. Similarly, Giovannini (1996) described Meier's buildings as being simultaneously restricted through the grids and liberated and fragmented through the basic architectural elements and platonic forms that compose asymmetrical but balanced organizations. In the spatial organization of the HMA building, as discussed earlier, Meier applied certain design strategies to operate the architectural elements; one of these elements is spatial and visual layering, which, in fact, has been consistent across a spectrum of his buildings such as the Smith House (1967) and the Museum of Decorative Arts in Frankfurt (1985). To situate the HMA architectural design properties, therefore, one must return to the formal language of its design as an essential step towards a deeper realization of the morphological analysis to be carried out in subsequent of chapters.

Allen discussed how Meier’s career developed during the period of the re-evaluation of the modern movement in the late 1960s and 1970s, when Meier’s architectural language was principally the “clarity of basic geometry forms, white surfaces free of ornament, a feel for abstract form cultivated though contact with painting, and the idea of technical perfectibility based on progressive modernist principles” (cited in Meier 1999a: 12). Hence, Meier’s early works, with their abstract notion of space, the layered composition, and tectonic clarity established him as a modernist architect. Meier’s notion of modernism, Galloway (1995: 2) argued, has radically evolved from the rigorous geometries of Le Corbusier. However, Corbusier's lessons have been reevaluated with “a distinctive humanist vision” evident in Meier’s different operations that provide viewers “a touch of individuality”. In the case of the HMA, Goldberger (1983) noted that while “the imagery is as crisply modern as can be imagined”, Meier's modernism is “rich and sensual,” unlike the coldness and sternness of the Bauhaus’s. Meier’s art, of the spatial composition, Goldberger continued, transforms the roughness of modernist vocabulary into a “graceful and picturesque, even romantic” moment because the aim
is to create “a visually pleasing and subtle composition”. Fulvio (2006: 115) described the HMA as a synthesis of Le Corbusier and Wright’s formal languages and “Meier’s art box” which invites viewers to “an unusual trip in a spaceship of art” mostly with “the persuasive rhetoric of its celebrated ramp”. In the same way, Koshalek and Hutt depicted that the visual aesthetic of the HMA as a reflection of its architect’s devotion to the basic doctrine of modernist vital three-dimensional abstraction as well as classical thought (cited in Meier 1999a: 6). Similarly, Cassaràa (1997) referred to the building as a refined interpretation of the Le Corbusier’s design which is primarily rooted in the 1920s Modern Movement, when architecture called for “spatial effects in conflict with one another”. In the case of the HMA, these spatial tensions successfully reach equilibrium in the overlaying of volumes. Cassaràa continued that the HMA building is an elegant instance in architectural composition and complexity where there is “nothing but forms”.

**Phenomenal and Literal Transparency**

To better understand Meier’s formal intentions in the HMA, one must consider his debt to Colin Rowe. Authors such as Francesco Dal Co have pointed out the theoretical and methodological influence of Rowe on Meier’s design (cited in Meier 2003). Initiated by Rowe and Slutzky (1963), the concept of transparency is critical to an understanding of mid-20th century modernism discourses, in which the HMA is situated, such as the translation of the phenomenal transparency into an operative concept in the 1960s and 1970s architectural works and the legacy of the New York Five (Meier 1984). In fact, Meier (1997:12) has underlined this influence:

“It was in this [Smith] House that I began to work in a more consciously complex way with interpenetrating spaces and transparency, partially influenced by the Rowe and Slutzky distinction between literal and phenomenal transparency. These attributes have been an integral part of my architecture ever since”.

Written by Rowe and Slutzky in 1955-1956 and first published in 1963, the article “Transparency: Literal and Phenomenal” viewed modern architecture through the lens of Cubist art. In this article, the construction of transparency was examined by Rowe and Slutzky (1963)
as the simultaneous perception of a form as an object and its relative position to other objects by an observer as the active agent in decoding relations. Earlier, transparency was cited by Kepes and to a lesser degree, by Moholy-Nagy as not only an inherent quality of a substance but also an inherent quality of an organization. In the Language of Vision, Kepes (1944: 160-161) delineated the notion of transparency in this way:

“If one sees two or more figures overlapping one another, and each of them claims for itself the common overlapped part, then one is confronted with a contradiction of spatial dimensions. To resolve this contradiction one must assume the presence of a new optical quality. The figures are endowed with transparency; that is they are able to interpenetrate without an optical destruction of each other. Transparency however implies more than an optical characteristic, it implies a broader spatial order. Transparency means a simultaneous perception of different spatial locations. Space not only recedes but fluctuates in a continuous activity. The position of the transparent figures has equivocal meaning as one sees each figure now as the closer now as the further one”.

In his book the New Vision, Moholy-Nagy (1947: 63-64) depicted the concept of transparency in modern architecture in this instance:

“A white house with great glass windows surrounded by trees becomes almost transparent when the sun shines. The white walls act as projection screens on which shadows multiply the trees, and the glass plates become mirrors in which the trees are repeated. A perfect transparency is the result; the house becomes a part of nature.”

The notion of transparency, Rowe and Slutzky (1997:23) defined, is a “simultaneous perception of different spatial locations” that permits interior and exterior to be seen simultaneously. Through transparency, locations are assigned to several systems of reference and thus categorized as literal transparency and phenomenal transparency.

Literal, or real, transparency is a quality of the substance acquired through the viewing of a translucent object. Therefore, it deals with the optical and physical properties of materials. Such transparency is about the primary meaning of an object and not its figurative or metaphorical meaning and thus deals with a nonfigurative and the most obvious meaning of “a deep, naturalistic space” (Rowe 1976: 166).
Phenomenal or seeming transparency is the result of simultaneity, interpretation, and overlapping realized through two- and three-dimensional organizations; therefore, it permits the imagination to go through the abstraction of an object or space by deriving it through the mind rather than through the senses. It demonstrates the association among elements such as presence and absence in a spatial enclosure:

“[Phenomenal transparency suggests] overlap and interpenetration as formal conventions, metaphors, in which there were no transparent materials, no see-through bits, but in which geometries submitted to variations through shift and rotation to connote spatial complexity”, Rykwert (cited in Meier 1984: 14).

Comparing the space conveyed in Cubist paintings, Rowe and Slutzky (1984: 39) discussed and differentiated between them, claiming that Cubist paintings embody multiple readings of space since different views of the same object, such as the frontal and side views, are simultaneously represented in multiple images on several planes with different spatial depth. Such co-existence and overlapping of images emphasizes motion. Through the opposition between layers (i.e. vertical and horizontal, internal and external), a space supports the idea of an active participant (Figure 3.14). Cubist presentation of an object from multiple points of view creates the experience as a condition of the virtually mobile observer. To Rowe and Slutzky, Cubist paintings which embody surfaces in the third dimension, distinguish figure and ground and therefore create a deep space to in which to generate literal transparency. However, the paintings which embody a series of fluctuating planes that flatten the third dimension and could simultaneously belong to both the front figure and the background without distinguishing between them, express a shallow and abstracted space for the purpose of creating phenomenal transparency. In fact, phenomenal transparency, Rowe (c1976: 166) argued, could be realized once a painter looked for “the articulated presentation of frontally aligned objects in a shallow, abstract space.” Gestalt psychological and optical concepts were implemented by Rowe for reading the architectural work and questioning the relationship between perception and conception, vision and mind. While in a deep space, a viewer has a sequential experience of
spatial points and recognizes expansion of the interior volume to the façade at right angles; in a shallow space, the viewer has a synchronic experience of spatial points.

Figure 3.14: Transparency as a simultaneous perception of different spatial locations and as an inherent quality of substance or organization  

a) Le Corbusier, Still Life, 1920, a purist image built up in layers in relation to the Cubist tradition;  
b) Bernard Hoesli’s decomposition of the 2D formal organization of the image into actual planes and layers

Promenade Architecturale

Through the lens of transparency, the designers look at the architectural space as a painterly entity like a layered composition of a Cubist canvas. The architects of Meier’s generation, Rykwert argued (cited in Meier 1984), were interested in Cubism’s formal discipline and model of space, which depended on the movement of the viewer and addressed representation on a plane mostly by inferring sculptural objects. The cubist technique became the iconic object of Le Corbusier’s pictorial method for experiencing architecture through what he called “promenade architecturale”, “which in fact inverted the cubist manipulation by becoming a way of making and of reading the three-dimensional object, though derived from the recording of the multiple-viewing eye on a picture plane” (Rykwert, cited in Meier 1984: 14). Hence, in architecture, the notion of phenomenal transparency initiated promenade architecturale in Le Corbusier’s early works. Far from being frontal, his compositional arrangements have a tendency to organize external and internal surfaces in a series of planes at right angles to the direction of the viewers’ movement which generates a three-dimensional machine to move around and within. Le
Corbusier’s principles of spatial organization, formal relationships, and spatial effect exposed multiple interpretational possibility dialectic between corporeality, and deep and shallow spaces.

The notion of promenade architecturale, articulated by Le Corbusier, provides an ordered route into the building with a series of memorable experiences for a moving viewer. Influenced by Le Corbusier, Meier’s designs characteristically construct a promenade architecturale through opaque or transparent and closed or opened spaces. In fact, Meire’s art and architecture represent modes of inquiring about the spatial perception and experiment. These modes have been clearly manifested in the design of the HMA through the myraid spatial experiences and sequences of movement. Meier (1980) described how his designs seek to launch a coherent system of surface and volume and operate changes of scale and view, movement and stasis and forms in light; he also articulated his obsession with a space that is organized and defined by light and human scale. Specifically, he addressed the constant notion of architectural promenade, spatial sequence, and vital quality of architecture in his work as it contains humans and depicts space they move through. To Meier, Tafuri (1976) noted, the clarity of organization, circulation systems and access points are basic substances of design, a complex web of relationships that lend credibility to his architecture. Similarly, Cohen read Meier’s works “as the ongoing displacement of the border between the order of repletion -of the lexicon of forms and the details of construction- and the order of the differentiation of itineraries, vistas and the surfaces that envelope a building” (Cited in Meier 1999a: 34).

Thus, the figurative sense of phenomenal transparency embodied in Le Corbusier’s architecture influenced Meier’s compositional systems such as:

“The promenade architecture, the extended route of pedestrian movement through the space that brings the view into contact with a series of “frontally aligned objects” that can in turn be reconstructed into an imaginary picture of the building’s structure simultaneously apperceived” (Allen, cited in Meier 1999a: 12).
Consequently, objects that cannot be instantly sensed become perceptible after a while by mental reconstruction. Allen argued that the notion of promenade architecture is advanced more clearly in Meier’s projects such as the Athenaeum, which is visually associated to cubist composition:

“Planes are presented to the viewer sequentially, and the movement of the viewer causes them to fluctuate ambiguously in space. As the visitor moves through the building on the carefully choreographed route, deep vistas alternatively open up or collapse into shallow tableaux”. (Allen, cited in Meier 1999a)

In Meier’s designs, Allen (1999) recognized the tendency towards frontally-layered organizations, which, through sequentially-ordered parallel planes and promenade architecturale, can be linked to the notion of phenomenal transparency. This notion will now be discussed in more depth.

**Layering: Frontality and Deepness in the Picture-Plane**

In the HMA building, the study proposes the notion of spatial layering as a key design instrument for the spatial arrangement of planes in depth that can be simultaneously perceived and characterized by sequential organization. Rykwert commented about the “layering of planes”, pure forms and the glazing surfaces which present Meier’s formal intentions for the HMA (cited in Meier 1984: 21-23). The “rich layering” of the HMA, the internal volumes has been demonstrated in Meier’s earlier works by “the hierarchical patterning”; however, Rykwert continued, in the case of the HMA, this process becomes more essential “because the program calls for a building whose formal qualities become part of the spectator’s experience”.

Within the spatial organization of the HMA, internal volume of galleries is defined by a series of thin planar surfaces. In fact, a variety of viewing conditions can eliminate, reduce, or supplement observing or relating objects in galleries. The most involved elements of display enclosure are “walls, screens, showcase, ceilings and floors” that directly shape what a standing observer sees in the galleries (Brawne 1982: 38). While within a small gallery, an extensive part of the viewer’s field of vision dwells in the “vertical rather than horizontal surfaces”, in large open spaces, the
unified planes of the floor and the ceiling turn into dominant elements, according to Brawne (1982: 39). In fact, it is notable that at the same time, the field of vision is larger horizontally than vertically. The standard boundary of the horizontal angular sweep of the eyes of a viewer who does not turn the head has been illustrated in diagrams by Weston (1962). Although the overall field of binocular vision is 120 degrees, it is habitually not utilized since it is easier to turn the head than to lay both eyes beyond the limits (Figure 3.15). A viewer’s field of vision occupies a cone delineated by an angle of approximately 40 degrees. Within the base of a 40-degree cone at a viewing distance of 3 m (10’), Weston showed the size of a square that can be marked based on the distance between a viewer’s eye and the picture plane (Figure 3.15).

Figure 3.15: A viewer’s field of vision and normal limits of the horizontal angular sweep of the eyes without turning the head; the sectional diagrams illustrate the size of a square which can be perceived within a base of a 40 degree cone of vision based on the distance between the eye and the picture plane

In the HMA layout, the vertical formal elements are visually woven into a layered system in which spaces overlap, interlock, intersect, and sustain a sense of figurative transparency. Slices of space and the parallel organizations of surfaces provide a layered reading of the spatial organization of the HMA (Figure 3.16). One enters to the galleries to encounter a layering of
the planes, which stimulates a sense of frontalization in depth. At first glance, each gallery is perceived through a pictorial reading of spatial partitions that contour the frontal image of an architecture without depth, similar to a Cubist painting characterized by frontality. Such a frontal viewpoint of the scene creates shallow and flattened spaces. Each of the frontal planar embodies an opening; therefore, while moving and looking through the first plane, one sees other planes lying behind. While the parallel partitions establish a sense of one direction and flatness, alongside them the deep space continuously exists. The layers of partitions are physically one behind the other and optically set one inside the other, all interweaving the spatial foreground, middle ground, and background. By moving through the galleries, the flattened space in the pictorial plane turns into volumetric depth through the perspective of the elements. Hence, in galleries, the flatness of shallow space goes hand in hand with the perception of depth in the picture plane. Such flatness in opposition to depth creates tension, complexity and ambiguity between shallowness and deepness of space and consequently suggests the phenomenal transparent organization as a main component of the visual and spatial quality of the HMA galleries.

Figure 3.16: A sense of frontalization in depth. The images emphasize the tension between the 2D picture plane and the 3D spatial layering within the HMA formal organization (which could be realized not only in the layers of gallery partitions but also in the atrium space)
To a viewer, the degree of depth and three-dimensionality of the galleries is clarified by the landscape of the columns and the partitions, which create a reference for the entire internal system of the galleries. Open windows break the arrangement of the layers and insert spatial depth in the main architectural axis marked by columns. An alignment of the chain of openings and lateral planes is perpendicular to the primary direction of movement and view, so it has an effect on the spatial connections. At the square galleries, Peponis (2005: 130) showed that visitors’ “visual fields are not only more direct than the paths of movement; they are also more clearly aligned to the underlying geometry”. In fact, the HMA spatial organization, Peponis (1993) noted, is comprised of a much richer system of visibility in the galleries than the system of movement. This system of visibility shapes foreground of objects and a background of other visitors who come into sight at varying depths in the visual field from the other galleries or the atrium. The spatial layout of the museum, thus, constantly creates an integrated experience of objects and other people.

It is notable that Giovannini (1996) characterized a significant frontality articulated by spatial linearity in Meier’s designs. To reach an intelligible organization, Meier’s designs mark a linear uninterrupted circulation spine or axis by primary architectural elements such as the spinal wall in the unbuilt Bibliothèque de France competition (1989), and the Jean Arp Museum I (1990) (Figure 3.17 a and b).

Figure 3.17: a) Bibliothèque de France competitions, 1989; b) the Jean Arp Museum I, 1990
An Embodiment of the Meier’s Formal Language: HMA

This section concludes by summarizing how Meier’s HMA design embeds spatial concepts that were current at that time. In varying degrees, the study noted how Meier’s arrangement of forms displays his inspiration from 1920s modernism and specifically Le Corbusier’s formal operations, reflected in the “white” architecture of the HMA and its rational composition through geometrical and proportional operations. It has been shown that the interior spaces of the HMA exhibit the majority of themes and operations of Meier’s formal design language. The discussion addressed issues such as the interplay of the rational geometrical order of parti and grid with a freely-planned exhibition layout; the tension between a finely woven exhibition space and a prominent large scale fulcrum: the atrium; and the arrangement of the rooms within the rooms, the presence of cross views and the desire to situate objects within multiple points of view and multiple scales of comparison. The principles have been linked to a widely shared understanding of the pictorial effects of Cubism and the discussion surrounding the notions of phenomenal transparency and spatial and visual layering. These notions have been coupled with a specifically modern rendition of the idea of promenade architecturale and its development into a viewing-moving experience appropriate to the essential function of the museum.

Furthermore, the section confirms ways in which the architectural design of the HMA locates multiple vistas and cross-views at the center of attention and in unique ways. For instance, cross-views were situated in the middle of the walls through panel openings; another illustration was their positioning on an axis. Circulation, hence, was from the side and corner of the rooms, which provided oblique views to the objects. This arrangement conflicted with the traditional way of viewing objects in galleries, which was a frontal display of objects and circulation on axis tied to frontal cross-views.
To understand the spatial organizations of the galleries, one must review the curatorial strategies and intentions underlying the collection of objects at the HMA must be reviewed. The following section, therefore, will explore in depth the curatorial principles inherent in the HMA.

3.2.2. HMA 1983: Curatorial Principles

The purpose of this section is to identify how the curatorial method has addressed the process of selection, classification, and presentation of objects in 1983. The study focuses on the galleries of the second floor of the building, which exhibit the permanent collection of the HMA. The section begins with a brief introduction of the nature of the collection and then moves to the curatorial strategies applied since the opening phase of the HMA in 1983. The discussion addresses the curatorial intention and design of the galleries and follows with an account by the critics. Very few cases document any evidence of the curation of the HMA has been publicized. The major explicit curatorial statements identified by this study are based on the HMA archival analysis of the internal correspondences among the HMA curators, educators, and directors during different time periods. In addition, to provide a greater understanding of the curatorial intentions, the study has relied on recent interviews with current curators and exhibition designers at the HMA.

The Objects: the HMA Permanent Collection

Because of its permanent collection, the HMA is deemed one of the principal art institutions in the Southeastern United States. From its initial collection of thirty paintings in 1928, the HMA permanent collection has grown to encompass a number of bequests and acquisitions of paintings, drawings, prints, photographs, sculptures, and design objects. The first significant donation to the permanent collection was received in 1949 from Atlanta collector J. J. Haverty. Since then, the HMA has launched a series of focused collection-building programs to enrich its collection.
The HMA archival documents reveal that the permanent collection rearranges and displays on a regular basis. Some of the letters indicate that installations should change at least once a year to rotate displaying works with the intention of exhibiting a full range of collections over a two-to three-year period. The letters underscore the importance of this action for the HMA educational purposes, since at times it has been unable to exhibit the full range of works in its permanent collection due to the space constraints. Rearranging the collection occasionally could also maintain the attention and interest of frequent visitors who come to see new works in the permanent collection.

Today, the permanent collection of the HMA encompasses over 11,000 works of art and provides significant holdings of Decorative Art, European Art, an extensive anthology of 19th and 20th century American Art, an increasing the collection of African American Art, African Art, Folk art, Photography, Modern and Contemporary Art (“Atlanta Staff” 1994: 5-6). In fact, “a walk through the High Museum of Art’s permanent collection is a journey through time and across continents,” as has been stated by the HMA staff. Below, each collection is briefly summarized to introduce the diversity and overall nature of the objects in the permanent collection.

African Art

This collection encompasses a range of African art pieces from ancient to contemporary, including over 240 pieces from The Richman Family Foundation which have made the HMA a regional center for African art and artifacts. While a curatorial department was dedicated to African art since 2001, gallery spaces have been dedicated to African Art collection since 1977 where the highlights consist of: Baule Artist, Ivory Coast “Elephant Mask,” early 20th century; William Kentridge, “Pond at Deer Acres,” 2002; Mangbetu Artist, “Ceramic Vessel,” ca. 1900.
American Art

This collection holds art works by prominent 19th and 20th century American artists and includes significant pieces from The J. J. Haverty Collection. Highlights are composed of: Joseph Rodefer DeCamp, “The Blue Mandarin Coat” (The Blue Kimono), 1922; Ben Shahn, “The Church is the Union Hall,” 1946; Albert Herter, “Portrait of Bessie” (Miss Elizabeth Newton), 1892.

Decorative Arts

This collection, in the southeastern United States, contains the most comprehensive review of American decorative arts with over 2,000 objects from 1640 to the present with the inclusive Virginia Carroll Crawford Collection of American Decorative Arts in 19th century. The Decorative Arts collection turned into one of the HMA's interest by the bequest of Edward McBurney in 1958 and later has achieved national significance with the ongoing extension of The Frances and Emory Cocke Collection of English ceramics. Today, the collected works embody one century of Decorative Arts masterpieces with significant artistic quality and history such as: Gerrit Thomas Rietveld, “Red/Blue Chair,” 1922-1923, designed 1918; John La Farge, “Architecture” (stained glass window), 1903-1904; Louis H. Sullivan, “Sconce,” 1907.

European Art

This collection comprises significant European art pieces from Renaissance and Baroque artists (including Bellini and Tiepolo) to 19th century French impressionism (such as Monet and Pissarro). The collection includes a gift of twenty-seven Italian paintings and three pieces of sculpture from the 14th through 18th centuries, donated by The Samuel H. Kress Foundation which contains master pieces such as Giovanni Bellini's Madonna and Child, Tommaso del Mazza's Madonna and Child with Six Saints and Giovanni Battista Tiepolo's Roman Matron's Making Offerings to Juno. Highlights in this collection include French paintings by masters like
Camille Pissarro, Jean-Baptiste, Camille Corot and Claude Monet such as “Houses of Parliament in the Fog”, 1903.

_Folk Art_

This collection, one of the major curatorial departments of Folk Art in North America, is distinguished as one of the most significant public repositories of contemporary American self-taught art in the world. Its highlights consist of: Nellie Mae Rowe: 100 pieces donated by art patron Judith Alexander in 2004; Felipe Benito Archuleta, “Untitled” (Lion), 1977; Mattie Lou O’Kelley, “Yard Sale,” 1979.

_Modern and Contemporary Art_


_Photography_

This collection holds images by American and European masters from 19thand 20thcentury, including the most comprehensive and significant collection of Civil Rights Era photography in nation. The collection is established in 1974 and its highlights include: Jeff Wall, “Night,” 2001; Emmet Gowin, “Edith, Chincoteague, Virginia,” 2001; Walker Evans, “Roadside Gas Sign,” 1929.

Therefore, this part will describe the components of the HMA permanent collection and its diverse nature, ranging from furniture to paintings. After this concise presentation of the collections, the next section will discuss the HMA curatorial strategies for classifying and displaying the collection of objects in 1980’s.
The Objects Arrangements: The HMA Opening Installation – 1983 to 1996

Initially, the permanent collection was installed by Meier in 1983 with limited participation from the staff as cited in the HMA archival notes on Meier Building Permanent Collection Reinstallation Brief–Philosophy on 3/27/02. Later, to accommodate more objects, the HMA curators inserted a few more display cases, platforms, and walls that maintained a close link with Meier’s formal language. In fact, the installation on the second floor remained there, with a few later additions, through 1996.

For the second floor galleries, the focal point of this study is the architect designed platforms and cases displaying the decorative arts collection as well as a set of non-structural partitions that were straight, L-shaped, or U-shaped. The openings in these partitions created framed and multiple views of objects in adjacent spaces and further than them. In fact, the viewing condition of the HMA gallery installations could be interpreted by the curatorial ethos pioneered in MoMA, such as the d’Harnoncourt installation in 1946, which provided the viewer with a series of overlapping vistas (Staniszewski 1998). As discussed earlier in the previous chapter, this had to do with the creation of multiple vistas in order to encourage the simultaneous perception and comparison of objects according to alternative frameworks. The explicit intent of these installations at MoMA was to suggest that objects are not perceived only within a single classificatory system but could be seen and interpreted in relation to the overlapped patterns of distinct classificatory systems.

Curatorial Narrative and Description

For the first installation of the HMA galleries, the major part of the second floor was dedicated to the permanent Decorative Art Collection, which covered a broad range of art pieces from porcelains to sculptures and paintings. The Decorative Arts Collection has been the strength of the HMA; therefore, it occupied an essential position in Meier’s installation of the collection. Formerly, because of the lack of exhibition space, the HMA agreed to warehouse many of this
collection, and it was not until the opening of new galleries that the collection could be exhibited after a long wait. Furthermore, the HMA made the first systematic effort to form a comprehensive art museum collection of American Nineteenth Century Decorative Art, ranging from Tucker porcelain to commissions by Frank Lloyd Wright.

For the classification of the permanent collection, the HMA curators arranged, narrated, and displayed art pieces in chronological order by means of genre by genre, medium by medium, and country by country (Fox 1997). In fact, the vertical circulation of the HMA to the upper-floor galleries took visitors almost chronologically through the history of art. Over the ramp, one had vertical views of the collection on different floors: the twentieth-century on the top floor, the nineteenth-century on the third floor, and non-western art on the second floor; which provided “an unconventional way of perceiving and contrasting three different periods of art.” (Cassara 1997: 318). Based on Choi’s doctoral thesis (1991), the second-floor galleries displayed 880 objects, classified into 19 categories, in the Decorative Art Collections during May to June in 1990. The HMA archival notes indicated that within the second floor galleries, the Virginia Carroll Crawford Collection was one of the most impressive parts of the exhibition. The Crawford collection assembled the highest quality Nineteenth Century furniture, silver, and ceramics in the nation, and a number of objects in the collection were shown at international exhibitions.
The gallery layouts at that time were narrated through the following sequences (Figure 3.18a):
The opening galleries, titled by donors, embedded the masterworks from the patrons’ collections, such as the Frances and Emory Cocke Collection, which made the purchase of Eighteenth Century English ceramics possible. For ease of future reference to the galleries, the study considers the manner in which each gallery has been assigned a numeral label in the HMA documents. In one case, the Figure 3.18b illustrates the visitor guide plan with the numeral labeling of galleries. The galleries from 203 to 207 outlined the years between 1830 and World War I where the collected objects encompassed the industrialization of the United States through the 1850s; the influence of architects and architect-designed furniture from 1850 on; the triumph of mass-manufacturing and mass-marketing; and the revolution against the same in the late Nineteenth Century (Peirce 1999). The core of Gallery 203 displayed Classicism 1830s, with significant pieces of Classical period decor in the Crawford collection such as: five
classical silver pieces of “a tea set” by Edward Lownes and “a pair of lamps” by Argand manufacturer. The gallery, in fact, was an introduction to other galleries and what was to come. Gallery 211 embedded Gothic & Elizabethan Revival, 1845th – 1865th, with objects in silver, iron, glass and wood such as “a center table” of rosewood by Andrew Jackson Downing and girandole mantel garnitures by F. Shawn. Galleries 204.a and 204.b covered French Classicism, Renaissance Revival and New Classicism, 1855th – 1875th, displayed objects such as the “tall clock” by Gustave Herter; a “cabinet” by Daniel Pabst and luxurious “mantel garniture” retailed by J. E. Caldwell and Company. Gallery 204.c displayed objects from Innovative Furniture while Gallery 204.d represented Rococo Revival pieces crafted during 1845th-1865th. The displayed objects consisted of “a sofa and four sides” by Henry Belter; a luxurious Tiffany “tea and coffee set”; a silver “hot water kettle on stand” possibly by George Sharp; and an “Etagere” by Alexander Roux. A detailed account of Gallery 204 layout will be addressed later in the last analytical chapter of the thesis. Gallery 212 was titled Cast-Iron Furniture and displayed objects from the industrialization period during 1850th -1900th. The collection contained a selection of cast iron furniture for indoor and outdoor purpose by various manufacturers. For instance, garden furniture included urns, benches, and armchairs with gothic patterns. Gallery 207.a contained Art and Craft Movement with a focus on Art Nouveau, 1900th - 1915th as well as on furniture pieces which were evolved form of the architectural practice. The displayed objects ranged from a “rug” by Gustav Stickley with geometrical pattern design to “elevator grill with decorative plate” designed by Louis Sullivan for the Chicago Stock Exchange Building; and to the early Modernist innovations of Frank Lloyd Wright’s “armchair” and “window”.

Thus, within the second floor galleries, as shown, the HMA permanent collection held and exhibited a diversity of objects in the 1983 installation.
An Account of Critical Reception

The HMA installation has drawn considerable attention and provoked different reactions addressing either positive or its negative aspects. Memos of those years indicate that the staff adjusted to the building and found no reason to modify the gallery partitions although the spatial dividers had to be augmented for some exhibitions (Freeman 1989). Vigtel stated that Meier “broke some of our carefully developed chronological continuities—perhaps putting a late 19th-century American in a group from the mid-19th century” however he argued that “but he taught us how to take advantage of the vistas and the spaces” (cited in Freeman 1989: 53). For instance, one of the curators of American art at that time, Judy Larson, described how curators took advantage of applying vistas for the installations as “there are certain walls that have vistas, and you learn where they are. You place key pieces there, and they are terrific”. However, Larson pointed out the limitations imposed by the non-linear sequence of space in galleries “if a show requires one-two-three order, it just doesn’t work here. You have to play around with materials” (Cited in Freeman 1989: 53).

Addressing the architectural properties of the display layout, David Brenneman19, the current HMA Director of Collections and Exhibitions and Frances B. Bunzl Family Curator of European Art, explained that the columns had a sculptural presence in the galleries that at times could limit the installation of certain art pieces (from an interview with the author: May 2nd, 2008). In fact, the columns have been occasionally criticized due to limiting the flexibility of galleries or obstructing one’s vision (Fox 1983: 105). The fact that most of the display layouts are interrupted by the grid of freestanding structural columns, has been also stated by Marjorie Harvey20, the current Manager of Exhibition and Design who has been involved with the HMA alteration since 1982. According to Harvey: “At first I saw a lot of columns and windows, more architectural elements than gallery space” (Cited in Freeman 1989: 53). She continues “but space for the artwork became apparent when we started placing it”. One of the curators of the HMA stated that columns provided more installation options for objects as “there are usually
three positions to hang artwork – the center and the two sides… the new scheme acts to frame the visitor’s vision and give each piece more emphasis” (cited in Fox 1983). At the same time, columns punctuated the walls and layout and produced the monotony of repetitious spaces. One of the curators of 20th-century art at that time, Susan Krane, noted that galleries installed outsized objects, leading to the spatial constraint of galleries. According to Krane “there are times when you wish you had another wall with a greater expanse for certain kinds of large-scale works” though she continued that “it’s possible to manipulate the space differently than one would expect, and it is much more flexible than I had thought” (Cited in Freeman 1989: 53). After his installation at the HMA, Clark Poling, a guest curator, referred to his exhibition on Kandinsky’s Bauhaus work, which was initially planned for the rigidly linear experience of the Guggenheim and noted that “progressions and subcategories set up in the show in New York may have suffered in Atlanta but many individual works looked better at the High” (Cited in Freeman 1989: 53). In fact, he stated that the various types of space made it possible to distinguish specific works in more efficient ways.

The interaction among the contained and the container at the HMA has been addressed by a number of critics. For instance, Cassara (1997: 326) acknowledges the architect’s installation of decorative arts specifically designed with the intention of displaying each object to show off its best attributes. He notes the ways in which Meier emphasized on objects by perspectival vistas and views through framed openings. An architecture critic, Goldberger (1983) comments on the HMA galleries in the New York Times during the opening months. While he acknowledges that architecture could be neutral for displaying art, he notes that in this instance architecture actively promoted the viewing of art. The quality of galleries, Goldberger (1983: 2) recognizes, “while not spectacular, are the true heart of this building - they are not an afterthought, a series of leftover spaces into which pictures can be tossed, but seriously conceived rooms, full of an understanding of the needs of art”; as alongside the complex white spaces, the rich colors of objects play off. To him, the HMA architect is “one of the few architects practicing today who
seems not to be threatened by painting but to love it - and is able, even eager, to enter into a dialogue with it”.

Similarly, Irace and Fox (1984: 19) noted the diversity of the viewing of objects in galleries as “multiple vistas increase viewing perspectives for individual objects. They also create new juxtapositions through adjacent galleries, which can be especially illuminating in chronologically-arranged exhibitions”. Furthermore, the authors have commented on the spatial isolating and grouping of objects as the HMA curators were able to “communicate intellectual concepts by isolating and accentuating groups of works in the discreet spaces formed by the alcoves, projecting walls and columns”. The authors, for instance, noted that the different heights of the ceiling has modulated the scale and distinguished between distinct objects and thus created esthetically enjoyable installations. Correspondingly, Carol Thompson, the current Richman Family Foundation Curator of African Art at the HMA, described how the Meier installation design in 1983 was characterized by numerous permanent platforms and extensive casework in the galleries and how the variation in spatial scale in the galleries could provide different installation options (from an interview with the author: April 13th, 2007). For instance, Thompson stated that within the rooms within the rooms organization, one walks in the larger circle within a wider scope of the collection and then steps inside of the spatial core to focus more intimately on the specific objects. She made an analogy between a seashell and the rooms within the rooms configuration containing a spiral line path from the outside to the inside.

One of the HMA curators of 20th Century art at that time, Peter Morrin, referred to the radical points of view in the galleries, mentioning the controversial design of the HMA which “has significantly broken with the fifties and sixties notion of the clean, white, infinitely flexible space. The spaces here are charged, dynamic. There is a forcing of groupings that puts pressure on the curator, but in the best possible way” (cited in Tighe 1983: 148).
In contrast, several authors are critical of the manner in which the architecture overwhelms the art. Freeman (1989) admitted that while Meier’s distinctive hand is evident in the vital galleries as well as the public spaces, in some respects, the building does limit curatorial choices and “dictates what can be shown and where”. Furthermore, other issues such as the sunlight steaming in from the atrium and windows to the exhibition spaces have been criticized, so the windows had to be covered with fiber glass screens. On the other hand, the natural light of the HMA galleries, Vigtel claimed, gave the galleries an “esthetic and psychological” advantage alongside the curatorial requirements; as curators “have learned to compensate and accommodate, tailoring exhibits to the existing light situations” (Cited in Freeman 1989: 53). In the bright galleries, Vigtel mentioned, curators either installed objects that were not sensitive to light such as marble sculptures, or they created interior screens.

Concluding the key comments here, it is evident that the dominant architecture of the HMA presented opportunities and challenges for the curation of the collection of objects. This issue is consistently reflected in the myriad comments of external critics to the internal documents and discussions of the HMA.

3.3. Synopsis: Tension between Architectural and Curatorial Principles

Introducing and tracing the emergence of the HMA, this chapter has demonstrated how the HMA architectural intention and design created a setting for the curatorial design of the exhibitions. The review of critics’ debates has revealed that while the HMA architectural properties have been remarkable, providing spatial qualities such as multiple vistas and the visual framing of objects, the architecture has created a sense of challenged for the curators for instance by the dominant presence of columns in the galleries.
To reconstruct the dialogue between architectural and curatorial design and intentions, it is possible to map the curatorial categories over the architectural plan. Tracing and mapping the HMA plans indicates that the architectural and curatorial layouts do not easily match and overlap each other, as shown, for instance, in Gallery 204 (Figure 3.19). In fact, the findings reveal a spatial tension as there are moments at which the curatorial subcategories break away from the architectural divisions of galleries to exhibit more objects in each category. This tension between the architectural layout of space and the curatorial layout of an object will be further examined in the subsequent chapters.

Figure 3.19: Mapping the curatorial categories over the architectural plan in gallery 204 during the 1983 installation

The discussion of this chapter, thus, has established the groundwork for further study and analysis of the HMA architectural and curatorial layouts. The next chapter will continue to trace the HMA history trajectory. In particular, during the past several decades, as shown in Figure 1.2, two major internal renovations of the building took place in the second floor galleries in 1997 and 2003, as the red bars in the diagram situate them. Thus, the study will explore the architectural and curatorial layouts of these two internal transformations.
Notes to Chapter 3

1 Isaac Boyd was the HMA first president.

2 Roland J. McKinney was hired as the director to organize the museum.

3 Parallel to the association, the women operated a tearoom on Peachtree Street called the “Blue Tea Pot” to cover the exhibition expenses such as insurance costs (“High Museum of Art” 1994).

4 Retrieved on February 12th 2007 from: http://www.high.org/overview/about/history.aspx

5 In October 1980, Beers Construction Company was chosen by the committee as general contractor among eight major Atlanta area contractors.

6 The second floor square footage, which is the focus of this study, is 21,385 square-feet (HMA Catalog on building statistics 2003).

7 In a broad level, the users of a building has been distinguished based on two types: inhabitants who have a degree of control over spaces in the building and visitors who do not have control rights over spaces in the building but hold the right to be in the building (Hillier, Hanson, and Peponis 1984).

8 Retrieved on February 12th 2007 from: http://www.high.org/overview/about/history.aspx

9 Granite panels of the same size and shape enclosed the base of the building and a girded window finished the building’s skin.

10 Since 1995, Michael E. Shapiro has directed the reinstallation of the HMA permanent collection, increased numerous joint ventures with national and international art institutions (such as the Louvre Atlanta partnership), and leaded the HMA expansion project for creating a “village for the arts”, opened in November 2005. At the HMA, Shapiro’s tenure began as Director of Museum Programs and Chief Curator, followed by a position as Deputy Director and Chief Curator. He was the Managing Curator of the exhibition Rings: Five Passions in World Art in 1996 and positioned the HMA for a corporation with the MoMA, New York. Under his leadership, the HMA hold significant exhibitions such as: Matisse: Masterworks from The Museum of Modern Art, 1997; Picasso: Masterpieces from The Museum of Modern Art, 1998; Pop Art, 1999; Impressionism: Paintings Collected by European Museums in 1999; Van Gogh’s Starry Night: Three Masterpieces from The Museum of Modern Art, 2000; Paris in the Age of Impressionism: Masterworks from the Musée d’Orsay in 2002; Michelangelo: Drawings and Other Treasures from the Casa Buonarroti, Florence, 2001; Verroccchio’s David Restored, 2003; Van Gogh to Mondrian: Modern Works from the Kröller-Müller Museum in 2004; The Art of Romare Bearden in 2005, and Andrew Wyeth: Memory & Magic. Shapiro, prior to joining to the HMA, was Director of the Los Angeles County Museum of Art and in 1984, he became Chief Curator of the Saint Louis Art Museum for six years. Furthermore, in the Department of Art at Duke University, Durham, NC, he held the position of Assistant Professor. From Harvard University, Shapiro earned his Master degree in Art History in 1978 and his Ph.D. in 1980. He as well holds a Master of Arts degree from Williams College in Williamstown, Massachusetts, and a Bachelor of Arts degree from Hamilton College in Clinton, NY. As one of France’s top cultural honors, he was awarded the Chevalier de l’Ordre des Arts et des Lettres (Knight of the Order of Arts and Letters) in November 2005 for

11 The HMA natural light is essentially admitted through skylights, ribbon glazing, clerestory tiles, and minimal perforation in the panel wall.

12 In Five Architects (1975), Frampton introduced Meier as one of the New York Five including Charles Gwathmey, Michael Graves, Peter Eisenman and John Hejduk. Characterizing works of New York Five architects, Frampton noted three fundamental compositional rules and formal principles: First, the tension between frontality and rotation where in Meier’s Smith house, Eisenman’s House I and Graves’ Hanselmann house, frontality and rotation are merged in an unsettled clash whereas Hejduk’s House 10 implies a strong frontality which does not exhibit in Gwathmey’s residence and studio. Second, formal completeness opposed to formal incompleteness where in the Meier’s, Graves’s, and Eisenman’s houses “an ‘erosion’ of the surface, or of the structure, or of the mass, or of all three” exist (Frampton 1975: 12). Third, augmenting the scale where it is complicated to estimate true size of work at first glance as it is exposed “without any anthropomorphic key.”

13 Brawne (1982: 38) distinguished between “the permanent envelope of the museum and the scenery which is used within it” to provide proper places for objects. Scenery, he described, could be an “enclosure for a life size sculpture, a whole room setting or installation of a complete temporary exhibition within a gallery”.

14 The donation included works by Chase, Tanner, Twachtman, and Hassam.

15 About the permanent collection installation, Ned Rifkin, the director of HMA during 1991-1999, pointed out the interrelation of the object, a frequent visitor and ways of viewing the object:

“And with a permanent collection, as opposed to the ever-changing roster of temporary exhibitions, one can develop a rapport with certain objects over a period of time. This means that you can visit, revisit, and continue to know and see over the years works of art that you hold special. This was an important experience for me as a young person to see the same work apparently change each time I would return to it. As I matured, I of course realized that it was not the painting that was different, but rather it was I and how I was looking at the work that had shifted” (“Atlanta Staff” 1994: 3).


17 This is based on the HMA collection fact sheet, retrieved on November 21st 2007 from: http://www.high.org/uploadedFiles/overview/newsroom/Collection_Fact_Sheet.pdf As well as the HMA website, retrieved on September 21st 2008 from: http://www.high.org/main.taf?p=2,1


19 Since September 2006, Brenneman is Director of Collections and Exhibitions at HMA besides to his role as the Frances B. Bunzl Family Curator of European Art, which he was appointed in 1995. Furthermore, he is the Managing Curator of “Louvre Atlanta” and through his tenure at the HMA, he has organized several significant exhibitions, including “Van Gogh to Mondrian: Modern Art from the Kröller-Müller Museum” (2004); “Paris in the Age of Impressionism:

20 Being involved in the growth of HMA for twenty-six years, Harvey has worked since 1982 at the museum (the Memorial Arts Building at that time) in different appointments as the museum’s Registrar, the Manager of Exhibitions & Design, the Director for Architectural Planning & Design (since 1999) and currently as Manager of Exhibition and Design.
Chapter 4: Architectural and Curatorial Trajectories of the HMA - 1997 and 2003

Outline

Over the decades, the interior spaces of the HMA have been gradually modified to meet the evolving needs and functions of the museum. This chapter focuses on the HMA second floor original interior layout designed by Meier as it stood in 1983, introduced earlier in the previous chapter, and then tracks two stages of the floor’s internal transformation: First, the layout for the permanent collection designed by Scogin, Elam and Bray Architects, completed in 1997 after the 1996 Atlanta Olympics; Second, the layout designed by Lord Aeck and Sargent Architecture, which opened in 2003 (Figure 1.2).

These two phases by no means exhaust the spatial history of the HMA. However, they represent major and systematic efforts to remodel the internal layout and have all been commissioned to prominent architectural firms of national reputation, rather than handled internally. The chapter inquires the manners in which architectural design of the modified layouts responded to definite curatorial programs within the confines of a given collection of objects, a given building shell and within the framework of Meier’s architectural language - or at least, their interpretation of it (Figure 1.3). By examining the curatorial narrative for classifying objects and the architectural principles for designing the display layouts through these years, the discussion aims to illuminate how the layouts of objects and of space are designed and addressed in response to different intentions during different time periods.

The chapter examines the two major re-installations of the HMA collection in 1997 and 2003, and is therefore structured in two sections. In each section, the study examines the
reinstallation design properties by specifically addressing both curatorial and architectural intentions behind them.

4.1. HMA 1997: Internal Transformations

This section discusses the re-installation of the permanent collection in the HMA second floor galleries in 1997, titled “Multiple Choices: Themes and Variation in Our Collection”, where the objects are organized based on the content of the curatorial themes. The study of archival documents reveals that the emergence of thematic organizational principles arose from the previous HMA reinstallation in 1996, titled Rings: Five Passions in World Art. During the period in which Rings was exhibited, the gallery layouts were planned in order to integrate objects from different curatorial thematic areas. Ned Rifkin, the director of HMA at that time, was convinced that the national and international attentions and reactions to thematically organized exhibitions in 1996 would make the thematic curatorial experimentation a worthy undertaking to carry through 1997.

The argument presented in this section includes three main parts. Part one critiques the curatorial description of the 1997 trans-departmental reinstallation in its two subdivisions first, by briefly reviewing the curatorial description of the 1996 Rings installation to provide the context of what happened a year later; and second, by thoroughly investigating the curatorial intention during the 1997 Multiple Choices installation. The second part of this section addresses the architectural description of the 1997 reinstallation in its two subdivisions: the architectural design intention and the design properties reflecting the architectural intent. The third part of this section reviews the evaluation of the gallery reconfiguration in the 1997 reinstallation. To conclude, the discussion will address how the curatorial and architectural strategies have addressed the 1997 trans-departmental reinstallation.
4.1.1. HMA 1997: Curatorial Principles

For a better understanding of the 1997 curatorial strategy for a thematic installation, one must return to a year before that. Furthermore, it is notable that in fact, the notion of the thematic classification of objects has been adopted by a number of renowned museums for their permanent collection as well as temporary exhibitions such as MoMA, and the newly separated Tate Britain and Tate Modern in London (Newhouse 2005). In the case of MoMA, the juxtaposition and thematic organization was exposed during the 1990’s in installations such as “ModernStarts”. For the celebration of the new millennium, objects from different curatorial departments were combined thematically as the guiding principle of the “ModernStarts” installation. The exhibition, which was re-installed in the old MoMA building, reviewed the nonlinear progress of 20th century art and subdivided the collection into "People," "Places" and "Things". Rethinking the display of its permanent collection, the transformation of MoMA galleries was an atypical shift from its formalist-historical model. The new installation juxtaposed objects of different periods and media and uncovered the possibility of alternative story lines that replaced the typical linear narrative of style and movement embodied in a chronological arrangement. One benefit of the chronological organization of a collection is that it underscores the evolution of art. However, the thematic reorganization has received mixed responses.

Given such background of the thematic grouping in museums in general and MoMA in particular, the 1996 and 1997 installations of the HMA maintain the same curatorial organization of objects. As an introduction, this discussion returns to the HMA with a brief review of the 1996 installation and an account of its criticisms.


Open from July 4 to September 29, 1996, the Rings of Passion: Five Emotions in World Art, exhibited at the HMA, was the focal point of the Atlanta Olympic Arts Festival, celebrating the 100th anniversary and the spirit of the Modern Olympic Games. The reinstallation intended to
exhibit the aims of the founders of the Olympics ‘arching over differences’ (Harding 1997). Thus, the Rings exhibition represented one hundred countries of all the major religions, cultures, and continents by gathering more than 125 masterpieces from public and private art collections around the world². Confirming the cross-cultural nature of the Olympic and the festival events, Michael E. Shapiro (1996: 24), the then Managing Curator, stated that the games and the art were a celebration of the achievement and passion of humanity, signifying the unification of nations and the oneness of human beings.

The title of the Rings originated from the five interlocking circles of the Olympic icon that represented the five major regions of the world. The Rings exhibition curator, J. Carter Brown³, classified the entire collection of objects thematically based on the five interconnecting fundamental human emotions: Love, Anguish, Awe, Triumph and Joy. The collection, designed so that each emotion corresponded to a visual theme and intersected with the other emotions, formed an interlocking pattern similar to that of the Olympic Rings. Instead of chronology, genre or geography, the curatorial intention was to embody a principle organized by theme onto the display stage to examine whether the grouping of objects could be structured according to the emotion they could evoke in the viewer⁴ (Smith 1996). In his curatorial narration, Brown² stated “Art conveys emotion”, and continued: “Give this great art a chance. Let it move you, thrill and sadden you. And realize that there are so many different ways of seeing art that you'll no doubt come up with plenty of your own ideas.”

A thematic classification, often, highlights the direct connection with a subject of art styles and not their historical periods; in the case of the 1996 reinstallation, it is important to note that the classification of objects not only intersects across chronologies and geography but also across styles. The rings created the contrast between a visible classificatory criterion such as time, geography, or style, and a hidden one, such as expression and feelings. In fact, the intention of the exhibition was to demonstrate that art pieces from around the world could stimulate comparable emotions in human beings regardless of their time, their origin, or their background.
The galleries exhibited a diverse and significant collection of art pieces that spanned 8,000 years ranging from classics of Rodin, Monet, Rembrandt, and Picasso to an Egyptian illustration from the Koran; Buddhist sculptures from Korea; pre-Christian designs from Ecuador; masks from Nigeria; Australian aboriginal art; Tibetan textiles; Greek Panathenaic Prize amphoras and Persian miniatures.

Within galleries, the viewer was supposed to walk with headphones and follow the soundtrack tour heard on a recording made by Brown. Therefore, the visitors’ exploration occurred according to a linear path described by the curator narrating sequence of galleries, Brenneman stated (from an interview with the author: May 2, 2008). In fact, the curator’s voice emphasized to the viewer that is essential to view the objects in a given numerical sequence:

“Greetings and welcome to Rings…walk with me now into the first room of the exhibition as I introduce you to a show that’s unlike any other that you may have experienced. I’ve selected art, literature and music to evoke the interconnecting human emotions. Rings, I call them…this is Rodin’s The Kiss, walk around the sculpture and enjoy it from every angle…throughout the tour I want you to feel free to stop the tour at any time…I’d like you to view the Rings exhibition in a special way. Quite high above each work of art you’ll notice a larger number. As we continue through the exhibition it’s important that you view the works in their numerical sequence…” (Cited in Harding 1997: 7).

During the 1996 Cultural Olympiad, Brenneman clarified, while the HMA third and fourth floors were devoted to the Ring exhibition, the second floor galleries continued to exhibit a chronological selection of the permanent collection (from an interview with the author: May 2nd, 2008). In fact, based on the HMA archival memos, the curators intended to “show as many works from the newly published Highlights book as possible”. The second floor galleries, therefore, encompassed objects from the most of collections: Decorative Art, African Art, American Art, European Art, Folk Art, Photography, Modern and Contemporary Art (Figure 4.1). The correspondences among and the sketches by the HMA co-curators indicated that during this period, the layout of the galleries was reconstructed with a few modifications, based on the following organizing principles.
Figure 4.1: The curatorial classification of HMA permanent collection in the second floor during 1996

Gallery 201 displayed European ceramics and had no change to space. Galleries 202, 203, 204 and 212 exhibited American & Decorative Art; and within their path, selected decorative art pieces were removed to provide more space for American Art. In Gallery 212, a wall was constructed as a boundary between the open atrium and this space. In Gallery 205.a, presented Decorative Art and Modern/Contemporary Art, platforms were removed expected the “Herter bed” platform, showed: Frank Lloyd Wright’s desk and chair, Jazz bowl and related 1920-1930 decorative works in case. In Galleries 205.b, 206 and 208 which displayed Modern/Contemporary & Photography, the existing cases and platforms were removed, and new walls were constructed around new cases. In Gallery 207 which put on view Modern/Contemporary Art, Photography, and Folk Art; the reinstallation removed the overhead grid, cases and platforms. Gallery 209 demonstrated African Art without any
modifications to space, while in Gallery 210, cases and platforms were removed to display European Art.

An Account of Critical Reception

Despite the exhibition’s public accomplishment, Brown was criticized by art historians and critics for his thematic grouping. One of the art critics during the exhibition days, Roberta Smith (1996: 1), criticized the unsuccessful curatorial strategy for displaying such great works of art:

“Blockbuster art exhibitions often excel at superficiality, but the centerpiece of the cultural events surrounding the summer Olympic Games, the exhibition [Rings] may set records for the most international art treasures traveling the greatest distances for the least curatorial purpose. Unfortunately, "Rings" really does prove once more, and in unusually extravagant form, that great artworks do not, by themselves, make great exhibitions.”

The main arguments presented by the critics essentially questioned the conceptual basis of classifying fundamental human feelings according to an invented narrative field and labels that did not hold other human passions. In addition, the critics pointed out that categorizing art into these namely five fundamental human passions only because of the five Olympic rings was a westernized view (Sydnor 1997). Underlying these questions, Smith (1996: 1) criticized the Ring curatorial classification and noted:

“These wonderful objects are constantly degraded and limited by the show’s simplistic universalizing and the inclusion of mediocre works that don’t so much arouse the emotions as pander to and manipulate them. … There’s a feel-good redundancy to these emotions that palls by the show’s end, leaving one hungry for art emphasizing less sportsmanlike but no less real passions like rage, fear, disgust, jealousy or despair”.

While the thematic groupings of the exhibition claimed to have elicited proper behavioral responses to the installation by the viewers, the framed objects in the vitrines left the viewer’s senses unsatisfied, as one could not response to the objects in multiple ways (Harding 1997: 7, 8). Criticizing the authority of the curator’s opinion on the viewer’s individual experience, Harding referred to a viewer’s one-way dialogue with the exhibition while navigating through the galleries with headphones and a soundtrack tour led by the curator. She argued that the
soundtrack animated a viewer’s spatial experiences, instructing and dictating “how to move through the exhibition”. While poetry on the gallery walls, the theatrical voice and musical collections created “ambience for each emotion”, she criticized all of these as a one-way dialogue between the object and the viewer since: “in short, we do not need to worry about how to respond to the work, nor do we need to think for ourselves as all our senses are satisfied”. Harding argued that the Rings installations “reflect a fear of any kind of conversation or direct communication between artwork and audience, or at least recognition of the need for multiple points of entry”.

Hence, the idea of the thematic organization was essentially criticized because of its logic and principle of classification of objects; for instance, addressing human fundamental feelings in an inadequate outline and further labeling emotions in a westernized mode and spatially ordering them in a rigid sequence.

Even though the success of the installation was a disputed, the Rings exhibit was the most comprehensive multidisciplinary event that had taken place in the HMA until that date. The exhibition became one of the most visited Atlanta art shows and generated more than 2,000 new museum members and three million dollar profits from admissions alone. Furthermore, it set the stage for a series of partnerships that bonded the HMA curators with major museums in a number of countries (Bowman-Littler 2004). Thus, the 1996 exhibition gained more institutional support and public attention for the HMA. The following discussion shifts from the 1996 Rings exhibit to the installation of 1997 and its curatorial thematic classification of objects.

*HMA 1997: the Installation of “Multiple Choices: Themes and Variation in Our Collection”*

In the post Olympics reinstallation of the permanent collection in 1997, which followed a similar curatorial strategy as the one in 1996, the HMA curators rearranged and classified the objects thematically (Korn 1997). The title of this exhibition was *Multiple Choices: Themes and Variation in*
Our Collection. The discussion in this section includes three debates pertaining to the 1997 curatorial principles: the curatorial design intention, an account of criticism, and the design properties intention, reflecting curatorial intent.

Curatorial Design Intention

In comparison to the traditional curatorial organization, *Multiple Choices: Themes and Variation in Our Collection* was a radically different mode of displaying the permanent collection. The reinstallation covered the highlights of African Art, American Art, European Art, Decorative Art, Modern and Contemporary Art, Folk Art, and Photography. The 375 objects, representing all genre, nationalities, and periods, were not classified in chronological order by genre, geography, and medium, but rather by an interdisciplinary organized thematic principle. The objects, organized and displayed in relation to the eleven broad themes, displayed on the second and third floors; seven themes on the second floor, including: The Museum (Multiple Choices), Compare & Contrast, Life in Art, Reflections of Faith, Culture and Commentary, The City Seen, The Human Figure; and four themes at the third floor: Identity, Nature, Abstraction and Multiple Voices. Each of these main themes was followed by into a series of more specific subdivided themes within galleries. The hypothesis of thematic classification order states that the presentation of objects in the context of universal themes might facilitate an understanding of art (Fox 1997). One of the HMA archival memorandums during that time stated the curatorial re-installation goals:

“Within a chronological sequence, the installation will exhibit objects in thematic groupings, posed and juxtaposed in ways that will provoke questions of identity, tradition, values, and moral relevance. Every aspect of culture is encoded in objects. Yet no object has intrinsic meaning. Its meaning, authority, and agency change according to how it is displayed – content and presentation can not be separated.”

The curatorial concepts and statements for the reinstallation during those years have been noted by Brenneman, who was the Frances B. Bunzl Family curator of European Art at that time. In HMA archival memorandum “European Art Department: Thoughts on the Re-
installation of the Permanent Collection”, Brenneman emphasized the departure from a linear to a more thematic progression of installation:

“Broadly speaking, the new installation should foster intellectual and aesthetic relationships between all objects in the permanent collection. … This would involve thinking about installations thematically and not strictly in terms of a linear stylistic or chronological progression.”

In fact, such curatorial intention could be associated with MoMA display strategies about establishing alternative story lines among objects of different periods and media instead of a linear narrative. Furthermore, Brenneman noted the following with respect to the thematic connection among objects inside the HMA collection:

“Many works in the collection would lend themselves to thematic groupings. For example, certain pre-1900 works of European art could be part of a predominantly modern-contemporary installation to stress the roots of early modernism in the late nineteenth century. It has been suggested that certain pieces of the European collection be placed along with certain American paintings and sculptures into a simulation of a 19th-century salon. European works might also be included in an installation that focuses on the importance of portraiture during the late 18th and the early 19th centuries. Such thematic installations would probably be more accessible to the public than current installations of the permanent collection, and they would have the additional virtue of stressing the strengths of our rather unbalanced holdings of European art”.

In the installation, the predominant curatorial motives underlying the design of the galleries were Multiple Choices and Compare & Contrast. These two organizing principles created crucial strategies for viewing different objects. According to this strategy, each object was viewed not as an individual piece but as a division of a collection and a theme. The curatorial intention was to offer a critical mode of accessing, viewing, and understanding objects by comparing and contrasting them with the other objects in the same theme; hence, they provided an understanding of that theme on a broader level. For instance, the curators planned to install pairs of objects to build the evident comparisons between and questions of artistry, taste, and authenticity. One of the HMA curators and the specialists in American decorative art at that time, Donald Peirce, commented: “[the exhibition] makes people look at things they wouldn’t have considered before and see them in a new and different way.” (Fox 1997)
While the themes governed the selections, the HMA curators paid attention to identifying and highlighting the collection and creating a focus for these objects as well. To open up space for displaying significant pieces, the curators decided to display sparser collection of objects and to design the flow for ease of circulation. At the same time, curators aimed to make the flow of circulation easy. In the HMA archival correspondences for the reinstallation of permanent collection, curators proposed to provide “multiple points of entry and wider access” with intention of enabling the viewer “to enjoy, appreciate and understand the value of actively looking at visual art”. Summarizing the “Questions we need to ask ourselves as we consider reinstalling the permanent collection” in one of the archival memos of the HMA, dated February 28, 1996, Rifkin articulated the strategy for the conceptual and perceptual accessibility of exhibitions by analyzing the reasons why visitors visit the HMA as an art museum, and what their expectations are with respect to the being in the museum, how curators could provide them “meaningful, rewarding, and enjoyable” experience, what the curatorial goals are “in placing an object on public view”, and further what the curatorial responsibilities are “to both the maker and the viewer”. One of the HMA archival memos in 1997 indicated that curators intended to create a way for the layperson to understand the concept of the installation quickly and to find accessibility to the museum simple; for instance, they considered using Decorative Arts collection to supplement areas and emphasize certain aspects. The ambition of creating free and multiple physical accesses to the art has been articulated by Shapiro in 12/4/96 minutes of meeting: "Our hope is that visitors will be able to access the collection at a number of different points, rather than feeling compelled to adhere to a rigid sequence". In an HMA archival memo dated February 28, 1996, Rifkin highlighted the spatial quality of galleries and the questions that had to be addressed in the reinstallation of the permanent collection. For instance, how an object should be displayed so that it appeared in its best optimal capacity and could be approached from maximum points of entry for the viewer to engage with it: “i.e. does it [the object] look its best, will visitors see it in the most useful and relevant manner? Are there ways of positing the art so that there can be multiple ways of comprehending why it is on view?”
Earlier years in a memo on his “Vision Statement” on September 1995, Rifkin described the HMA primary intention as enabling visitors “to enjoy and appreciate visual arts and culture” and emphasized that this could be achieved “by striving to make our visitors feel comfortable, stimulated, and engaged in the variety of experiences they have while in our midst”. Through viewers’ experiences, Rifkin emphasized the significance of seeing actively and further addressed the HMA endeavor to emphasize the relevance of the art to people’s lives:

“We believe that by understanding and appreciating art and visual culture, individuals will be better able to apply the value of seeing actively as principle within their own lives. It is important to engender a sense in as many visitors as possible that they already participate in critical visual and aesthetic decisions, exercising their own personal sensibility, in everyday life.”

Shapiro regarded the new thematic installation as a fresh attribute of the museum’s experimental culture for most of audiences:

“Someone can accuse us of dumbing down … but we are really trying to serve the broadest possible audience … Most museums are so worried about losing face. We are less tied to doing everything in the inherited way. Why not open a window and see if we can get some fresh air? This might lead us to something we haven’t even thought of” (Fox 1997).

Thus, based on the preceding argument, the review of the curatorial intention reveals that the curators organized exhibitions thematically in order to create a fresh vision of art, and to encourage comparisons and encourage multiple understandings of objects beyond a linear sequence. At the same time, the study revealed that curators still had an intention to highlight individual objects from the collections that held exceptional value, which, to exhibition design, would add a criterion. Later in the thesis, the analysis will address how the curators’ thematic strategy was translated into space by providing specific ways a view would see and move through the exhibition.
An Account of Critical Reception

Several observations of the permanent collection in a thematic scaffold have contended that it was a challenging task. After all, they were traditionally accustomed to thinking merely about the objects in their domain, but then had to collaborate across disciplines from department to department. One of the HMA archival letters about the “reinstallation goals” of the permanent collection, dated February 28, 1996, referred to the cross-disciplinary collaboration among the different curatorial departments, suggesting that curators should “collaborate with other curators whenever possible in order to create unity in presentation, as well as to highlight and explicate the interconnections among seemingly disappear parts of the collection”. In such context, one of the HMA curators of Modern and Contemporary Art at that time, Carrie Przybilla, reported:

“It was really challenging. It was at times exhausting and frustrating. At other times great things would happen. Someone would suddenly pull something from the collection that I wasn’t as familiar with and put it next to something in modern and contemporary, and this incredible dialogue was there.” (Fox 1997)

Furthermore, the HMA educators had concerns about the role of the museum as an art historical resource and argued that visitors might prefer to view and comprehend art in a chronological progression. It has been observed that the exhibition loses its rhythm from time to time:

“The show loses its rhythm now and then, most often because of deficiencies in the collection, but it is defiantly daceable. The best of juxtapositions succeed not only in illuminating the process of making art but also in inspiring the viewer to look at individual objects, which they might have seen ignored before, in new ways … sometimes these groupings lack punch because the works do. The portraits in “identity” section fall into that category”. (Fox 1997)

Design Properties Reflecting Curatorial Intent

The correspondences and sketches among the HMA architects, curators, and the director indicated that during this period, the layout of the objects on the second floor galleries underwent a major reconfiguration based on the following curatorial arrangement (Figure 4.2).
Figure 4.2: The curatorial classification of HMA permanent collection in the second floor during 1997

Gallery 201, as the introductory gallery, exhibited “Multiple Choices” and chronicled the major collectors of and contributors to the museum. This gallery, which began with Ms. Hattie High, focused on the importance of individuals who had created the collection over the years and the number of objects that had been donated by instrumental figures. In addition, the gallery provided the visitor with a “preview” of what would come next and elaborated on themes in a more neutral fashion.
Gallery 202 displayed the theme of “Compare & Contrast” and began its narration with exhibiting two chairs from 18th century American furniture to represent two different forms of the same style. The gallery was deliberately arranged to motivate visitors to compare and to contrast objects. By this, the setting aimed to offer condensed lessons in the transformation of taste, connoisseurship, and context.

Gallery 203 encompassed the theme of “Life in Art” and depicted sub-themes in which artists have illustrated different stages or passages in the cycle of life: birth, love, eroticism, the family, career, old age and death. The exhibition emphasized how, for centuries, art had been an instrument of personal expression. The objects were introduced chronologically from images of children through those of families, work and play, and old age. This section included a comparison of a large 18th-century painting of a wealthy Georgia family with the recently-acquired decorated stoneware from Edgefield, South Carolina, depicting a slave wedding.

While in gallery 204, the area of 204.a continued to display one of the sub-themes of “Life in Art”; the area 204.b demonstrated the new theme of “Reflections of Faith” to interrogate how the spiritual beliefs conveyed in different artistic styles dramatically. Gallery 205, 206 and 212 displayed the theme of “Culture & Commentary” to address a range of social, political and historical subjects. Gallery 207 put to stage the theme of “The City Seen” to install several art pieces and to reveal urban drama, vitality, density, growth and progress, as well as human industry, poverty and depravity. The installation covered cityscapes around the world through a range of cultures, times and media: photographs, paintings, sculpture, and decorative arts. And finally, gallery 208 exhibited “The Human Figure” and portrayed the ways in which human body, nature and behavior, were abstracted and interpreted in art.

The next section reviews the properties of architectural intention and design in the 1997 installation, the scope of which should be to illuminate how the new strategy for the layout of
objects has influenced the layout of space. The aim is to identify the interaction among curators and architects for displaying the collection of objects.

4.1.2. HMA 1997: Architectural Principles - Scogin, Elam and Bray Architects

Based on the previous discussion, the curatorial principles represented a radical change in the HMA strategy for the composition and the arrangement of objects. What is not immediately clear is how the spatial layout of galleries embodied this change. Recapitulating the above, the following section examines the architects’ response to the curatorial requirements. To address this debate, the discussion is divided into two parts. The first is the architectural design intention underlying the reconfiguration of galleries; and the second is the description of the design properties reflecting architectural intent and the spatial changes of reinstallation.

Architectural Design Intention

From 1996 to 1997, the HMA galleries were reconfigured by the Atlanta-based firm of Scogin, Elam and Bray Architects (SEB), which had had years of experience in designing distinctive projects and multi-disciplined programs, including museum and gallery designs such as one art museum, completed in 1986 at the Georgia-Pacific Center in downtown Atlanta, which functions as a satellite to the HMA; and Five Children’s Participatory Exhibits in the HMA, "Spectacles," completed in the winter of 1988 as an interactive children’s exhibition integrating the works of a number of nationally distinguished artists.

The architects of the reinstallation stated that the primary intention of the installation was to reinforce interactions among the public, the objects, and the institution of the HMA. To enhance this interaction, the design had to cover many concepts besides the mere construction of a context for the object. Specifically concerning the visitors, the architects emphasized that “the re-positioning of the visitor provokes questions concerning curatorial conventions, techniques
of connoisseurship, and the organization and methodology of the museum. Layering of these concepts serves to strengthen and enhance the constantly changing dynamic between the public and the institution of the museum.” During the initial meeting, the HMA curators illustrated the installation strategy and provided designers with a list of proposed objects with dimensions and a few with photos. The architects considered the curatorial strategy as a fresh approach which through the association of objects by theme, departures “from the more traditional curatorial divisions of chronology, typology, media, period, etc”.

During 1997, the HMA memos underscored the ways in which visitors’ experiences in the galleries were enhanced. One report, written in January 14, 1997, questioned what skills the installation could teach viewers and concluded that the installation should encourage visitors to engage in an “active seeing” by looking at artworks more closely to make a coherent understanding of what they see. In fact, the HMA memos during 1997 questioned the ways of creating a space that makes the visitors’ “gallery experience more enjoyable”. The notes identified an exhibition as a clearly defined space that, as an attractive space invites and draws people in. For example, notes revealed comments that the threshold could be designed in such a way as to make the entrance different from other parts.

**Design Properties Reflecting Architectural Intent**

Completed in April 1997, the reinstallation project covered 25,000 square feet of the entire 135,000 square-foot building area at a construction cost of $400,000. The exhibition was arranged on the main, second and third floors in the Visual Arts Learning Space (VALS). During the conceptual programming phases of the 1997 design, the HMA staff provided a curatorial narrative and the SEB presented the initial conceptual plans to confirm the general circulation of the installation. In their schematic description, architects and curators identified view lines, curatorial strategies for organizing objects, and probable critical stages of the reinstallation. The proposed plan, therefore, outlined a possible layout of wall configurations and the potential
placement of key objects and caseworks. Later on, through the preliminary design, architects and curators finalized the wall configuration, the preliminary case sizing, platforms, and key object placement (cited in the 9/23/97 HMA memo on Collection Reinstallation).

In the reinstallation of the second floor, architects changed several spatial properties of the galleries: they eliminated the circulation loops in the three square corner pavilions and stopped the intersecting balcony galleries from penetrating the main exhibition spaces along the periphery of the building (Figure 4.3). Specifically Meier’s scheme of the rooms within rooms in the square corner pavilions was eliminated. Instead, the reconfiguration of internal walls provided a chain of different enclosed spaces surrounded by windowless partitions. The intention was to provide moments of intimacy between viewers and objects, as architects underlined and stated that “newly configured gallery spaces vary in size and ambience, offering moments of intimacy and enclosure as well as openness and overview” 14. Thus, most of gallery spaces were transformed into small and intimate spaces for viewing objects from close-up. Principally, while the visual relationship between the galleries was reduced by closing the majority of the square openings, the architects mainly aimed to emphasize the visual relationship between the galleries and the atrium as they stated: “Visual access and movement from the galleries into the atrium, the major space around which the galleries are configured, help keep the museum visitors oriented” 15. Architects studied the relationships of objects within the curatorial thematic organization and sought to make the discovery of new qualities of objects possible from close-up and stated that:

“A new energy is invoked within the artwork as thematic linkages inspire compelling visual and conceptual juxtapositions. The close proximity of artwork that would traditionally be galleries apart encourages the viewer to take an active role re-evaluating pre-conceptions and discovering new qualities and values within the work”. 16
To architects, therefore, the curatorial strategy phrased a spatial experience of viewing and navigating through the galleries that differed from that in 1983. Viewers of the new installation were conducted through certain paths where most of the windows and columns were now off the movement axis. The architects affirmed:

“Circulation through the collection is both sequential and flexible allowing for the possibility of movement both linear and meandering. Focal points frame and modulate the transition from one subject matter to another while vignettes and unexpected compositions provoke response and critique.”

Although circulation throughout the galleries had both linear and meandering moments, the reinstallation of the galleries reduced the local and global circulation loops and as discussed, eliminated the cross views through the galleries. In fact, Brenneman stated that the curatorial intention of the 1997 installation was aimed at creating a more determinate circulation system and imposing a more rigid linear sequence of views and movements upon visitors (from an interview with the author: May 2nd, 2008). Furthermore, in contrast to the 1983 exhibition, art was dominant to architecture in the galleries of the new reinstallation.
Thus, based on the preceding discussion, the 1997 plan was a departure from the 1983 spatial ideology which its intention was to contain a specific curatorial ideology. Does this mean that SEB designed an architecture set in contrast to the original building shell? Quite the contrary, one can argue that SEB deferred to the language of Meier and adapted its own formal language to match his. As shown in Figure 4.4, the interplay of surfaces, the creation of interpenetrating volumes, and even the controlled use of openings to allow cross views, are all aimed at responding to the architectural vocabulary of Meier. In the next chapter, the study will return to this question pertaining to the 1997 architectural principles and analyze the spatial properties in a detailed discussion.

### 4.1.3. Architectural and Curatorial Design Evaluation

The 1997 exhibition received mixed evaluations. In spite of the praise about the “careful redesign” of space that improved the viewers’ “experience of the art” (Fox 1997), several reactions to the installation were less than enthusiastic. In order to understand more comprehensively the visitors’ reaction to the reinstallation, the HMA conducted summative evaluations. The evaluations covered mostly the new thematic curation of the installation as well as its spatial quality by implementing two methods of data collection: a standardized questionnaire and exit interviews.
Based on the HMA archival documents, in an evaluation on July 1997, thirty three visitors were interviewed with a discussion more focused on the physical arrangement of the exhibition space rather than on the conceptual arrangement of objects (Korn 1997). A concise summary of the evaluation indicated that a few interviewees talked about the spatial organization of the installation. Two interviewees indicated that the physical arrangement of objects was helpful and enhanced their ways of looking at or thinking about works of art. Interviewees argued that visitors were able to concentrate on an individual object without becoming distracted by other objects because each piece was rather isolated and the galleries were not “cluttered” (Korn 1997: 34). Regarding the interaction between viewers and objects, two interviewees commented that the objects were spaced far apart, allowing them to see the “true beauty” of each piece simultaneously and that the spacing permitted a large number of people to see each object.
However, three interviewees did not believe the physical arrangement of the objects helped them to incorporate a sense of the theme. They had difficulties with the visual features of the spatial layout. Rather than an exhibition that “was broken up into rooms”, they preferred objects spaced more thoughtfully in much wider and more open galleries that provided them with more choices:

“Some of the cubicles in that one portion, all the tightness of that. And then just the layout. I tend to like the larger galleries. You know, even though it was multiple choices it was broken up into rooms. So I lost that feeling of walking into a big space where I could get what it meant to be multiple choices. I do not know how much freedom you have to tear down walls….I would open up the galleries a little bit more so that you could get more of a sense of the theme that you are trying to portray.” (Korn 1997: 44)

Concerning circulation, two individuals spoke of their difficulties in way finding and determining the correct path to proceed: “There were a few times when it was a little hard to find the way through…[because of] the way it was laid out. There were a few points where I was like: now which way do I really go?” (Korn 1997: 38). Similarly, a few interviewees argued about their difficulties in exploring galleries as there was no clear path through the installation, hence visitors could miss rooms: “You could find yourself lost in there.” (Korn 1997: 43). One of the visitors felt overwhelmed because of “liability reasons” due to the placement of the works of art in the center of the floor, blocking the visitors’ path. One interviewee criticized the manner in which each “donated collection” was “quarantined off” in a “cubicle” hidden with a “maze”, saying it felt claustrophobic. The maze-like quality of the layout was also mentioned by two other visitors, who said that instead of wide open galleries, visitors encountered “intricate little passageways” and “nooks and crannies” (Korn 1997: 32). One interviewee noticed the rigidity of the layout in which the circulation forced visitors to see everything in the curatorial narrative:

“I guess this way you were forced to see everything. Like when I went to Metropolitan Museum of Art, I skipped a lot of places. Just like if I am not interested in that, I won’t see it. But in the way this museum is set up, I had to. It was different. I do not know if I can say if it was a good thing or a bad thing.” (Korn 1997: 32)

Thus, the evaluation gave emphasized the fact that the reinstallation of galleries created a single linear path that intentionally permitted no circulation omissions, as viewers were “forced to see
everything” while simultaneously perceiving the exhibition as “unintelligible”, causing viewers to feel disoriented and “lost”. Furthermore, while the linearity and rigidity of the installation enabled several viewers to focus more easily on an individual object, they caused museum fatigue in other viewers by limiting their spatial and physical experience and participation.

In July 1997, based on the HMA archival documents, another comprehensive evaluation of the reinstal lation was conducted. The intent of this evaluation was to gather the viewers’ responses specifically to the curatorial narrative. The following summarizes the findings based on the analysis of two hundred questionnaires completed during one week (Korn 1997). A number of interviewers stated that they had no problem with the installation arrangement of objects, and several individuals did not propose any modifications. With regard to the arrangement of the objects, the majority of visitors stated that it was important to them how the works of art were grouped. A few visitors had mixed feelings about whether it was easy or difficult to locate the objects they wished to see. A few visitors found it difficult to interpret the thematic organization of the objects, so they wished that they had been briefed about the concept, its curatorial format, and the reason behind it. Survey respondents reported that the manner in which the objects were grouped helped visitors perceive the works of art in a fresh way. A few interviewees noted that the groupings of objects in Multiple Choices provided the opportunity to perceive works of different styles, eras, and cultures at the same time. These visitors valued “being able to compare and contrast very different pieces and being provoked to think about the connections among seemingly disparate objects” (Korn 1997: 33). Nevertheless, several respondents had mixed feelings about whether the groupings of objects were relevant to how they thought about art. In response to the criticisms, the evaluation report argued that: “the fact that not every visitor was delighted with thematic display format is not surprising. Such a novel approach could not really hope to win over everyone immediately” (Korn 1997: xi).

To recapitulate, this study found that visitors believed that different groupings of work, more open space, more works of art, and more information about the pieces and the installation in
general would have enhanced the exhibition. The evaluation provided some evidence about the extent of mixed public responses to the intentions of the exhibition. The findings suggested that although thematic groupings allowed visitors to see objects from a new vantage point to compare them, the new view was not relevant to how individuals perceive or contemplate art. Therefore, the discussion raises an open question about whether thematic grouping should necessarily seek to select themes that pre-exist in visitors’ minds before they enter the exhibition.

4.1.4. HMA 1997: the Main Curatorial and Architectural Principles of the Installation

This section presents how the curatorial principles of the thematic classification that drove the 1997 redesign of the galleries were shaped in 1996 during the Rings exhibition. Themes mediated the new relationship between a diverse collection of objects and storylines. The implications of the new curatorial philosophy for the layout were also discussed. While the layout designed by Meier afforded multiple vistas, cross views, and overlapping spatial frameworks, the 1997 layout drastically eliminated cross views, defined a more limited set of vistas, re-instated traditional frontal views and imposed a more rigorous linear circulation sequence so that visitors could better appreciate the richness and multiplicity of interpretations inheres in the local arrangement of objects. A certain reversal, therefore, appears in the combined roles of the spatial principles of the layout and the spatial principles of arranging the objects. It seems as if the ease and simplicity of one is required to facilitate and balance the complexity of the other. Interestingly, between 1983 and 1997, no radical change in the permanent collection occurred and many displayed objects were exhibited in both of the layouts.

In fact, as result of the investigation of the HMA archival materials, it was possible to track individual objects. Figure 4.5 shows a sample of the six displayed objects in their respective locations in the 1983 and the 1997 gallery plans, confirming that from a curatorial point of view
the transition from the 1983 layout to the 1997 layout was not about a fundamental change in content but rather a fundamental change in the principles of arrangement.

Unlike the 1983 layouts, the 1997 curatorial maps and easily match and overlap the architectural plans (Figure 4.6). This similarity between the curatorial and architectural layouts of 1997 will be further examined in the subsequent chapters. The next section will continue this discussion by examining the HMA internal transformation in 2003.
4.2. HMA 2003: An Internal Transformation

Throughout the decades, the permanent collection of the HMA has transformed dramatically with the addition of significant paintings, sculptures and decorative objects, as noted in an HMA archival note dated July 8, 2002. Shapiro stated that “twenty years ago, the museum was a different institution from what it is today. The intervening decades have seen the High dramatically expand its exhibition schedule, programming, and permanent collection”. Not only has the collection of the HMA radically changed, but so has its approach and the vision regarding the value of the objects. In the earlier period, the HMA was entirely dependent on donations of cash and gifts of art pieces, but later on, it purchased major art pieces for its various departments with the intention of holding the best permanent collection in the Southeast and establishing its place as one of the top ten museums in the United States (as noted in the HMA Philosophy in an archival letter on the Meier Building Permanent Collection Reinstallation Brief, dated March 27, 2002). The HMA staff has underlined the growth of institute where: “attendance has risen to nearly 450,000 visitors per year, the collection has nearly doubled and membership reached a high of over 50,000 households-among the top 10 memberships of any art museum in the United States”. The HMA was also been cited as an integral element of the social, cultural, and urban fabric of Atlanta and particularly a catalyst for the transformation and
progress of the Midtown district, which has grown from a “transitional neighborhood” into “a thriving, economically vital area that now is a destination for nearly half a million citizens each day”.

On October 1997, the HMA Board of Directors developed and approved a strategic plan called the Long Range Plan for an extensive physical expansion, bequests to support operations, and additional acquisition funds to increase the permanent collection. Since 2000, the HMA has vigorously pursued intentions and plans to increase its facility to provide the best space for its growing collection and increasing number of visitors. Consequently, the existing HMA building started a renovation in early 2003 with the intention of returning to the design that Meier initially envisioned.

Therefore, the next section includes two main parts: The first focuses on the HMA curatorial description of the 2003 extension; and the second examines the architectural description of the 2003 reinstallation. To finalize the historical trajectory of the museum alterations and transformation of the museum, the last part of the discussion will address how the curatorial and architectural strategies have addressed the growth of the HMA and its new needs.

4.2.1. HMA 2003: Curatorial Principles

This part interrogates the curatorial description of the 2003 extension plan in its two subdivisions by first, reviewing the curatorial design intention and second, investigating the design properties reflecting curatorial intent in the 2003 installation.

Curatorial Design Intention

Over the years, curators have modified the galleries based on the installation needs. For instance, “to house traveling exhibits in addition to the museum’s own collection, curators
added interior walls. To protect the artwork from harmful ultraviolet light, they covered up windows and skylights. From 2003, curators’ notes and correspondence revealed their intention to create flexible exhibitions in which the galleries provide multiple and clear choices for viewers in order to let them select their gallery experiences based on their preference. The notes explained that curatorial stylistic grouping and gallery segments ought to be more easily delineated and conceived in terms of the accessible spaces. The installation of 2003, as described by Carol Thompson, was intended to reveal new and different institutional styles about the placement of objects and the overall sense of display space (from an interview with the author: April 13, 2007). At that time, the HMA director and curators sought a design that would assist viewers to capture the sense of objects in “simpler and cleaner spaces”, where less is more. Hence, the staff intended to create “distinct” display spaces but not many physical divisions in spatial exhibition. To curators, it was essential to create a flexible, open and free display space. Often in the permanent collections, Thompson stated, galleries are less crowded in comparison to the blockbuster exhibitions; therefore, these spaces could be designed in a more flexible space with less strict linear paths.

The archival letter about the Meier Building Permanent Collection Reinstallation Brief on 3/27/02 illuminated the HMA philosophy about the renovation. To guide the reinstallation and also the later major extension of the institute, the HMA staff developed its intentions in a few guiding principles for the installation. For instance, within the HMA reinstallation of its permanent collection, the viewer experiences “an inviting, beautiful, comfortable, and dynamic environment”; and further her intellectual experience “begins with and resonates from the object”.

The letter also revealed the HMA understanding of the visitor and the museum intention “to increase not only the number, but also the diversity of its visitors”. The role of visitors has been investigated in the curators’ memos by emphasizing on visitor studies which could provide “a better picture of the visitor’s museum experience” to assist the HMA staff in offering “an
experience that serves the visitor on many levels.” In Front End Evaluation Staff Development – January 31st and February 3rd, 2003, an HMA archival note, the main findings from data identified that visitors “don’t want to feel locked in, they want to drive their own experience but expect that the museum will provide them support and information along the way”. Furthermore visitors would like sufficient way-finding assistance and wish: “to be comfortable – both physically and emotionally” and prefers flexible spaces with “free-choice learning experiences; including choice in formats as well as content.”

The curatorial intention, therefore, mainly put emphasizes the display of objects at their best, providing multiple modes of understanding objects and facilitating the ease of a visitor’s experience.

**Design Properties Reflecting Curatorial Intent**

Meier’s newly renovated designed building, referred to as the Stent Family Wing, has been entirely relegated as the home of a growing permanent collection from early European to modern and contemporary art work through the 1960s as well as to a collection of folk art. Emphasizing on the primary role of the HMA in the Southeastern United States, the museum staff has articulated the institute distinction “as the only major general museum in North America to have a curatorial department specifically devoted to the field of folk and self-taught art” and underlined the dedication of the organization to collect and support “Southern artists” works.

Within the renovated galleries, the collection of objects has been exhibited in a chronological sequence. As Brenneman explained, viewers could walk with a soundtrack tour that guided them with various entering points to galleries to follow the curatorial narrative. The flexibility of installation provided visitors with multiple choices to view the art, in contrast to the linear sequence of the 1997 installation (from an interview with the author: May 2nd, 2008). Regarding
the second floor of the HMA, the reinstallation narrative also was chronological and featured key works in the collection. In the Narrative Overview of the Reinstallation of the Meier Galleries, an HMA archival memo dated October 22, 2002, the curators introduced three major display parts on the second floor, as follows (Figure 4.7).

Figure 4.7: The curatorial classification of the HMA in 2003

The first portion of galleries, from 201 to 204, is the installation of European Art from the 14th to the 19th centuries which chronologically portrays key Renaissance, Baroque, Neo-Classical and Impressionist paintings in the collection. In these galleries, there are a number of exquisite English ceramics from the outstanding Frances and Emory Cocke Collection as well as the new acquisitions of European bronze, marble, and terra-cotta sculptures. The curatorial narrative
opens with the Renaissance art within gallery 201, predominantly with objects in the Kress collection; then is followed by an installation of Baroque paintings. The sequence continues with a focus gallery on Dutch paintings, which is coupled with a case of Chinese export ceramics intended for Holland and England. Gallery 203 includes a representation of Cocke ceramics as a centerpiece, surrounded by 18th century paintings. Gallery 204 displays paintings, sculptures and few furniture of Neo-Classicism and Impressionism. The trajectory of 18th century is followed by gallery 206 of 19th century objects which is subdivided into the following classifications: Romanticism, the Salon, the Rise of Landscape Painting, and the Avant-Gardes. This part encompasses the European Impressionism, such as Monet. The 18th and 19th century sculptures fill gallery 210, 211 and 212 which are the more light-sensitive zones and are visible from the atrium and ramps.

The second part of galleries, from 205 to 208, exposes American Art over three centuries of production from the colonial to the postwar periods. The American Art collection has been installed in fourth, third and half of the second floor in an approximately chronological order by highlighting the key strengths of the collection. Through a multilayered grouping of a diverse collection of objects from paintings, sculptures, graphics and decorative arts, the second floor features portraits, landscapes, early photographs, and still-life paintings from the eighteenth and nineteenth centuries. The curatorial intention was to integrate objects that exhibit the history and narratives of cultural life in the United States from the Colonial Period through World War II; as one of the HMA archival meeting notes stated the “Permanent Collection Reinstallation – Integrating Art and Audience: Goals for the re-installation of the American Galleries”, 2/28/96:

“The visitor would proceed to the American galleries where narratives continue in depth through the objects –paintings, prints, drawings, book arts, photography, sculpture, and decorative arts - as they relate to other art forms –music, book arts, literature, film, dance, architecture, and design. … In finding connections and commonalities between objects, the narrative will unfold. …questions of authorship, place of origin, and beginning of ideas and art movements all play key roles in determining whether or not an object is appropriate for a specific collection”.
The third part consists of Interpretive Spaces that provide a visitor with an opportunity to investigate features of the collection. Interpretive Spaces, located in the corners of Galleries 202 and 206, are strategically located on visitors’ pathways and are adjacent to the galleries to enhance the visitor’s bond with the displayed art in the permanent collection galleries. Gallery 202 provides an interpretive space about A view of Amsterdam Harbor and gallery 206 invites visitors to explore German Traditions in American Art. Pedagogically, these spaces provide an opportunity to study the collection in more depth, and to experience a broader range of learning modalities in the galleries, which offer an occasion in which visitors may alter their spatial experience while visiting the gallery and to refresh themselves. Interpretive spaces offer events for visitors to respond to the presentation in a series of linked actions that engage intellectual and physical media and activities. One of the HMA curatorial notes on the 2003 installation illuminates the goals for the interpretive program that aim to provide a variety of methods for learning, to animate the objects, to create a dialogue with visitors, to provide a variety of choices for them, and to encourage them to discover and to interpret the multiple dimensions of objects.

4.2.2. HMA 2003: Architectural Principles - Lord, Aecck & Sargent Architecture

This part aims to establish the architectural principles of the 2003 renovation in its two subdivisions: first, the architectural design intention; and second, the design properties reflecting architectural intent.

Architectural Design Intention

Initiating the transformation of the galleries at the end of 2001, the Atlanta-based architectural firm of Lord, Aecck & Sargent Architecture (LAS) and exhibition designer Elroy Quenroe Associates, Inc. took in charge of the research, planning, and design of their reconfiguration as long with related services for the installation of permanent collections on the second, third, and
fourth floor galleries. During the conceptual programming period, the architects, designers and curators met to define the scope of the goal and planning of the project. These meetings established the initial conceptual design and formulated the flow and content of the different collections into separate but related installations. The reinstallation design team principally had to decide “whether to return to a type of installation originally conceived by Meier in order to regain a sense of architectural integrity” or to move toward a new direction that better facilitated the requirements of the growing permanent collection and an increasing number of visitors to the HMA (An archival note on Meier Building Permanent Collection Reinstallation Brief, 3/27/02). John Starr, the LAS principal in charge of the renovation project, stated that the majority of the HMA previous modifications “were done sensitively and respectfully. But their cumulative effect strayed from the architect’s original intent”. In the spatial renovation plan, thus, the staff decided to return to the “original function and appearance” of Meier’s design 23. Similarly, Shapiro discussed about the reconfiguration of galleries and their return to the original Meier footprint; emphasizing that although the staff intended “to retain or restore as much of the original Meier vocabulary and fabric as possible”, they had intention as well “to install the permanent collection to its best advantage. And we will make our best choices where architectural preference and collection display conflict with one another” (the HMA archival note on 7/08/02).

The HMA archival document on “Meier Building Permanent Collection Reinstallation Brief”, dated March 27, 2002, called attention to how, over the past 19 years, the interior of the original galleries designed by Meier had been modified significantly. To create more flexible spaces, for instance, the rooms within rooms and most of the caseworks have been eliminated. The columns, in certain cases, have been also covered “because they have provided an unwanted sculptural presence that breaks the rhythm of an installation and because the dimensions of works of art sometime exceed the 21-foot maximum width of the column intervals”. The question raised in document is that “what type of intervention in the galleries would be sensitive to the building’s original conceptualization while at the same time satisfying
the museum’s present needs?” Given the fact that the HMA view and approach toward the permanent collection have changed and evolved from the original one, the document noted: “it seems unlikely that the museum could return successfully to every detail of Meier’s original permanent collection exhibition concept”. One reason as to why the interior of the galleries had changed is that some of the objects, mostly those displayed in the gallery spaces adjacent to the atrium, were exposed to high levels of light that might damage them. Another reason is that the original building could not contribute to the present approach of the HMA, which provided “multiple modes of interpretation” while emphasizing “the comfort and ease of the visitor experience”. The document then advised that the reinstallation of the Meier-designed galleries should be well thought-out in reference to the installation and feeling of the future Piano-designed building. Thus, the document emphasized both the challenges and the opportunities of the reinstallation process.

Involving the HMA curators, both the architects and the designers prepared the reinstallation layout, including existing, new, and removed walls and also identified key sight lines and critical junctures. The following part discusses the properties of their spatial design.

**Design Properties Reflecting Architectural Intent**

In July and August 2003, Meier’s HMA was closed to the public for the renovation and major reinstallation. The HMA renovation construction process, which last for two months, consisted of two major phases. The first covered the modification of the gallery floors based on the curatorial requirements and the needs of the permanent collection. The new installation of the collection included the second, third, and fourth floor galleries. During the construction phase and the reinstallation of galleries, furniture, casework, and objects, designers made site visits to the building to confirm the resolution of design issues. Furthermore, two interactive interpretive stations per floor were installed at strategic points to more actively engage visitors, who in the early 1980s at the time of Meier’s design, were not available. The nature of these interpretive
galleries with the interactive devices was been discussed earlier in the curatorial part. The second phase of renovation, which aimed to utilize the HMA Educational Department requirements, covered the redesign of the Education Level. The design included a resource center, a children’s workshop area, a lecture room and a new public gathering and gallery space. Lower level curatorial and education offices were to be relocated in the future Piano-designed building in 2005, and the gift shop and restrooms were moved to the lobby level to create a pedestrian bridge to the future spatial extension of the HMA. The atrium remained the largest public space of the Meier-designed building.

Within the galleries, the renovation modified the previous changes made to the HMA to re-establish and retain Meier’s architectural language to a great extent (Figure 4.8). Specifically, the renovation reinstalled Meier’s *the rooms within rooms* as the original configuration of the galleries. Critics has stated that "the rooms-within-rooms change the scale, and the windows in the walls of these interior rooms frame views into succeeding galleries and give a rhythm to one’s wanderings." 25 The renovation architects eliminated the extra interior partitions added to the galleries in past years and reopened long vistas through window frames, as has been stated “The High also plans to restore Meier’s original sightlines. It will remove walls that have been added over time so that the axial vistas of the North-South and East-West galleries along the edges of the atrium will again be possible” (Fox 2002). In contrast to the 1997 layout, the renovation of the 2003 layout reintroduced both the circulation loops in the square pavilions and the extensions of the balcony galleries into the main exhibition spaces. At the same time, the 2003 layout could not be interpreted as a mere return to the 1983 original. The new plan is far simpler. While the original visual connection and the rooms within rooms principle is observed in the corner pavilions, the break up of space into distinct sub-areas is not as extensive as in the 1983 layout.
Furthermore, the new glass technologies of renovation made it possible to balance the natural light and uncover skylights that had been covered until that time due to the diffusion of direct sunlight. The architects installed “modern-day shading devices that admit natural illumination while filtering UV light. A colorful Sol LeWitt mural was painted over in Meier's trademark white. Opaque covers were removed from skylights and clerestories, which were then fitted with transparent UV-filtering films and translucent shading fabrics.” Therefore, the visitors could become orientated in a space with natural light.

On August 30 and later on November 1, 2003, the museum gradually revealed the internal renovation of its galleries in a celebration of the twentieth anniversary of the HMA building designed by Meier. The reconfiguration, which has remained intact to date, significantly enhanced the gallery space and allowed the curators to exhibit a greater part of the growing collection. Evidence reveals how well the curatorial and architectural intentions were communicated and received by the public. In 2003, the newly renovated and reinstalled galleries corresponded with the opening of the exhibition “The Undiscovered Richard Meier: The Architect as Designer and Artist,” which unfolded the architect's career. Attending the
celebration of the HMA’s 20th anniversary in Atlanta, Meier stated that the restored building: “looks better today than the day it opened.”

4.2.3. HMA 2003: the Main Curatorial and Architectural Principles of the Installation

Based on the preceding discussion, by 2003, the emphasis of the permanent collection had shifted due to several new requirements, such as that which governed how larger paintings were exhibiting. Furthermore, some pieces of the permanent collection (such as porcelains) that were very prominent during the 1983 installation were displayed less prominently, if at all. At the same time, the study traced a second shift in curatorial philosophy. The minutes of meetings in the HMA archival documents suggested that there was a greater emphasis on providing a more flexible space that allowed the viewer’s experience to begin from and resonate with the individual object. The curators and educators constantly recognized in their writings the visitors’ viewpoints and needs by emphasizing the active viewing of art. In other words, the 2003 architectural plan represented both an attempt to restore the museum to spatial principles closer to those of 1983 and an attempt to do so without overly “putting pressure on the curator,” which was observable in the 1983 installation (to recall Morrin’s phrase in the previous chapter).

With regard to the HMA archival materials that pertain to the curatorial intentions and strategies in various historical stages, one can establish a point of reference for subsequent chapters about the curatorial philosophy at the HMA from unique viewpoints. Correspondence among the HMA curatorial and educational teams demonstrates a spectrum of themes from the object to the observer. The memoranda indicate the museum’s mission as a set of operations to collect, to preserve, to display, and to educate. Through decades of installations, the HMA curators and educators have applied a variety of ways of organizing and classifying the collection through chronological or thematic highlighting. Through different time periods, among directors, curators, and educators, one of the prime objectives has been to create installations that
provide the viewer with opportunities to compare, contrast and categorize objects to establish a more through understanding of art. The majority of the HMA correspondence on the installation objectives has emphasized the goal of creating a more open and accessible collection that educates a more diverse community. In fact, the social aspect of the HMA and the importance of visitors have been carried on throughout the decades as the principle components of the HMA missions. Of particular interest to this thesis is the integration of art and the viewer as a significant factor for the permanent collection installation, which has been addressed by most of the HMA memoranda. The curatorial statements show the role of display as an essential issue to reveal the context of the object: “where it came from, how it was used and by whom” (Memo, October 30th, 1996). In the HMA installations, the power of display has been acknowledged with an ability to transform the meaning of the object. The memoranda reveal how every aspect of a culture has been encoded in an object, according to the curators, and how the meaning, authority, and agency of the object change in relation to how it is displayed. Discussions pertaining to reinstallation meetings have often explored issues such as how to develop an understanding of the objects in the collection, how to choose objects that are exhibited with an object, how the object changes when other objects are displayed with it, what organizing principles are relevant for the installation, how the exhibition design enables these principles to be expressed, how a visitor sees the exhibition in his or her own life, how curators allow space and environment to develop visual learning skills, and how visual learning processes within the display space. Hence, to develop this distinction further, the study will continue with an analytical account of curatorial and architectural layouts in the subsequent chapters.
4.3. Synopsis

It has been shown that the Meier-designed building went through a few required revival stages in both architectural modes such as new walls and curatorial modes such as the thematic installation of the collection. To conclude, mapping the changes that have been taken place at the HMA throughout its history, Chapters 3 and 4 collectively outline the history of the change in intention, as it pertains to the viewer’s experience in the internal architecture. In each reinstallation, the HMA curators and educators created a vision of what the entire installation of the permanent collection might be and what process of classifying and displaying it would follow. As partly documented by the record of three moments in time, the spatial history of the HMA during the first 30 years of its life could be studied from several points of view. First, as a history of the changing spatial requirements of a growing permanent collection. Second, as a history of changing curatorial priorities, intentions and aims in the arrangement of objects, and the sequencing and viewing of them. Third, as a set of formal transformations within the constraints of a shell and a well-established architectural language. Fourth as a history of different patterns of viewing and navigating experience and in the ways one explores the architecture. The following chapter aims at reconstructing the record of interior changes on the second floor of the HMA and analyzing it from such diverse points of view.

The subsequent study will address the following preliminary but fundamental question: Do the changes in layout also involve changes in the underlying spatial structure? In other words, does the study deal with permutations on a single theme and a history of changing circumstances, or can one identify fundamental changes and a history of discontinuities?
Notes to Chapter 4

1 The curators of this trans-departmental installation were John Elderfield, Peter Reed, Mary Chan and Maria del Carmen Gonzalez.


3 Brown was the director emeritus of the National Gallery of Art in Washington, DC, as well as the co-founder and chairman of Ovation, a cable TV channel devoted to the arts.


5 Retrieved on March 5th 2007 from: http://www.ovationtv.com/artszone/programs/rings


7 In addition, there was a debate on encompassing less contribution from third and fourth world.

8 The highlights consisted of: Paintings and sculpture from the J. J. Haverty Collection; Graphic works from the Ralph K. Uhry Collection; Italian Renaissance paintings from the Samuel H. Kress Foundation; Pottery and porcelain from the Emory and Frances Cocke Collection of English Ceramics; Works from the Fred and Rita Richman Collection of Sub-Saharan Art; Pieces from the Virginia Carroll Crawford Collection of American Decorative Art, 1825-1917; Photographs from the Lucinda W. Bunnen Collection; American folk art from the recently acquired T. Marshall Hahn, Jr. Collection.

9 Often the galleries 202 and 206, which were small corridor spaces between mechanical rooms and the stairwells, were used for poetry or even a singular sculpture, such as Dave the Slave vessel, aiming to focus attention to the middle of the space and not the edges.

10 In one of the HMA archival documents about a meeting between curators and architects about the installation of Life in Art, Harvey addressed the visual attention within galleries:

   “. Focus on cradle is too constricting for that space – making the resulting spaces of the gallery too small and viewers might pass by….would like to keep the axial relationship – drawing attention to the cradle – yet open up the space…Switching the Girodet & Brueghel and opening up that space more. Was concerned that the space would then be too large and the pieces would be lost”.


In addition, the Media Arts department of HMA produces annual film series and festivals of foreign, independent and classic cinema.

Furthermore, it is notable that the HMA 2003 endeavor leaded up to an extensive expansion project which opened to the public on 2005. This major expansion intended to reinforce the HMA role as the leader art museum in the Southeast, and to allocate the institute to better serve in national and international level. Architects from the Genoa Italy–based, Renzo Piano Building Workshop collaborated with Atlanta-based LAS to design the expansion of the HMA. The HMA 2005 extension was part of an overall upgrade of the Woodruff Arts Center, which encompassed the Meier-designed building, the Atlanta College of Art, the Alliance Theatre, the Atlanta...
Symphony Orchestra, Young Audiences of Atlanta and the 14th Street Playhouse. On the construction opening, Shapiro announced that “today marks the start of the final phase of the project - construction of three new buildings for the High Museum - completing the transformation of this campus into a true ‘village for the arts’” (Retrieved on November 15th 2007 from: www.high.org/resources/news/GroundBreaking.doc). Bounded by a public piazza, the three new buildings were constructed: the Susan and John Wieland Pavilion, the Anne Cox Chambers Wing and the Administrative Center. Within the new configuration, the HMA new main entrance transferred to the Wieland Pavilion which its lobby level includes a retail shop, a coffee bar, a visitor concierge and an outdoor sculpture terrace. The spatial extension extended facilities and size of HMA more than double to 312,000-square-feet, hence provided an opportunity for staff to display more of rapidly growing permanent collection as well as to increase special exhibition space, to amplify its educational and public programs and to address the needs of larger and more diverse audiences. About the curatorial installation at Meier-designed building, the HMA staff has been stated that:

“...The High’s new installation of its permanent collection will feature our best works - from the Italian Renaissance to the art of our time and will occupy remodeled galleries in the Meier building and the top floor of Piano’s main building. Special exhibitions will be featured in the remaining gallery spaces of the new Piano buildings”. (Retrieved on February 11th 2007 from: http://www.buildingthehigh.org/images/hightime.swf).

Though the focus of this study is on the HMA, the discussion does not include an in-depth architectural debate on Piano-designed buildings; nor does it make an attempt to inquire the curatorial principles for displaying objects in them. These intentions would involve a different perceptive which is beyond the scope of this thesis.
Chapter 5: Morphological Analysis of the HMA

Outline

This chapter examines the spatial transformations of the HMA in greater detail. Successive layouts are described rigorously and quantitatively. The aim is to determine whether the successive changes represent adjustments and permutations on a set of constant underlying themes or whether the evolution of the museum is marked by fundamental shifts not only in layout but also in the principles that govern the design of layouts and the manner in which they are perceived and explored by visitors. The focus is upon three stages of the evolution of interior layouts, 1983, 1997 and 2003. The analytical methods used are those of Space Syntax (Hillier and Hanson 1984; Hillier 1996). These are thought to be appropriate in the light of previous research on museums and galleries (Choi 1999; Hillier, Simpson and Peponis 1982; Hillier and Tzortizi 2006; Peponis 1993; Peponis 2005; Peponis and Hedin 1982; Peponis, Conroy-Dalton, Wineman and Dalton 2004; Psarra 2005; Psarra and Grajewski 2000a, 2000b, 2002; Stavroulaki and Peponis 2003, 2005; Tzortzi 2003, 2007). The chapter includes two sections. At first, a concise introduction will be given to the theoretical framework and methodological models of Space Syntax studies, with particular focus on the analytical techniques of line maps, convex spaces and visibility analysis; and concepts and measures of spatial integration, connectivity and depth. Section two presents the main body of the work, the application of these methodologies to the analysis of the three successive layouts. Thus, this chapter complements the narrative offered in previous chapters, where spatial changes were described more intuitively.
5.1. Space Syntax: Theoretical and Methodological Framework

The study utilizes the syntactical analysis of three layouts in order to provide a detailed study of the spatial structure of the HMA in different periods of time. In order to provide a background for this analysis, the discussion opens up with a brief introduction of the methodological and theoretical approach of the Space Syntax. It was initiated at the Unit for Architectural Studies, University College London and subsequently extended at a number of centers internationally, including the Space Syntax Laboratory, University College London and the Morphology Lab at the Georgia Institute of Technology.

5.1.1. Theoretical Ideas and Definitions

Space syntax (Hillier and Hanson 1984; Hillier 1996; Peponis and Wineman 2002) refers to a set of theoretical ideas and descriptive and quantitative methods that address built space from the viewpoint of the society and culture that shaped it to better understand how spatial arrangements are imbued with a social and cultural logic. Space syntax methods represent the ways in which space is inhabited and experienced in everyday life by people (Hillier 1999; 2005); and address space not as a background but as an intrinsic aspect of human experience where one essentially moves through space in linear patterns; interacts in convex spaces with other people and experiences ambient space as a sequence of differently shaped visual fields or isovists (Figure 5.1).

Figure 5.1: “Space is not a background but an intrinsic aspect of human activity”
Line Maps

The first step in all syntactic analysis is a reading of the geometry of layouts leading to a representation of their underlying spatial structure from a particular point of view. The line map or axial map comprises the linear movement skeleton of a layout. Technically, the line map is defined as the set of the fewest and longest lines that get everywhere and complete all the non-trivial circulation loops around physical boundaries (Figure 5.2). Early research has suggested that the line maps of museum spaces capture the extent to which layouts are easily intelligible (few lines needed to traverse the museum, with secondary lines clearly branching off them) or more complex (frequent direction changes imposed upon visitor movement) (Peponis and Hedin, 1982). Axial line analysis has been applied along with isovists by Psarra and Grajewski (2000a) to examine the interaction between display layout, the visitors and the educational message and to demonstrate the ways in which a moving viewer experiences a museum as a sequence of visual fields. The findings confirm the impact of the spatial layout of the museum on the visitors' visual experience of the exhibition, the ways in which they move within the museum, retain orientation and take hold of the educational content.

Convex Partitions

Another mode of representing a layout is based on convex partitions. A space is convex when every point of space is entirely visible and directly accessible to every other point. A “convex map” (Hillier and Hanson 1984) is defined by the largest, fattest and fewest convex spaces that

Figure 5.2: The axial line map is constructed by the set of the fewest and longest lines that cover the layout
are required to cover the entire layout (Figure 5.3). Convex spaces are of interest from the point of view of the patterns of reciprocal co-awareness and potential interaction engendered by buildings. The people occupying the same convex space can, by definition, all see each other if they turn around and look in all directions. Also, the people occupying a convex space can all see at least one side of all objects placed in that space.

Figure 5.3: The convex map represents the set of the fewest, largest and fattest convex spaces that cover the entire layout

The study of the convex break up of museum spaces has been quite revealing. Very often the pluralities of convex spaces lie on a single axial line, or are directly accessible from it. In this manner, museum space can be finely subdivided, in order to group objects in appropriate ways, while at the same time offering visitors a clear sense of the overall direction of movement. In other cases, the convex break up of space is linked to axial fragmentation. Early work using space syntax to study museums has associated this with situations in which visitors are expected to navigate space by pursuing not so much the purely spatial clues offered by the layout but rather the exhibition narratives constructed through the placement of objects and the inscriptions interpreting the objects (Peponis and Hedin 1982). The proportion of 'two-entry' convex spaces in museums layout has been calculated by Huang (2001) as a technique to compare and quantify the organization and strength of the sequence of visitors' movement.
Visibility

Visibility analysis has increasingly been incorporated into space syntax. The early impetus for the morphological study of visibility came from Benedikt (1979), who proposed to study the variation of the properties of “isovists” or “visibility polygons” over a layout. An isovist or visibility polygon comprises all areas visible from a single point, and can cover larger or smaller area, have few or many branches, linearly extended or short branches, and other measurable properties (Figure 5.4). Visual fields had previously been correlated to the behaviorally relevant characteristics of space. According to Archea (1977) for example, “visual access” is where one can see other occupants of space and “visual exposure” is the area from which others can see her, assuming that a person occupying a point does not “see” all around (360°) but looks in some particular direction, so that the viewshed encompasses a cone of 30° of sharp vision, the 60° of clear vision or the 180° of some visual awareness.

Figure 5.4: The isovist or visibility polygon comprises all areas visible from the location of a situated viewer in the layout

Syntactic analysis looks at the visibility relationships between all pairs of points in a layout. In order to deal with a layout as a finite set of points, space is filled by a square tessellation of a particular size, such as 30cm or 60cm. The number of points visible from a point of origin is equivalent to the area of Benedikt’s isovist. When two points are not directly visible from one another, syntactic analysis describes their relationship according to the number of intermediate points that must be occupied in order to create a chain of visibility linking one to the other. This is equivalent to counting how many corners one has to move around in order to get to see the second point when starting from the first.
In the museum layouts, Choi (1999) found that visitors stop more frequently in spaces which hold the most visual connections to other spaces. Particularly, visitors pause in spaces that are visually linked to the more integrated spaces which contain most moving visitors. The syntactical analysis has pointed out that the number of visible people from a space has a consistent and strong correlation with the degree of integration of the space. The integration core, therefore, is the space where the maximum number of visitors could be seen (visual co-presence) rather than being present (encounters). The author, thus, noted the spatial patterns of visibility and accessibility as instruments for structuring the awareness of people in the museums.

Investigating the association between visitors’ behavior and spatial layout in open-plan science exhibition settings, Peponis, Wineman, Conroy and Dalton (2003) showed how the pattern of exploration can be affected by an open layout which permits almost unblocked visibility and any pattern of movement. The authors analyzed the influence of cross-visibility between individual exhibits over the pattern of visitors’ engagements and interaction with the exhibits. Their syntactical analysis demonstrated that the degree of exhibit cross-visibility affected the pattern of visitors’ engagements; while variations in direct accessibility influenced the pattern of visitors’ contacts.

Stavroulaki and Peponis (2005) have studied how the variations of light qualify the number of objects that are co-visible within an isovist. In some conditions, objects are equally illuminated and can be readily compared, subject only to viewing angle. In other conditions a particular of object of interest can either dominate a scene, for being better illuminated than other objects, or be attenuated within it, for having shadows cast over it. Of course, a traditional form of visual emphasis in many museum settings works by associating greater illumination, which is likely to lead to dominance within the field of co-visibility, with more central and exposed locations for the displays that are being emphasized.
5.1.2. From Representations of Geometrical Elements to Graphs of Spatial Relationships

The emphasis of syntactic analysis is upon the pattern of spatial relationships engendered by a layout. Lines of movement intersect. Convex spaces are linked to adjoining convex spaces so that a passage from one to another is possible. Isovists intersect so as to define chains of visual connections. Thus, once a layout is described as a lines map, a convex map or a pattern of visual connections, the relationships between the elements of the layout (intersecting lines, permeable convex spaces, intersecting isovists) can be described as an abstract graph. The following graph-theoretic measures are then used to describe the pattern of spatial relationships.

**Depth**

“Depth” simply describes the number of intermediate elements (lines, convex spaces or isovists) that must be crossed in order to get from one location within a layout to another. Very often, however, studies are interested in the mean depth of all spaces from some particular space of interest such as the entrance, or the main hall. Thus, the term depth is conventionally used to describe the graph-distance of all spaces from an agreed point of reference. In principle, however, we can use the term “depth” to describe the graph theoretic distance of any two spaces. Thus, the term “depth” is used with appropriate specification of either a reference point for which one calculates a mean depth or a pair of points whose graph distance is being measured.

**Integration**

“Integration” is mathematically defined as a normalized and then relativized measure of depth which describes the layout from the point of view of each of its constituent spaces. Each and every space is taken as origin and the depth of the rest of the layout from that space is computed. Normalization expresses depth as a value between 0 and 1 by taking into account the number of elements in a layout. Relativization further modifies the normalized value to take into
account an empirical fact: as layouts become larger and more complex, their depth does not rise in proportion to size but remains limited within a smaller range. Larger integration values indicate a space which is more readily accessible from the rest of the layout. Lower integration values indicate a space which is less directly accessible from the rest of the layout. Greater integration simply means greater accessibility from the point of view of graph theoretic distance. The layout as a whole can be described according to the mean Integration of all of its spaces.

Once integration values have been obtained for all spaces in a layout, color codes are used in order to provide a visual representation of the variation of integration. Usually red is associated with higher integration and blue with lower, with the color spectrum between red and blue used to express intermediate values. In order to create a correspondence between numerical values and a limited pallet of colors natural breaks are used. Grayscale representations are also possible, with lighter shades associated with higher integration. The colored integration map becomes a powerful tool for intuitively examining the spatial structure of layouts. It helps us visualize relationships that otherwise remain invisible.

In general higher integration values have been found to correspond to higher densities of movement and greater likelihood of encounter and serendipitous interaction in a great variety of building types (such as Hillier, Hanson and Peponis 1984; Peatross and Peponis 1985; Hillier and Pen 1991). In museums more particularly, Choi (1991, 1999) showed the strong correlation between the degree of syntactic integration and intelligibility of the space and the number of visible people in the different museum spaces. The analysis demonstrated how museums are experienced and explored through patterns of integration and intelligibility of their layout and the ways in which the arrangement of objects respond to these patterns:

‘Museums become subdivided to accommodate the number of objects that they house and to express the categorical distinctions between objects. The way in which they are experienced and explored, however, depends upon the overall pattern of integration and intelligibility of their layout and the way in which the arrangement of objects responds to these patterns.’ (Choi 1991: xxii). Furthermore, the author found that in the spatial layout of museums with high integration, intelligibility and a balanced viewing of spaces across; visitors have more chance to make their own itineraries.
In a comparative study, Peponis (1993) demonstrated how the complex and localized layout of a museum, could make the visitor unable to find any social experience and sense of the entire museum space; or on the contrary, could govern their moving and viewing sequences into a coherent overall experience. The High Museum of Art in Atlanta, the author noted, takes conjoins local richness and global awareness and generates a richer social and pedagogical experience through integration core which constantly directs local patterns of movements in the galleries towards balcony-like spaces that are opened up to the socially vigorous core atrium.

The layout of the modern museum, Huang (2001) stated, set in two major genotypical themes which could offer a typology of museum buildings: one is the congregation of visitors which is realized by the integration core, where the gathering spaces occurs; and the other is an organized walking which is evidenced by the spatial organization to map knowledge and sequences of visiting. Analyzing the syntactic structure of a collection of museums from different time and places, he identified that the integration core of the museum turn out to be deeper with time. This influenced the pattern of co-presence and co-awareness by weakening the visitors’ physical encounter through movement and shifting it to the visitors’ virtual encounter through visibility. Psarra (2005) showed the ways in which the integration of display layout could be influenced by architectural properties such as axiality and spatial layering. She noted that syntactic properties of layout intercedes the association between the building and the objects in an interesting spatial experience.

*Integration Radius n*

Integration is computed to take into account all spaces of a layout. However, it is also possible to compute integration within a more limited range. For example, one could decide to consider only the spaces which are up to 2 steps away from each space and not others. In this case, one speaks of Integration radius 2. In this manner, one can compute integration to any given radius.
n. Of course, when the analysis sets the radius above a certain value the whole complex will be accessible from each of its spaces.

**Connectivity**

The measure of Connectivity of a given space simply measures the number of direct connections of the space to its immediate neighbors. Unlike integration, which can be understood only after exploring a layout, connectivity can usually be directly perceived. One can tell how many other spaces are permeable to a given convex space, or how many other lines intersect a given line of movement. One can also tell how many occluding edges are available within a visual field, and thus infer the amount of space which extends behind boundaries. Like integration, connectivity can also be represented according to color coding, with more connected spaces shown in red, or lighter grayscales, and less connected in blue, or darker grayscales.

**Intelligibility**

Based on the above, the intelligibility of a layout can be defined as an objective property, rather than a subjective perception. A layout is objectively more intelligible when the simpler relational properties that can be more readily perceived happen to be correlated to the more abstract properties that can only be understood after exploration. The most robust measure of intelligibility is the correlation between connectivity and integration. Other measures can be used. For example, one may correlate the area of the isovist (visual connectivity) to visual integration. Or, alternatively, integration up to a small radius of reference (often up to 2 steps away from each space) and integration computed with respect to the layout as a whole.

“**A Configurational Theory**”

In essence, space syntax analyzes layouts as configurational structures. Configuration is more than a set of relationships. For example, the matrix of all intersections between lines, or all
permeable connections between convex spaces, or all intersections between isovists, does not, in itself, provide us with a sense of integration. Integration uses the matrix of relationships as input in order to compute a configurational property. In short, configuration is about relationships taking into account other relationships (Hillier 1996). Configuration is defined as “at least, the relation between two spaces taking into account a third, and, at most, as the relations among spaces in a complex taking into account all other spaces in the complex” (Hillier, Hanson et al 1987: 363) as illustrated in Figure 5.5.

Figure 5.5: The configurational properties differentiate the two spaces a and b from each other taking into account whether both of them or only one of them is connected to the third space c

By analogy to language, the aim of space syntax is to discover the principles that drive the relational patterns found in a building. Choi’s research (1991) helps to provide an example with specific reference to museums. Some museums create a variety of alternative paths of movement. These paths, however, are so constructed as to suggest a hierarchy of importance. There is a more integrated spine, whether linear or more grid-like, and then there are also extensions from the spine into adjoining areas. These museums create a probabilistic likelihood that the more integrated spaces will be seen by all visitors; while the less integrated ones will be seen by only some visitors. If the layout is balanced, that is if the probabilities of exploratory movement are evenly distributed, even less integrated space will be visited by comparable numbers of visitors. Other museums allow only one major path of movement; they dictate the sequence of potential viewing. Also, with the limitations arising from museum fatigue, they dictate the range of viewing. Thus Choi came to distinguish probabilistic and deterministic
layouts. Both these terms describe principles rather than individual arrangements. There are many different kinds of deterministic layouts (for example with long vistas, or with short broken lines), and there are many different kinds of probabilistic layouts (for example imperfect grids, or labyrinth-like, or various forms of free plans.

To enhance understanding of museum morphology, Tzortzi (2007) conducted a synthetic research on the correlation and the interaction between the key configurational attributes of the display layouts and the organization of the objects. The analysis demonstrated that the major aspects of variability of spatial layout and display strategies originate from a set of fundamental principles. Based on the ways in which key configurational properties – such as integration and connectivity – and the basic spatial qualities – such as hierarchy and perspective – are addressed in design decisions, the author noted three fundamental strategies of relating spatial and display layout: enhancing the impact of objects by space, enhancing space by objects, and a third option that object and space maintain their independency.

In light of this brief introduction to the methodological and theoretical framework of Space Syntax, the following section represents the syntactic analysis of the HMA layouts to attain a precise description and quantification of the configurational association among display spaces.

5.2. Analyzing HMA: Profile of the Spatial Structure

In the earlier chapter, the archival study of the HMA showed that the 1997 layout transformation was aimed at creating a more determinate circulation system imposing a more rigid viewing sequence upon visitors. By contrast, the 2003 layout reintroduced multiple choices of circulation and cross-vistas into the exhibition spaces. This section continues the line of synthetic investigation of the transformations of spatial structure of the HMA in 1983, 1997 and 2003 utilizing a comparative examination of the syntactic and configurational properties of three
layout stages. The analyzed space includes only that part of the gallery floor accessible to the public and excludes auxiliary and service areas in the floor. The analyzed space is thus bounded by the shell walls, internal partitions and exhibit displays. Columns and small display islands have been disregarded in favor of not artificially increasing the number of spaces and connections. These are considered immersed objects in space rather than components of the spatial boundaries. The analysis is carried out in three levels: First, convex space analysis is based on the pattern of connections among components of space produced by breaking the floor into the fewest and the fattest convex spaces; Second, lines map analysis based on the pattern of intersections among the longest and the fewest lines drawn over the accessible space; Third, visibility graph analysis, based on the visibility among square-shaped unit tiles.


This layer of analysis takes into account the space is broken up into non-overlapping convex entities which create an interconnected continuous system. Convex spaces are shown with framed boxes in plan and circular nodes or vertices in graphs. Connections, i.e. adjacency relations among neighboring convex spaces, are displayed with dark stitches in plan and line links in graphs.

A heuristic examination of the size, shape and distribution of convex spaces shows that 1983 is composed of a rhythmic blend of two distinct kinds of spaces: large and elongated convex spaces which coincide with the main cross-shaped circulation, and much smaller spaces covering the bulk of galleries (Figure 5.6). In a stark contrast, the 1997 shows a complete reversal of that order in three ways: First, the cross-shaped circulation no longer maintains its lead with elongated and large convex spaces – it is broken down in several smaller entities; Second, there is less differentiation between the two extremes of rather large and much smaller space components – a smooth gradation from small to large takes place instead; Third, not all galleries are composed of numerous small components – the southwest corner emerges with larger
chunks while the rest maintains the dense fragmentation character. The recent 2003 refurbishment completely changes the order of 1997. In addition, as compared to the original design, elongated convex spaces reappear over the main circulation, hence reversing to a situation most similar to 1983, while the polarization between smaller and larger spaces becomes a feature that characterizes even the interior of the corner square galleries, hence differing greatly with 1983.

![Figure 5.6: Convex spaces of the HMA: 1983, 1997, 2003](image)

The pattern of convex space breakup is associated with a corresponding pattern of connectivity, which will be discussed next. The results of the analysis are tabulated in Table 5.1 and shown in figures 5.7 and 5.8. The graphic scale ranges from red-high to blue-low: most connected spaces are shown in red, while dead-ends with one connection are shown in dark blue. In the 1983
layout, the transition from a cluster of smaller convex spaces to other clusters frequently involves several intermediate steps. With regard to gallery spaces, this produces a repetitive and nucleated distribution of connectivity localized around a few distinct hubs which are separated from each other. As an observer walks past galleries she is presented with an alternation from chain-like spaces to nodes with high connectivity that offer choices for the subsequent direction of movement. In the main circulation, however, highly connected spaces join each other and create a larger elongated connectivity core covering most of the cross-shaped circulation. The rather high positive value 1.562 of this right-skewed distribution points to the fact that a few highly connected spaces stand out in comparison to a much less connected remainder of spaces.

In 1997, the sequence through spaces connected in chains becomes even more frequent; however, the highly connected spaces interspersed through galleries disappear. This lack of differentiation to the benefit of a majority of poorly connected spaces is reinforced also by a lower value of skewness of distribution at 0.855 (Table 5.1). The most connected hub in 1997 is a single space at the entrance, and the overall connectivity at 2.317 is the lowest for the three periods. There are secondary connectivity hubs, but these form neither a recognizable rhythm nor an overall global structure.

The 2003 design resembles the original design of 1983 with regard to the reappearance of a highly connected cross-shaped circulation. The connectivity of galleries has spread consistently and reaches to a high concentrated connectivity in the 204 gallery. In fact, the gallery 201 and 207 hold the highest amount of depth which indicates a clear contrast with balcony galleries with less depth and highest connectivity.

As an overall comparison, for a visitor, the 1983 exhibition journey begins from the less deep space of balcony galleries which suddenly turns into the deep space of the gallery 201. While in 1997 and 2003 this introduction and transition through exhibitions were with more gradual changes. In terms of connectivity, fragmentation was reduced in 1997 then increased in 2003 as
it was in 1983. The cluster of the most connected spaces, shown in red, changes from one layout to the other. In 1983, it covers the cross-shaped form of balcony galleries; it is reduced into a smaller linear zone stretching mostly east-west in the balcony galleries; whereas in 2003, its area increases back to the original 1983 shape to reach the entire balcony galleries.

So far, the analysis has looked at the manner in which spaces are related to their immediate neighbors and at the local properties of connectivity. The next step is to look at the overall experience of the layout, as captured by integration. The results of the analysis are tabulated in Table 5.1 and shown in figure 5.7b. The graphic scale ranges from red-high to blue-low: most integrated spaces are shown in red, while the segregates spaces are shown in blue. There is a great resemblance of the integration core in 1983 and 2003 which consists of the cross-shaped circulation and the adjacent galleries in the east and west. The three extremities of the galleries in northeast, northwest and southwest of the floor result segregated for both periods of 1983 and 2003. While the segregated area remains rather unchanged in 1997, the integration core is reduced to the east-west segment of the circulation loosing its south fragmented extreme. Compared across three periods, the mean integration drops from 1983 to 1997 and increases at its original level in 2003; having respective values of 0.682, 0.454 and 0.678. Similar to changes in connectivity over the years, the differentiation of integration, measured by the skewness of distribution, changes from 0.793 to 0.380 to 0.595, hence being the lowest in 1997 (Table 5.1).

Thus, the analysis shows that in 1997, there was a fundamental shift regarding the principles of layout design. Larger spaces were linked into longer sequences, without any evident attempt to define a global structure. The overall sense of accessibility of the space was reduced as a result.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Spaces</th>
<th>Number of Links</th>
<th>Number of Rings</th>
<th>Connectivity</th>
<th>Depth</th>
<th>Integration</th>
<th>Ringness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>105</td>
<td>138</td>
<td>34</td>
<td>mean 2.571</td>
<td>mean 7.406</td>
<td>mean 0.682</td>
<td>16.585</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>skew 1.562</td>
<td>skew -0.036</td>
<td>skew 0.793</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>82</td>
<td>94</td>
<td>13</td>
<td>mean 2.317</td>
<td>mean 9.778</td>
<td>mean 0.454</td>
<td>8.176</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>skew 0.855</td>
<td>skew 0.113</td>
<td>skew 0.380</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>91</td>
<td>112</td>
<td>22</td>
<td>mean 2.418</td>
<td>mean 7.188</td>
<td>mean 0.678</td>
<td>12.429</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>skew 1.440</td>
<td>skew 0.357</td>
<td>skew 0.595</td>
<td></td>
</tr>
</tbody>
</table>
Figure 5.7: Analysis of convex spaces of second level the HMA in three periods 1983, 1997, 2003 according to: a) connectivity; b) integration
Figure 5.8. Statistical distribution of Mean Depth, Connectivity and Integration for convex space analysis according to three periods 1983, 1997, 2003
At this point, the reader is reminded that, museum galleries, as a spatial type, have been generally described by “deep interconnected rings of space” within two extreme layout potentials: one is the layout with the form of a single sequence of spaces in which every viewer is forced to go through “the same sequence of spaces in the same order”, hence a single large ring of spaces (Figure 5.9a); and another extreme is a layout with maximally connected grid of spaces (Figure 5.9b) which offers viewers so much choice without constraints that makes her a new but complex experience as is hard for her to understand and visit galleries in an orderly sequence (Hillier and Tzortzi 2006: 298). The mode in which spaces are connected to each other, therefore, is a crucial factor for the pedagogical and social function of the museum because it influences the pattern of visitors’ movement in exhibitions hence the way in which they encounter to information and to each other.

Convex analysis has shown that the 1983 provide alternative ways of moving around the galleries, both locally (choices of circulation within the corner square pavilions) and globally (alternative entries from the balcony galleries to the more highly subdivided areas in the periphery of the building). One could return to any starting point without having to back on her step. It would seem that the circulation rings bring spaces closer to each other despite the overall fragmentation of the layout and the intermediate transitions involved. In 1997 there were
much fewer circulation choices and much longer imposed sequences of movement. Circulation choices came back in 2003 but the simpler pattern of subdivision is associated with fewer circulation choices than there were in 1983.

**Justified Graph**

Graphs of convex partitioning for three stages have been justified from the same space at the floor entrance near the elevator. Justified graphs visualize several key morphological properties of layouts including depth, the extent of rings and the degree of choice. Nodes have been numbered according to the gallery in which they belong, according the legend shown in figures 5.10, 5.11 and 5.12. For example, spaces of the gallery 204 in 1983 have been numbered F1 to F13. Spaces belonging to the balcony circulation are numbered with K, those in gallery 201 with C, while those in gallery 207 with J. The examination of the justified graphs is aimed at the second level floor in general, with particular focus on the spaces of gallery 204, which are shown with dark fill.

In 1983, the circulation spaces K occupy crucial gate-keeper positions commanding the access to other spaces. They are located shallow and near the floor entrance (Figure 5.10). Three main galleries, C, F and J are located a few steps deeper, ranging between levels 4 and 10, while spaces F are slightly less differentiated among themselves ranging at depth levels between 5 and 8. Due to the numerous rings, demonstrated by the ringiness at 16.585, the visitor has the choice to skip certain galleries and direct her exploration accordingly. The situation in 1997 changes drastically. The layout is much deeper, peaking at a depth level of 23. It is organized along two main rings: first, a shallow one consisting of the balcony circulation K and the ramp A; second, a much deeper one containing all the galleries. Compared to 1983, the ringiness has dropped to 8.176. There are few small branches and secondary rings along this very deep space. While galleries 201 C and 207 J are positioned between depth levels of 6 and 12, gallery 205 F occupies the deepest space at levels 17 to 23.
Figure 5.10: Convex analysis of the second floor HMA in 1983
a) convex partitioning  b) justified graph from the floor entrance
Figure 5.11: Convex analysis of the second floor HMA in 1997
a) convex partitioning  b) justified graph from the floor entrance
Figure 5.12: Convex analysis of the second floor HMA in 2003  
a) convex partitioning  b) justified graph from the floor entrance
Unlike 1983 layout, the galleries 205 F are entirely detached from the balcony circulation and are accessible only via intermediate galleries. The movement of a visitor is directed from one space to another with no choice on how the galleries can be explored. The 2003 layout reverses to the original 1983 arrangement by increasing the ringiness at 12.429, and reinstating the shallow structure of the plan.

The result recall Hooper-Greenhill's (1999: 33) discussion on museum exhibitions which has a framework similar to the types of display layout potentials by Hillier and Tzortzi (2006), as discussed earlier. Hooper-Greenhill suggests two models of communication: one is networks of contacts which demonstrate a non-hierarchal system within a free-flowing and dynamic structure (Figure 5.13a). In such organization, any component of the network can contact any other component as the connections between parts are “open and equal”. The network model is comparable to the HMA 1983 layout which presents an equal distribution.

Another model is hierarchized chain which is founded on power and authority; in such system, the communication among components flows from the top down (Figure 5.13b). The structure, therefore, is rigid and links among parts and their sequence are very strongly defined. The hierarchized model is comparable to the HMA 1997 layout which presents an equal distribution.

![Figure 5.13: Two models of communication: a) networks of contacts; b) hierarchized chain](image)

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The minimal set of longest lines is drawn over the accessible space of the gallery floor for three periods. As discussed earlier, this representation enables one to gauge the potential of space for directing movement in linear directions. Given the strong correlations between line map properties and observed patterns of pedestrian movement reported in the space syntax studies, the analysis of line maps permits making projections about the space use. Line maps are analyzed using Depthmap developed by Turner at UCL producing two outputs: first, a graphic representation with lines colored according to values for specific measures; second, numerical data that are used to probe further the statistical measures of the mean, data range, and skewness of distribution. The results of the analysis are shown in Table 5.2 and Figures 5.14 and 5.15.

Compared to the original design of 1983, the number of lines in the 1997 layout drops from 64 to 49, and increases slightly to 53 in the 2003 layout; still not matching the count of 1983. In some respects, this indicates a simpler layout in 1997, because fewer lines are sufficient to cover roughly the same exhibition area. As it will be seen below, however, part of the apparent simplification in 1997 is due to the elimination of circulation alternatives. In 1997, the original cross-shaped balcony circulation is truncated into an L-shape by closing the links with galleries N and M. This move has reduced the number of rings as it was made evident from the justified graph representation. The length of lines has been continually increased through the years by about 6 feet. Thus, as the internal layout evolved, visitors could gradually walk along longer lines. However, this change in the mean values occurs parallel to a decrease from 1983 to 1997 for the maximum length of 125'-7" to 92'-4", and a reverse back to the original maximum line length of 125'-8". As shown by the Skewness of distribution at 0.543, the 1997 layout stands out as the least differentiated with regard to the line length, a fact that is reminiscent of the lack of differentiation in the convex space partitioning for that same year. As easily grasped by the heuristic comparison among the three layouts, the 1997 appears as a collection of lines that
gradually change size, while in 1983 and 2003 a few longer lines stand out and connect most of the layout together. These lines act like major orientation anchors. Given the architectural character of the corresponding spaces – the exhibition galleries around the atrium – these lines act as part of the global perceptual and cognitive structure of the building. From the point of view of the lines of movement, therefore, the 1997 layout embeds a less clear hierarchy. All lines, and their associated vistas, appear equally significant and none of them spans the building as a whole in any direction.

Figure 5.14: Axial line map analysis of the second floor HMA in 1983, 1997, 2003

Mean Integration decreases from 1983 to 1997 (1.509 to 0.935), while it increases sharply in 2003 (1.888). The decrease of integration in 1997 indexes the fact that movement sequences
become longer. Visitors are taken though more extensive obligatory paths. The differentiation of Integration, measured with the Skewness of distribution, follows the same trend; hence matching the earlier findings about measures of convex breakup analysis and the Line Length for the linear analysis, with values changing from 0.722 to 0.146 to 0.809. The discussion can now clearly characterize the 1997 layout. From the point of view of movement it involves longer sequences from one vista to another, with fewer circulation choices – as indicated by the decrease in integration. At the same time, it involves a greater homogenization of space, as line length gets to be less differentiated, and as the distribution of integration values gets flatter and less skewed (Table 5.2).

Table 5.2. Summary of measures from the line map analysis of the HMA in three periods 1983, 1997, 2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Lines</th>
<th>Line Length</th>
<th>Connectivity</th>
<th>Integration</th>
<th>Intelligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>64</td>
<td>min 13' - 11&quot;</td>
<td>min 2</td>
<td>min 0.749</td>
<td>r = 0.855</td>
</tr>
<tr>
<td></td>
<td>max 125' - 7&quot;</td>
<td>max 14</td>
<td>max 2.527</td>
<td>max 1.509</td>
<td>r2 = 0.731 p &lt; 0.0001</td>
</tr>
<tr>
<td></td>
<td>mean 41' - 9&quot;</td>
<td>mean 5.063</td>
<td>mean 0.722</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>skew 1.850</td>
<td>skew 1.404</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>49</td>
<td>min 14' - 10&quot;</td>
<td>min 1.000</td>
<td>min 0.637</td>
<td>r = 0.658</td>
</tr>
<tr>
<td></td>
<td>max 52' - 4&quot;</td>
<td>max 8.000</td>
<td>max 1.248</td>
<td>max 0.935</td>
<td>r2 = 0.433 p &lt; 0.0001</td>
</tr>
<tr>
<td></td>
<td>mean 47' - 4&quot;</td>
<td>mean 4.204</td>
<td>mean 0.713</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>skew 0.534</td>
<td>skew 0.713</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>53</td>
<td>min 13' - 5&quot;</td>
<td>min 2.000</td>
<td>min 0.968</td>
<td>r = 0.883</td>
</tr>
<tr>
<td></td>
<td>max 125' - 8&quot;</td>
<td>max 15.000</td>
<td>max 3.408</td>
<td>max 1.888</td>
<td>r2 = 0.797 p &lt; 0.0001</td>
</tr>
<tr>
<td></td>
<td>mean 52' - 1&quot;</td>
<td>mean 6.415</td>
<td>mean 1.888</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>skew 1.083</td>
<td>skew 0.690</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>skew 0.810</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 5.15. Statistical distribution of Line Length, Connectivity and Integration for line map analysis according to three periods 1983, 1997, 2003
The transformations of the distribution of the integration further reinforce this interpretation. In 1983 and in 2003 the line integration core covers the major balcony galleries and comprises lines that traverse the full extent of the building. In 1997, the integration core consists of a hub, near the intersection of the balcony galleries, branching into exhibition spaces. A similar distribution of colors is observed for the integration radius 3.

Intelligibility gauges the potential of the layout to be understood in its entirety by means of grasping local properties. It is measured with the correlation of the regression between the global measure of Integration and the local measure of Connectivity. Figure 5.16 shows the scatterplots between the two measures for three stages, with correlation its significance shown in the upper right corner. The values are also tabulated in the rightmost column in Table 5.2. The 1983 layout and 2003 layout result as being the most intelligible with respective values at 0.731 and 0.797, whereas the 1997 shows a low intelligibility with a correlation at 0.433. All three regressions are significant as demonstrated by very low probabilities <0.0001. The reduction of choices of circulation in galleries to favor a forced sequence of view has undoubtedly produced an unintelligible layout in 1997. Visitors are unaware of the entire structure of the floor, and are likely to explore the exhibit similar to walking through a maze. In contrast, layouts of 1983 and 2003 enable one to understand the spatial structure of the floor by means of the long vistas and movement paths that anchor the entire floor together.
Figure 5.16. Scatterplots between Connectivity and Integration showing the degree of intelligibility for three layout periods.

The visibility graph analysis is based on the representation of the gallery floor with a 15cm x 15cm square tile tessellation. Using DepthMap, software developed by Alasdair Turner at University College London, visual connectivity and integration values are computed for the network of visibility connections among tiles. Visibility graph analysis was applied to two versions of each plan. First, the analysis takes into account all boundaries that block movement, including transparent boundaries or window openings. This essentially applies the mathematical idea of “visibility” to an analysis of the range of movement destinations that are available from a point. Thus, “accessible area” refers to the mathematical measure of connectivity and “integration of access” refers to the mathematical measure of integration applied to this version of the plan. Second, the analysis takes into account only the boundaries that block visibility as well as movement. Thus, “visible area” refers to the mathematical measure of connectivity and “visual integration” refers to the mathematical measure of integration applied to visual relationships. In both cases, in order to translate connectivity into an approximation of area, the analysis takes into account the size of tiles. In short, “area” always refers to the amount of space that is directly available from a position, either to see or to move to, without crossing any boundary. “Integration” always refers to the “number of corners” one must turn around before all areas of a plan become available to her, to see or to move to; the greater the Integration the fewer the corners she must go round.

In the analysis, “available area” refers to all spaces that can be visited by museum visitors hence it excludes administrative and curatorial offices, as well as storage or utility spaces. Furthermore, the atrium is excluded, in order to concentrate on the spaces that can be reasonably said to be “occupiable” by visitors. This decision was dictated by the fact that presently available software does not permit us to treat atrium spaces as subsets of tiles that can be “looked at” but cannot be used as origins to “look from”. Including the atrium would introduce in the analysis a stronger distorting bias than excluding it.
The results of analysis are presented in Table 5.3. The third column shows that the area that visitors can occupy has gradually increased as raised display platforms and deep display cases have been reduced in number and size. The area available to be seen has remained more constant with a small reduction in 1997 and a small increase in 2003 as compared to 1983. The more interesting information is contained in the fourth and fifth columns. The fourth column shows that the area which is directly accessible from the average position has steadily increased, while the area which is visible has first dropped significantly and then increased dramatically. Taking the ratio of visible over accessible area, the result indicates that it was substantially reduced in 1997 and restored in 2003. Simply put, the 1997 layout dramatically reduced the views across internal partitions. The excess of direct visibility over direct accessibility that characterized the original design was severely curtailed. Objects became more visually contained within the spaces occupied by visitors.

<table>
<thead>
<tr>
<th>Date</th>
<th>System</th>
<th>Total Floor Area (m²)</th>
<th>Connected Area (m²) per tile on average</th>
<th>Integration per tile on average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1983</td>
<td>Walk</td>
<td>914.48</td>
<td>55.15</td>
<td>5.69</td>
</tr>
<tr>
<td></td>
<td>See</td>
<td>1248.13</td>
<td>92.37</td>
<td>8.29</td>
</tr>
<tr>
<td></td>
<td>See/Walk</td>
<td>1.36</td>
<td>1.69</td>
<td>1.41</td>
</tr>
<tr>
<td>1997</td>
<td>Walk</td>
<td>1075.55</td>
<td>61.99</td>
<td>5.11</td>
</tr>
<tr>
<td></td>
<td>See</td>
<td>1183.15</td>
<td>75.75</td>
<td>5.91</td>
</tr>
<tr>
<td></td>
<td>See/Walk</td>
<td>1.10</td>
<td>1.22</td>
<td>1.16</td>
</tr>
<tr>
<td>2005</td>
<td>Walk</td>
<td>1102.58</td>
<td>75.21</td>
<td>7.06</td>
</tr>
<tr>
<td></td>
<td>See</td>
<td>1269.41</td>
<td>120.06</td>
<td>9.18</td>
</tr>
<tr>
<td></td>
<td>See/Walk</td>
<td>1.15</td>
<td>1.60</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Integration with respect to access was slightly reduced in 1997 and substantially increased in 2003 as compared to 1983. By contrast, Integration with respect to visibility was dramatically reduced in 1997 and then increased in 2003. In other words, the 1997 layout was less integrated than the other two, especially so with respect to visibility. This is also picked up by the ratio of visual Integration over the Integration of access. The excess of visual Integration over the Integration of access was dramatically lower in 1997.
The analysis indicates that the 1997 layout constituted a significant departure from the principles embedded in the 1983 layout. This is evident in the following ways: 1) Overall reduction of Integration and even greater reduction of visual Integration. 2) Reduction of the scope of visual fields, especially visual fields across partitions and boundaries. 3) Reduction of the excess of visibility as compared to accessibility. The 2003 layout restored and indeed enhanced Integration. It also created larger visual fields. The excess of visibility over accessibility was brought back but did not quite reach the 1983 levels because of the dramatic reduction of internal partitions, with or without openings.

Syntactic Centrality

Turning the attention from numbers to the spatial distribution of the measures (Figure 5.17), the analysis shows a fundamental shift regarding "syntactic centrality" which refers to areas from which the plan becomes more readily accessible, visible and intelligible, as distinct from shape-geometric centrality, the region which is simply "in the middle" of a plan-shape. In the 1983 plan, the tiles associated with greater visible and accessible area, as well as with greater visual Integration and Integration of access, include, most prominently, those near the intersection of the balcony galleries. This is a pivotal region for the layout as a whole. It provides both views into the peripheral galleries scaled to showcase individual displays, and into the atrium, scaled to celebrate the museum as a whole. It permits visitors to appreciate the theater of processional movement along the ramp. It also acts as an orientation point. In 1997 the same area lost its syntactic importance. While retaining its connection to the atrium it lost its role as a point of reference for those moving in the peripheral galleries. It ceases to act like the spatial center of the museum as a whole. In fact, the 1997 layout represents an attempt to move away from any emphasis on centrality and to moderate the importance of the atrium as a reference point for overall navigation and experience. The analysis will illustrate later on that the same eschewing of centrality can be traced in the handling of the layout inside the four corner square pavilions. In the previous chapter, it was shown that the subversion of the centripetal forces of the original
plan is linked to a new curatorial philosophy which seeks to juxtapose alternative exhibition themes without allowing a single idea or narrative to dominate.

The 2003 plan reinstates the original emphasis on syntactic centrality. In addition, as shown by the distribution of high Integration values, it creates recurrent interconnections between the peripheral galleries and the atrium. The plan represents an attempt to orient visitors with respect to the building as a whole at all times. The earlier chapter unfolded that this is associated with a curatorial philosophy that seeks to minimize the spatial mediation between the museum as a whole and the individual work of art.
Figure 5.17. Visibility graph analysis of the HMA: 1983, 1997, 2003
5.2.4. Tensions between Architecture and Space: 1983-1997

Based on the preceding argument the 1997 plan appears as an interruption, a departure from the original spatial thesis aimed at accommodating a very definite curatorial philosophy. As shown earlier (in Figure 4.4), SEB adjusted their own formal language to respond to the language of Meier through the configuration of surfaces and the interpenetration of volumes. Should one, therefore, conclude that there is a deflection of a single architectural language towards different spatial aims, or should one conclude that there is a gap, an arbitrary relationship, between architectural language, defined as an interplay of physical shapes, and spatial language, defined as an interplay of continuously linked fields of movement and visibility? Meier has designed the HMA as an architecture of embodiment, and architecture where, in his own words “the movement system is a viewing system.” Peponis (2005) has previously argued that the reflexive integration of embodiment within the design of the physical fabric of the building is given in the handling of columns. Columns lie on a regular grid. At the same time they get staged in different conditions, as if to highlight the dynamic spatial fields engendered by the architecture.

Figure 5.18 shows the isovists from three critical columns at the corner pavilion: the central column and the two columns marking the entrances and acting as devices which slow down the pace of movement as one enters. In 1983, the column isovists (the areas from which columns become visible), extend in all directions and radiate into several “spikes”. In 1997, the isovists radiate in a more limited spectrum of directions. In 2003 they radiate in all directions again, but through a more limited number of “spikes”. Thus, while in 1983 and 2003 columns act as devices which center a surrounding field, in 1997 they act as devices which mark an oriented field. There is, in 1997, a certain sense of frontality which is absent in 1983 and 2003. The spatial ethos of the architecture has clearly changed.
To study the consequences of this for viewers’ experience, the isovists were drawn from the centers of the main convex spaces associated with each of the 9 columns of that same pavilion (Figure 5.19). What is true of the column isovists is also true of the convex space isovists, certainly in the vast majority of cases. In 1997, isovists extend in fewer directions and in fewer spikes. Visitors become situated in a more definitely oriented space; their paths are pulled in more definite directions.
Figure 5.19. Isovists from convex spaces for three periods: 1983, 1997, 2003
Thus, in short, one might say that there is a shift from a space of intersections, which almost synchronizes the viewer position to all surrounding positions from which it becomes visible, to a space of sequence, a more narrative space.

5.2.5. Spatial Changes and Display Narratives

The preceding sections of this chapter documented the spatial history of the HMA at three critical points in time: 1983, 1997 and 2003. The analysis of those changes supports the conclusion that the history of the HMA involves radical discontinuities in the principles that govern exhibition layout and the associated kinesthetic experiences of viewers. But how do the significant changes in the spatial organization interact with the curatorial narratives and exhibition messages? In this section this question will be approached in a preliminary way, in anticipation of the more detailed discussion in the chapter 6.

One way to approach the question is to look at the relationship between the break-up and relational structure of space, and the conceptual organization of the exhibitions. Figure 5.20, as shown in the earlier chapters, maps the main curatorial classificatory categories announced through inscriptions on the museum walls or through the organization of corresponding exhibition catalogues based on the HMA archival materials.

In 1983, the second floor was mostly, but not entirely, devoted to the Decorative Arts exhibition (Figure 5.20). The curators used 19 different labels were used in order to make appropriate categorical discriminations. The criteria that are implicit in the labels range considerably so that no overall order is apparent. Some labels reproduce traditional stylistic categories, such as “Classicism”, some are historical, such as “Medieval tradition”, some pertain to materials such as “Cast-iron furniture” some are geographic, such as “African Art”, some simply state the name of collection donors, such as “Frances and Emory Cocke Collection” and some represent sub-categories of the above, such as “French Classicism” or “Late 19th Century
Eclecticism”. Even a superficial perusal of these labels suggests not only a multiplicity of contents but also a multiplicity of classificatory criteria.

Figure 5.20. The curatorial organization of the exhibitions narrative: 1983, 1997, 2003
In 1997, there are 21 detailed labels which are organized under 7 major headings (Figure 5.20). Thus, there is a clear transition to a more coherent two-level conceptual scheme. Two things, however, must be noted. First, the main exhibition narrative encompasses 6 major headings and 16 detailed labels. The “Multiple Choices” heading and its 5 sub-headings really describe collections named after their donors. The 6 main headings introduce the visitor to a manner of seeing art: Compare and Contrast, Life in Art, Reflections of Faith, Culture and Commentary, the City Seen and the Human Figure.

In 2003, there are only 9 labels under 2 main headings, European Art -14th to 19th centuries and American Art 18th-mid19th centuries (Figure 5.20). The labels indicate an effort to alternate between overview and detailed appreciation. Thus one reads “English ceramics” but also “A closer look: A view of Amsterdam Harbor”; “Colonial and Federal Periods” but also “A closer look: German Traditions in American Art”.

Prior to examining at the relationship between categorical distinctions and spatial layout, one can, therefore, draw a tentative conclusion. Curatorial philosophies have significantly changed. In 1983 the visitor was confronted with a juxtaposition of classificatory emphases, presumably in order to be encouraged to look at contents from a variety of perspectives. In 1997, the visitor was confronted by a more systematic didactic narrative developed so as to absorb pre-existing classifications by donor as yet another indication that art can be seen from multiple points of view. In 2003, the visitor is confronted with a much simplified classificatory scheme. Based on previous chapter, this was in order to allow attention to focus on the individual work of art.

The first question to ask, in examining how categories are laid out in space, is whether a correspondence is established between physical boundaries and subdivisions and categorical distinctions. In 1983, there was no correspondence between the boundaries of categories and the main spatial units of the museum. The three square pavilions are given to 4, 4 and 2 different categories respectively. The intervening sequences of spaces to 3 categories each. Even the balcony galleries are unevenly covered by the classification. “African Art” encompasses all of the
western balcony as well as part of the northern one. The Chinese Collection takes up only part of the northern balcony. If one was to infer any overall logic for the mapping of categories onto space, it would be this: the more public balcony galleries are given over to art that originates at a geographical and historic distance; the more elaborately subdivided galleries are given over to the more familiar objects of decorative art. Insofar as the layout of the more subdivided galleries imposes particular structures of viewing and moving, as shown earlier, it is used to lead viewers to look in new ways upon objects that are more readily connected to daily experience. On the other hand, the placement of less familiar objects in the more public balcony galleries works as a preliminary mechanism of distancing; it suggests that art encompasses difference.

Looking more carefully at the layout in relation to the preceding spatial analyses one note that African Art and the Chinese Collection cover the axial and convex integration cores, by the atrium (Figures 5.21a, b, c, d). Thus the viewer is not only confronted by the interplay between unfamiliar objects and a great space, but also with the most pronounced contrast of scale, ranging between the scale of the atrium and the scale of the porcelain vase. As one proceeds from the balcony galleries into the main body of the exhibition the pace of exploration is slowed down by axial fragmentation, and the range of experience is framed more deliberately by the exhibition space break up (Figure 5.21d). The visitor is invited to look more carefully at distinct views, encompassing parts of the collection. At the same time, the same individual objects are likely to be seen multiple times and from multiple points of view as visitors’ paths meander through the exhibition and circle free standing display cases or boundaries. In this context, it is very significant that the visual integration core cuts right through the northern and western sequences of galleries. The layout offers cross views across many layers of distance and many categorical labels. This is the clearest evidence that viewers are invited to make their own comparisons and to treat local arrangements as only one of the ways in which objects can be appreciated and understood. The interaction, and tension, between the categorical break up of space and global cross visibility is captured more diagrammatically in Figure 5.22.
Figure 5.21. Overlapping of the curatorial organization of exhibitions with the spatial organization for three periods: 1983, 1997, 2003: a) the curatorial organization of the exhibitions narratives; b) convex connectivity; c) convex integration; d) axial lines
In 1997, there is a correspondence between the main spatial units of the museum. For instance, while the north-eastern square pavilion includes five collections and the “issues of connoisseurship” part of “compare and contrast”, the entire set works to suggest that there are multiple points of view that govern collecting and appreciating art. The north-western square pavilion is devoted to sub-sections of works of art as “reflections of faith”. Finally the South-western pavilion is entirely devoted to art as a way of seeing the city. Similarly the intervening gallery spaces hold coherent themes, whether on “life in art” (northern zone) or on “culture and commentary” (western zone). The greater correspondence between categorical and spatial boundaries complements the containment of visual fields and the fragmentation and lines of movement noted in the analytical sections of this chapter (Figures 5.21a, b, c, d). Overall, the aim is no longer to suggest multiple comparisons but to help communicate precise messages and
ensure that viewers’ experience is entirely geared to the reception of these messages. The tension between the curatorial categorical break up of space and global cross visibility is captured more diagrammatically in Figure 5.23.

The syntactical analysis helps augment the argument, especially when one takes into account the analysis which does not take into account the fire exit allowed between exhibition spaces and exhibition balconies between “reflections of faith” and “culture and commentary”, an exit which is certainly architectural understated. While in 1983, the axial integration core run along the balcony galleries and penetrated into exhibition spaces, now it runs almost exclusively at the circular perimeter of the atrium, which provides the efficient link between the main entrance and the main exit of the exhibition spaces (Figure 5.24). This shift accentuates the fact that the
pedagogical space of the exhibition becomes severed from the experience of the atrium as the fulcrum of architecture. The underlying logic of the original design is thereby fundamentally transformed, even though the building shell remains essentially unaffected. The layout has become much deeper as is further confirmed by the justified graph from the entrance (Figure 25).

Figure 5.24. a) The modified layout in 1997; b) axial line map analysis; c) visibility graph analysis – connectivity; d) visibility graph analysis - integration
Figure 5.25: Convex analysis of the second floor HMA in 1997 without considering the fire exit
a) convex partitioning b) justified graph from the floor entrance
A more subtle change is revealed when one looks more carefully at visibility analysis in conjunction to the exhibition contents (Figures 5.21, 5.22 and 5.23). The visual integration core remains placed at strategic points along the balcony galleries. The core also penetrates the interior of the western wing but much less so the interior of the northern wing (in 1983 it penetrated both wings). This suggests that visual fragmentation is more intense in the earlier phases of the exhibition narrative ("compare and contrast", "life in art" and "reflections of faith") and become more relaxed later ("culture and commentary" and "the city"). The interpretation of this result is greatly assisted if one remembers that visitors are invited to enter the north-western square pavilion upon reaching the top of the ramp, or the elevator lobby, and prior to advancing along the balconies. Thus, the balconies (which include the strongest areas of the visual integration core) come last. And yet what the balconies discuss is how art deals with that with which one is more intimately familiar, the human body – in contrast to 1983 when the balconies showed the least proximate material. What this means is that after the viewer is initiated into a particular way of looking at art, through thematic compositions that occupy visually distinct spaces, the viewer is invited to look at what is already known more intimately (the human body), from a new perspective (the perspective of art) at the end of the whole experience, in the grander space available. The whole process works from more fragmented to larger spaces and from various abstract themes to the depiction of the body situated inside the grander space. In short, the handling of space lends deliberate progression and drama to the narrative, taking it to a climax.

The 2003 exhibition retains the notion of correspondence between categorical boundaries and the main units of the museum architecture (Figure 5.20). The north galleries are given over to European Art while the western galleries to American Art. The north-eastern pavilion accommodates European Renaissance and Baroque Art, the north-western pavilion accommodates the period from neo-classicism to impressionism and the south-western the American antebellum years. The dominance of linear narrative of 1997 however is dropped. The exhibition returns to the older principle of juxtaposition of categories. Both the axial and the
visual integration cores are distributed in a way similar to 1983 (Figure 5.21). From the point of view of visibility this means that there are strategic cross-views that link across the various categories of European Art in the northern sequence and American Art on the southern. Viewers are, therefore, encouraged to both understand the classification and compare objects across classes. The main difference from 1983 lies in the use of the balconies. On the side of American Art the balcony is devoted to yet another class, “the antebellum years”, which is equivalent to the other classes. On the side of European Art, the galleries are devoted to “sculpture” and a “sitting and reading area”. In other words there is ambiguity as to how to take advantage of the grander spaces in the exhibition: whether to treat them as yet another part of a sequence, without implicit acknowledgment of the special architectural character, or whether to concede them to more social uses.

This preliminary analysis of the relationship between layout and curatorial principles of categorization suggests that the three distinct phases of spatial history are associated with distinct phases of curatorial emphasis. The discussion moves from an apparent intent to invite comparisons across a multiplicity of categorization criteria, to an intent to structure a dominant narrative, to an intent to present simpler classes without special emphasis to any one of them. In the next chapter the interactions between layout design and exhibition arrangements will be discussed in greater detail. The emphasis will shift from the overall categorization to the placement and display of individual objects.

5.3. Synopsis

This chapter presented a concise introduction of the methods of Space Syntax theory used in this study, therefore, initiated the ground for syntactic examination of the HMA. The analysis supports the conclusion that the 1997 exhibition layout represented a fundamental departure from the principles embedded in the 1983 original design. In 2003, a simplified version of the
1983 layout was re-introduced. Thus, the relatively brief history of the HMA is characterized by at least two fundamental discontinuities. A new set of ideas is initially adopted and then dropped. By comparison to the original 1983 layout, the characteristics of the first evolutionary rupture can be summarized as follows: fewer convex spaces, longer imposed sequences, fewer circulation rings, a much attenuated sense of a global structure; also, fewer lines of movement, with a less dense pattern of connections, that never traverse the building and never add up to a global structure; finally, a severe limitation of the views across partitions that characterized the original layout, and a diminution of the importance of the atrium as a reference point.

These changes can be conceptualized from several points of view. First, the 1997 layout indicates a shift to a more didactic exhibition design. Viewers are processed through a particular spatial message. This, however, is the most generic aspect of the change. More subtly, the 1997 layout suggest a uniformity of experience, while the 1983 layout implied various kinds of duality: First, a dualism between the orders of visibility and accessibility; Second, a duality between the global cruciform structure of circulation flanking the atrium, and the local structure, meandering through the galleries; Third, a duality of scales, the scale of the small convex space on one extreme, and of the atrium as a whole on the other. In short, while the 1997 layout invites viewers to experience space as a sequential narrative, the 1983 layout invited them to experience space as an interface of qualities.
Chapter 6: Emergent Structure: An Analogous Analysis of the Architectural and Curatorial Design

Outline

This chapter presents a more detailed analysis to the correlation between architectural and curatorial design properties and the ways in which they constitute the spatial dimension of a gallery. The study concentrates on the layout of gallery 204 at the HMA second floor during the 1983, 1997 and 2003 installations. Gallery 204 is selected because: first, it holds a strategic position in the overall layout - near the intersection of the balcony galleries- which has changed most dramatically over the years; second, it has most clearly accommodated different curatorial philosophies; and, third, it encompasses the fundamental notion of rooms within rooms. The structure of chapter can be summarized in four sections as follows: First, the discussion opens up with a detailed introduction on the objects on display and their spatial arrangement with particular emphasis on the location and exposure of the most prominent displays; the intent is to study in detail how objects are positioned and displayed in gallery 204 in the three periods 1983, 1997 and 2003 in order to better understand the interplay between layout design and exhibition strategies. Second, the discussion turns into main argument that will be built in this chapter. The fields of visibility and co-visibility are the key underlying spatial morphologies that carry curatorial intentions and govern visitors’ experience. Cross-visibility, as a particular mode of co-visibility that involves views across transverse boundaries, has been among the most telling effects of the original design. Tracking the extent to which co-visibility and cross-visibility have been limited or enhanced over the years has provided the most tangible clues about the interaction between design and curatorial intentions.
However, one very distinct quality of the HMA as designed by Meier has been the creation of overlapping shapes and sub-shapes, evident in 2-D and in 3-D. Therefore, the chapter, in its third section, tracks the diminishing presence of such shapes and sub-shapes in 1997 and their slight return in 2003. The occurrence of overlapping shapes and sub-shapes offers to the attentive viewer specifically architectural clues that the objects on display can be compared and grouped in alternative ways, either within the immediate field of vision or within short term memory evolving as the visitor explores unfolding views through movement. There is no indication, however, that curatorial intentions have very explicitly engaged this distinctly architectural potential. The fourth section studies the interface between the groupings, which is potentially generated by the spatial arrangement and the architectural sub-shapes, with the classifications, which is implied by the curatorial labeling of objects.

6.1. Objects

The detailed description of the layout of objects can illuminate and contribute to the discussion of the layout of space and the ways in which these two layouts correlate with each other. The following parts, therefore, provide an overview of the description and spatial distribution of the displayed objects during the 1983, 1997 and 2003 installations. The first task, to be completed in this section, is to establish a catalogue of objects that were displayed in the gallery during the three periods and whose location can be reconstructed from available photographic evidence, drawings, or other archival sources of information. With regard to the 1983 and 1997 exhibitions, the study identifies the exhibited objects and reconstructs their arrangement based on slides and documents from the HMA as well as SEB archival materials; for the 2003 installation, the study identifies the objects through direct observation.
The Layout of the Objects: 1983

In 1983, as shown in earlier chapters, Gallery 204 contained paintings and furniture of four curatorial categories: 204.a displayed French Classicism, 204.b exhibited Renaissance Revival and New Classicism pieces from 1855 to 1875, 204.c showed Innovative Furniture and 204d displayed Rococo Revival art pieces crafted between 1845 and 1865. Based on the HMA archival slides, galley 204 exhibited 57 objects, 24 of which the author was able to identify detailed information (Figure 6.1).

Figure 6.1. The layout of objects in Gallery 204 during the 1983 installation
Among the identified objects, the analytical study will focus on thirteen significant objects described below which have been frequently exhibited over the years and discussed and highlighted in the HMA archival materials (Figure 6.2). The highlights of Gallery 204 encompassed objects such as the Mantel Garniture, 1865-1875 in bronze, gilt brass and glass retailed by J. E. Caldwell and Company; A Sofa and Four Sides, ca. 1855 in modern silk velvet and silver thread by Henry Belter; a silver luxurious Tiffany and Company Tea and Coffee Set, 1854; a silver Hot Water Kettle on Stand, ca. 1850 possibly by George Sharp; a Sideboard, ca. 1855 in walnut, poplar, marble by probably Philadelphia, Pennsylvania; the Wooton Patent Office Cabinet Secretary, c1880-1884 in walnut, maple, white pine, cardboard and bronze designed by William S. Wooton; an Armchair, ca 1875 in ebony, marquetry of ivory, mother-of-pearl, lighter woods and red pine, probably by New York City; a Century Vase, 1876 in porcelain, gilt decoration designed by Karl L. Muller; an Armchair, ca 1870; Neighbors, 1940-42 a painting by American artist Bill Traylor and an Étagère, 1850-1857 by Alexander Roux with intricate sculptural carving; a Tall Clock, ca. 1860 in walnut veneer, glass, gilt and bronze by Gustave Herter luxurious; and Piano, ca. 1876 in ebonized cherry, bird’s-eye maple, ash, spruce, gilt, ivory by Hallet, Davis and Company.

Figure 6.2. The layout of 13 selected objects in Gallery 204 during the 1983 installation
In the rooms within rooms configuration of the gallery layout, the central room encompassed most of the significant objects (8 out of 13 objects): A Sofa and Four Sides, Tea and Coffee Set, Hot Water Kettle on Stand, a Sideboard, two Armchairs, the Century Vase, Neighbors. As shown in the image, the remaining objects - Mantel Garniture, the Tall Clock, the Piano, the Étagère and the Wooton Patent Office Cabinet Secretary - were located on the perimeter of the gallery; the last two were placed near the entrance points. In the next section, these selected objected will be taken further into account in the analytical study of Gallery 204.

The Layout of the Objects: 1997

During 1997, as discussed in the previous chapters, Gallery 204 contained paintings and sculptures of two curatorial categories: Old Age/Death (which was the continuation of the previous gallery on the main theme of Life in Art) and Reflections of Faith. In the archival materials of Gallery 204, the plan for the layout of objects in this installation has been illustrated in a way that differs from the space that was observed through the archival slides. Figure 6.3a shows the 1997 plan with the arrangement of the objects as it was intended; however, the plan used in this study is based on a direct observation of the slides, illustrated in Figure 6.3b.

Figure 6.3. The layout of objects in Gallery 204 during the 1997 installation: a) as was illustrated in the SEB plan; b) as was observed and constructed through the archival photos
In 1997, Galley 204, based on corresponding comparisons of the HMA and SEB archival slides and materials, exhibited 35 objects, 19 of which the author was able to identify detailed information (Figure 6.4).

Among these objects, the analytical study will focus on nine significant objects, shown in Figure 6.5, identified as the following masterpieces: Abraham’s Sacrifice of Isaac, ca. 1685-90 by Italian artist Giovanni Battista Gaulli, called Bacicco; Madonna and Child with Six Saints, ca. 1390 with the Italian Master of the Saint Verdiana Panel; The Funeral of Atala, ca. 1811, oil on canvas by Anne-Louis Girodet de Roucy Triosoni; Garland of Flowers with Holy Family, ca. 1620 by Jan
Brueghel the Elder; Tall Clock, ca. 1860 by Gustave Herter; Charger, ca. 1725 which is porcelain and Chinese Export for the Western market; Revival Meeting from “The Revival” series, 1994 by American artist Benny Andrews; Neighbors, 1940-42 by American artist Bill Traylor and St. Andrew, ca. 1505 in Lindenwood by German workshop of Tilman Riemenschneider.

Figure 6.5. The layout of nine selected objects in Gallery 204 during the 1997 installation

In the layout of the gallery, as shown in the image, while most of the objects were placed in the front zone of the layout close to the entrance, one of them was positioned in the back zone perimeter. In the following section, the nine selected objected will be taken into account in the analytical study of Gallery 204.
The layout of the objects: 2003

Gallery 204, as discussed in the preceding chapters, displays paintings, sculptures and several pieces of furniture of Neo-Classicism and Impressionism, a subcategory of the European Art from the 14th to 19th Centuries. Based on the author’s direct observation, the gallery exhibited 33 objects (Figure 6.6).

Figure 6.6. The layout of objects in Gallery 204 during the 2003 installation
Among these objects, the analytical study will focus on ten important objects, shown in Figure 6.7, such as significant French paintings by Pointillist and Impressionist masters such as: Claude Monet’s Houses of Parliament in the Fog, 1903 and Autumn on the Seine, Argenteuil, 1873; Camille Pissarro’s Bouquet of Flowers (Bouquet de Fleurs), ca. 1898 and Road to Louveciennes (Route de Louveciennes), ca. 1870; Jean-Baptiste Camille Corot’s Farm Scene. c. 1840-1850 and Ravine in the Morvan, Near Lorme, ca. 1840-45; and Maximilien Luce’s Port of London, Night, 1894; The Funeral of Atala, ca. 1811 by Anne Louis Girodet-Triosoni; Beach at Sainte-Adresse, 1865, oil on canvas by Frédéric Bazille; and A Woman of Boulogne Nursing Her Child, ca. 1890s in plaster by Aime-Jules Dalou.

Figure 6.7. The layout of 10 selected objects in Gallery 204 during the 2003 installation

In the layout of the gallery, which again maintains the notion of rooms within rooms, most of the significant objects are placed in the central room or in the gallery edges near the two entrances, as shown in the image. These ten selected objects will be taken into consideration for the analytical study of Gallery 204 in the next section.
6.2. Objects, Layouts, Visual Fields

After this concise introduction of the exhibited objects with known locations in the gallery, the study analyzes the patterns of visibility of the selected objects in the display layout to compare their visibility analyses and spatial arrangements in which they were defined in 2003 and 1983, 1997. In any display layout, the examination of the visibility polygons could demonstrate different kinds of visual fields, depending on where the viewer stands and the object is exhibited. This section examines the spatial properties of Gallery 204 as it affects the structure of a viewer’s visual fields. Addressing the visibility analysis, the study primarily focuses on key objects, (identified in the previous section), from which the spatial fields become visible. The discussion begins with the 2003 layout, the most recent installation, because through both interviews with Marjorie Harvey and a perusal of the HMA catalogs, the author was able not only to identify which objects were displayed but also to determine which of those objects were important.


Within the 2003 installation, the correlation among the spatial arrangement of the five objects has been addressed by Marjorie Harvey (in an interview with the author: August 9, 2006). Harvey pointed out that the curatorial intention was to create a visual connection among five significant paintings: two of Monet’s paintings, presented in the inner layer of rooms within the rooms; and three other paintings in the outer layer of the rooms within the rooms, by Luce, Girodet and Bazille (Figure 6.8a). Monet’s The Houses of Parliament in Fog, which revels the painter’s experience in England during the Franco-German War, has been often displayed in the HMA with a relationship to Luce’s Port of London, Night, 1894. During the 2003 installation, Harvey showed that the two Monet paintings were located on the axis of viewing while the two other paintings by Luce and Girodet were located on the axis of a viewer’s movement (Figure 6.8b). The intention was to bring viewers, who merely glimpsed these significant paints, inside Gallery 204, direct them to another highlighted exhibit, the painting Beach at Sainte-Adresse by
Bazille, and then finally take them to a final point in the rooms within rooms with views of all four significant paintings (Figure 6.8c). Given the spatial association among the paintings, the layout of the objects in 2003 clearly creates a sense of layering of the foreground, the middle ground and the background spaces (Figure 6.8d). In fact, it is interesting to note that such a sense of spatial layering dramatically differed in 1997 (Figure 6.8e, f). The photo represents a slide from the HMA archival materials with a view of both of the paintings which displayed side by side during the 1997 installation.

Figure 6.8. a) location of the five key objects; b) the paintings were located on the axis of viewing or traveling; c) the intentional pattern for planning a viewer's circulation; d) the layering of the foreground, the middle ground and the background zones in the gallery; e) the 1997 installation of the paintings; f) the side-by-side correlation between objects in the foreground layer
Based on the interactions among the objects described by Harvey, this study will further examine the objects and their visual field in the display layout by conducting a visibility analysis. The examination, in an attempt to explain the visual fields of galleries and analysis the interaction between the important displays and the layout, based on their position, will entail an exposure visibility polygon analysis. The analysis considers the fact that an exposure visibility polygon covers the floor area from which at least a part of the display object is visible.

Figure 6.9. Visibility polygons from selected objects in the 1983 gallery layout, representing cross-visible-zones
Objects could frequently become visible and appear in a viewer’s visual field from different spatial zones of Gallery 204 in 2003. In the exposure polygons analysis for the objects, the layout exhibits the various conditions with cross-visible zones (ten objects out of ten objects), as illustrated in Figure 6.9. The objects are dominant in cross zones as their sparks reach all the peripheral edges of the layout; thus, they generate a sense of cross-visibility from multiple angles and distances in the visual field. Furthermore, all of the objects become visible from not only the inner zone of the layout but also the outer zone, all the way through the two entrances of the gallery. This observation augments Harvey’s comments on how the objects are displayed so that they are visible from a distance and command the viewer’s attention and desire to enter the gallery.

Targeted Visibility Patterns: 2003

To further investigate the visual field analysis, the study takes into account patterns of visibility that arise in Gallery 204. Based on the spatial arrangement of the boundaries and objects, a display layout has specific locations that can influence the viewers’ distribution or movement in space. The generic visibility analysis is based on all visible locations rather than on selected specific locations, by considering all parts of a setting visible from each occupiable location. Addressing the gap, Lu (2008) drew a distinction between generic visibility patterns and targeted visibility patterns by performing visibility analysis related to specific locations. In a layout, targeted visibility patterns focuses on a previously specified set of visual targets and ask how many of them become visible from each occupiable location. Lu developed a script to compute targeted visibility measures using software developed by Turner, called Depthmap, which normally computes generic visibility values. In Lu’s analysis, targeted visual connectivity, a local property of targeted visibility analysis, indicates “the number of unique specified targets can be seen from a point” (Lu 2008: 9). In this study, targets have been the selected objects in each of the three HMA installations (Figure 6.10b). To provide a visual representation of the variation of
targeted visibility value and connectivity, the red is associated with a higher value and blue with a lower value. The color range between them illustrates intermediate values.

In the 2003 layout of Gallery 204, the targeted visibility analysis focuses on the ten selected objects (Figure 6.10c). The targeted visibility values range from 1 to 10, and the analysis represents the maximum number of visible objects from the location with the highest visibility, which is 10. This indicates that the gallery contains locations and moments at which a viewer can observe all ten objects simultaneously. Most of the objects hold targeted visual connectivity values from 8 to 10; hence the display layout represents constant visual information that connects to a high number of objects visible from one position. The layout of the 2003 installation, therefore, incorporates rich patterns of co-visibility that are strategically located very near entrances where key objects are located.

![Figure 6.10](image)

Figure 6.10. Targeted visibility analysis in 2003: a) the layout of Gallery 204; b) a map of targets (selected objects) and the number of objects that are visible from each of these specific objects; c) targeted visual connectivity, which represents the number of objects visible from any location in the layout
Layering: 2003

While co-visibility could be addressed in the Targeted analysis, the cross-visibility could be analyzed more evidently in the overlapped zones and the spatial layering of the gallery layout. Figure 6.11 illustrates the spatial field observed by a standing viewer positioned in the gallery. The diagram demonstrates that the viewer’s visibility field includes not only the frontal layer but also the layers behind it. The visibility field reaches across four spatial layers in the gallery and connects three objects within three different directions; thus, it creates a sense of cross-visibility and spatial layering within the gallery.

Figure 6.11. Gallery 204 in 2003: spatial layering of cross-visibility

Furthermore, the central room of the gallery makes use of the visual perception from and the long vista through the partition openings, located in the building across axes from north to south and west to east. Each end of the axes terminates with one of Monet’s significant paintings, one on the north end wall and the other on the west. The open arrangement of space,
thus, constructs a sequence of visual relationships that allocates a synchronic visibility and enters up to four gallery rooms across four curatorial categories, as shown in Figure 6.12.

![Figure 6.12. Cross-visibility as a synchrony and sequence of visible fields in Gallery 204 in 2003](image)

### 6.2.2. The Spatial Structure of the Visual Fields: 1983 and 1997

Having drawn conclusion from the visibility analysis of 2003, the examination needs to consider how the analysis can be extended to the earlier periods when a direct observation of the layout was not possible. One way to look at the actual layouts of 1997 and 1983 is to examine their photographs. To reconstruct the layout for the position of some objects, the study has already utilized archival photos and drawings. The analysis of the photographs could be treated as an indirect way to infer design intentions. Since a photograph presents a spatial frame someone chooses to shows, one can infer the overall intentions of both an exhibit and the way it is intended to be viewed from the way in which it is portrayed in photographs. The examination, thus, involves an analysis of the actual space through photographs and archival slides from previous years, which should facilitate the identification of how objects are perceived by an observer. Interestingly, most of the published photos of the HMA illustrate not the interior display space of galleries but the ramp, the atrium and the external space of the building. In
1983, the HMA archival materials produced 96 slides and photographs that show the HMA second floor galleries. Out of these, 14 images belonged to the exhibitions of Gallery 204. In 1997, the archival materials of the HMA as well as the SEB, produced 42 slides and photographs illustrating the HMA second floor galleries. Out of these 42, five images belonged to the installation in Gallery 204. An analysis and comparison of these images confirmed that the pictures represented different attributes of the layout of objects and space; such as the sense of spatial layering as well as co-visibility in and across space, as shown in Table 6.1. The results indicate that in 1983 among the 14 photographs of Gallery 204, nearly 70 percent of the images show that the space provides links across different objects, classes and layers of spaces, such as a chair in the foreground with a painting in the middle ground and a vase in the background layer of space. Consequently, the layout incorporates a great amount of spatial layering. In the 1997 layout, among the seven photographs in Gallery 204, only 14 percent the images represent links across different spaces; instead, there is more of a sense of spatial depth, and mainly spatial composition and combination in the foreground layer among objects. There is much less co-visibility, cross-visibility, layered reading of space, and cross comparison around space and less dramatic spatial tension.

Table 6.1. Perceptual visual attributes of Gallery 204 as inferred from an examination of archival photographs of the 1983 and 1997 installations
To provide a greater understanding of the visual fields of galleries, this study will analyzes the polygons of visibility exposure for these two installation plans that were reconstructed in the previous section.

**The Spatial Structure of the Visible Fields: 1983**

In 1983, objects in Gallery 204 appear in a viewer's visual field in basically three different modes of visibility: the cross-visible zones, the one-visible zone and the classical frontal zone of visibility. Following the discussion illustrates the manners in which each of these visibility modes appear in the layout.

To a viewer, a number of objects (9 objects out of 13) come into sight and frequently become visible and invisible as one moves through space. In the viewer's perceptual experience, these objects become dominant in cross zones as their sparkles extend in different directions and reach to the entire peripheral edge and boundary of the layout. These objects, in a discontinuous way, are visible from multiple angles and distances in the visual field by shaping a radial direction of visibility. Thus, the display layout generates a sense of cross-visibility in different corners of the exhibition visual field, as shown in Figure 6.13.

In the second mode of visibility, objects (2 objects out of 13) are dominant mostly from a specific side of the gallery layout, one zone, as shown in Figure 6.14; however, to some degree, they might still maintain minor glimpses of cross-visibility over the space.
Figure 6.13. Visibility polygon from a selected object in the 1983 gallery layout, representing *cross-visible-zones*

Figure 6.14. Visibility polygon from a selected object in the 1983 gallery layout, representing *one-visible-zones*
In fact, there are objects that simultaneously exhibit a hybrid of the both previous visibility conditions by having glimpses over cross-zones and equally emphasizing on one visible zone, as shown in Figure 6.15.

Figure 6.15. Visibility polygon from a selected object in the 1983 gallery layout, representing a hybrid of previous visibility conditions

A few objects (2 objects out of 13) put on display a one-directional visibility similar to the classical frontal views that from a perceptual point of view, primarily appear in front of the viewer towards the end of a straight path. These objects, therefore, fall frontally into the viewer’s cone of vision and become continuously visible and axially exposed from one side of the gallery as shown in Figure 6.16.

All three modes of visibility, in a broader visual field, provide a few moments and occasions when an object becomes visible not only from the inner zone of Gallery 204 but also from the outer zone through two entrances of the exhibition. This indicates that an object becomes
visible, in a collective way, from a far view to get the attention of the viewer for a farther or
closer observation of the gallery, in a distinctive way. These objects, consequently, reconcile the
inner and outer visible zones of the gallery as shown in Figure 6.17.

Figure 6.16. Visibility polygon from a selected object in the 1983 gallery layout, representing a frontal zone of visibility

Figure 6.17. Visibility polygon from a selected object in the 1983 gallery layout, representing cross-views from the inner to the outer zones of the gallery
Targeted Visibility Patterns: 1983

In the 1983 layout of Gallery 204, the analysis focuses on the 13 selected objects to investigate the targeted visibility patterns (Figure 6.18b). In the 1983 installation, the maximum number of objects that are visible from the highest visible location is 12. Figure 6.18c represents analysis of targeted visual connectivity which is the number of objects that are visible from any position in the gallery. The targeted visibility values range from 1 to 13 representing the minimum and maximum number of objects, respectively, that could be seen simultaneously in the gallery. As it is represented in Figure 6.18c, fragmented as well as radial patterns of visibility are distributed throughout the layout. Furthermore, the maximum value of the targeted visibility for each of the objects, represented in Figure 6.18b, is 11 objects. As shown in the figures, the distribution of targeted visibility is relatively equal among the objects as most of the objects hold a visual connectivity value of more than 9.

Figure 6.18. Targeted visibility analysis in 1983: a) the layout of Gallery 204; b) a map of targets (selected objects) and the number of objects that are visible from each of these specific objects; c) targeted visual connectivity which represents the number of objects visible from any location in the layout
Thus, the result indicates a rich pattern of co-visbility with a rhythm of being seen and not seen within the space. Similar to the 2003 exhibit, it exemplifies the strategic location of objects near the entrances, which captures even the shallow area while the key objects distributed in layout cannot be missed because their co-visibility is distributed.

Layering: 1983

The spatial layering of cross-visible fields is diagrammed in the 1983 layouts and shown in Figure 6.19. For a standing viewer, the visual field exceeds the frontal layer and reaches to the middle and background layers. In comparison to the 2003 layout, cross-visibility across five spatial layers becomes even richer because of the one additional layer containing more of the significant objects.

Figure 6.19. Gallery 204 in 1983: spatial layering of cross-visibility
Similar to the cross-visibility of the 2003 layout, as a viewer walks in the 1983 gallery she could have a visual access alongside the major perspective axis to the entirety of the next five rooms and across the six curatorial categories (Figure 20). This simultaneous perception of different objects of different categories provides an opportunity for cross-comparison among different fields and synchronization of the spaces, as shown in the microstructure of Gallery 204 as well as in the macrostructure of the entire second floor (Figure 20a and b). In fact, the spatial organization of the gallery could be associated with the notion of phenomenal transparency, discussed in Chapter 3, which connotes overlapped forms, spatial complexity and “simultaneous perception of different spatial locations.”

Figure 6.20. Cross-visibility as a synchrony and sequence of visible fields in Gallery 204 in 2003 a) in the entire second floor b) in the gallery
The Spatial Structure of the Visual Fields: 1997

As an isovist analysis reveals, in 1997, objects in Gallery 204 often are arranged so that viewers see their frontal views. That is, they are standing in a frontal position in a viewer’s visual field. Thus, overall, the layout incorporates a sense of frontality, as almost half the objects (four objects out of nine) display an axial direction of visibility, as shown in Figure 6.21. The layout also demonstrates the conditions of a one-visible zone with minor glimpses to other corners (three objects out of nine), as illustrated in Figure 6.22. A number of objects create a one-visible zone with glimpses that afford frontal access; hence, they convey a fusion of the previous conditions of visibility (Figure 6.23). In addition, two situations of cross-visible zones (two objects out of 9), as shown in Figure 6.24, occur in the layout.
Figure 6.21. Visibility polygon from a selected object in the 1997 gallery layout, representing a *frontal zone* of visibility.

Figure 6.22. Visibility polygon from a selected object in the 1997 gallery layout, representing *one-visible-zones*.
Figure 6.23. Visibility polygon from a selected object in the 1997 gallery layout, representing a hybrid of previous visibility conditions.

Figure 6.24. Visibility polygon from a selected object in the 1997 gallery layout, representing cross-visible-zones.
Targeted Visibility Patterns: 1997

In case of the 1997 layout of Gallery 204, the targeted visibility analysis focuses on the nine selected objects (Figure 6.25b). In the layout, the maximum number of visible objects from the highest visible location is five, almost half the number of objects. For all of the objects, as illustrated in Figure 6.25b, the visual connectivity value is less than 4. This result indicates that the value of targeted visibility for each of the objects has declined to almost half of the visibility value as the values range from 0 to 5. Thus, while in the 1997 layout, co-visibility still focuses on the entrances; it exhibits no strong sense of co-visible zones, which one could miss. However, in the case of the 1983 and 2003 layouts, the gallery demonstrates a much stronger sense of co-visibility.

Figure 6.25. Targeted visibility analysis in 1997: a) the layout of Gallery 204; b) a map of targets (selected objects) and the number of objects that are visible from each of these specific objects; c) targeted visual connectivity which represents the number of objects visible from any location in the layout

Layering: 1997

The spatial layering of cross-visibility within the 1997 layout is shown in the Figure 6.26. The analysis illustrates that a viewer’s visual field essentially covers the frontal layer while reaching
across approximately three layers and with an exceptional glimpse of the fourth layer. In comparison to the layouts of 2003 and 1983, the sense of spatial layering and cross-visibility is less in the layout of 1997 and covers fewer numbers of significant objects.

Figure 6.26. Gallery 204 during 1997: spatial layering of cross-visibility
On a global level, in contrast to that in the previous years, the cross-visibility of the 1997 layout is mainly constrained to the local range of the individual gallery with a constricted glance toward the north-south axis of the building (Figure 6.27). Consequently, one can conclude that the overall intention was to frequently expose the visual information in a sequential and fragmented mode.

6.2.3. Gallery 204: Patterns of Visibility – 1983 to 2003

A comparison of the three layouts, as discussed in the previous chapter, reveals a key observation. In the 1983 layout, the visibility polygons demonstrate sparkle shapes in the layout; therefore, as a viewer walks around the gallery, the objects appear and disappear in the visual field. Furthermore, the visibility of the objects not only radiates into several “spikes” but also extends to the edge of the gallery layout in all directions; as a result all the spatial edges and boundaries are touched by the viewer’s visibility polygons, providing a sense of co-visibility as well as cross-visibility among the layouts of the objects and space. Thus, in the perceptual experience of spatial arrangement of the gallery, the layout exposes the distribution of attention and awareness as well as the plurality of modes of being visible to the viewer. In 1997, this quality of visual field will turn into more constrained directions while in 2003, once again, the visual field radiate in all directions albeit within a fewer number of “spikes”. Similar to the layout of 1983, the number of cross-visible zones in the 2003 installation has been taken further and reaches its maximum.

To recapitulate the co-visibility in the layouts, the results of targeted visual connectivity analyses demonstrate that while consistence parameters were cases such as important objects remained in important isovists to capture the attentions from the two entry points of Gallery 204; the dramatic changes were variations on the richness of visibility, co-visibility and cross-visibility.
(Figure 6.28). Different patterns of visibility have been distributed in the setting which has mostly correlated with the configuration of spatial boundaries and the distribution of objects in the layout. Addressing the curatorial narrative, while the visibility density of all objects in 2003 emphasizes the curatorial intention of connecting objects throughout the gallery, in 1997, the objects were exhibited in a more individual way. In 1983, similar to 2003, the layout presented a more synchronized distribution of targeted visibility over the layout. The distribution of objects created multiple narratives of the curatorial message even though it was not as continuous as 2003 and appeared more fragmented into viewing sequences. In the gallery, consequently, the distribution of objects is a product of deliberate curatorial efforts, through which specific objects were positioned in the zones that hold a high visual access to viewers. Finally, while the sense of cross-visibility was much stronger during the 1983 installation, it is less so in the 2003 layout and is even weaker the 1997 layout. The structure of targeted visibility, thus, could be essential in addressing display issues such as transmission of knowledge, communication with the curatorial message and co-visible fields.

In light of the visibility analysis, the study takes the investigation of the principles underlying the arrangement of objects and the ordering of spaces by analyzing the geometrical properties of the gallery in the next section.
Figure 6.28. Targeted visibility analysis: a) the layout of gallery 204; b) maps of targets [selected objects] the number of objects that are visible from each of this specific objects; c) targeted visual connectivity which represents the number of objects that are visible from any location in the layout
6.3. A Formal Analysis of Grouping

The previous section has discussed how individual objects are arranged to dominate strategic views and to take advantage of strategic locations, such as central spaces. The pattern of display co-visibility and cross-visibility was also discussed to highlight how objects come together in the perceptual field, thus encouraging particular comparisons and underscoring similarities or contrasts. The discussion included a brief analysis of how visual fields span across the areas associated with diverse classificatory categories or are mostly contained inside such areas, according to the case. In this section the discussion shifts to the manner in which the architecture of exhibition also works to suggest groupings of objects, over and above the effect of co-visibility and cross-visibility.

The layout is examined in order to identify alignments and physical continuities that may not be readily apparent in plan; for instance between two partitions linked by a beam. Given alignments and continuities, the discussion proceed to ask what are the sub-shapes that a viewer may recognize within the major units of the museum which are the corner square pavilions, the balcony galleries and the intermediate exhibition spaces. Tracking the presence of such sub-shapes, and hence of potential display groupings across the time periods of 1983, 1997 and 2003 is of particular interest since exhibitions are accommodated within a constant building shell, leaving not only the external boundary, but also the columns and major walls intact. Essentially the study inquires the different compositional logics that have been inserted within the overall architectural composition of the museum, and how these create natural groupings of displays from the point of view of a viewer that is attentive to architectural elements and arrangements. As before, the analysis focuses on gallery 204.

Within this framework, a diagrammatic analysis will be used to identify the sub-shapes of scenery that is of the changing interior arrangement of the layout as defined earlier in the thesis.
The analysis and decomposition of the HMA gallery volumes are primarily represented in plan, while the examination takes into account the three dimensional properties of the design in order to identify the sub-shapes, as shown in the following figures. This is in the interests of making the representation of the analysis simpler.

For the purposes of the analysis a shape is “a limited arrangement of straight lines”. A sub-shape is part of another shape such that every line of the first shape is also a line of the second shape (Stiny 1980: 344). Any shape has an infinite number of sub-shapes. Here, the purpose is to identify a limited number of sub-shapes that are more likely to feature in the architectural experience of a museum visit because they appear to be deliberately emphasized by the design.

First, it is noted that the shell of gallery 204 is based on an arrangement of squares. The perimeter of the gallery is a square and the 9 columns are set on a 3x3 pattern defining a 2x2 square grid as shown in Figure 6.29.

![Figure 6.29. The gallery shell over years in which 9 columns are arranged, all evidently emphasize on square as a major formal vocabulary of the design](image)

As a first step towards the analysis, all walls of the exhibition scenery placed inside the museum shell are selected and extended fully until the extension lines reach the perimeter of the gallery. Figures 6.30a and b show these for the layout of 2003. This process reveals a latent square sub-
shape as shown in Figure 6.30c. On what basis might one expects a visitor who is attentive to architecture to recognize this sub-shape. Two principles are stipulated here. First, a principle of recursion, where-by a shape-type (here the square) already embedded in the fundamental structure of the shell can be more easily recognized if delineated by the arrangement of the scenery. Second. a shape can be more easily recognized if it is closed. Here one can observe that all four sides of the emerging square defined by the scenery are at least partially defined by walls. The walls are quite high and reach over 3ft, thus they act as unambiguous enclosures. In general, the discussion will accept that a shape satisfies a requirement of closure if at least three of its sides are defined by physical boundaries and all four corners are also physically defined by edges.

Can one suppose that visitors might recognize the outer square shape of the gallery shell as well as the inner emerging square of the exhibition scenery? A third principle is postulated here, namely that a shape can be more easily recognized if all of its parts are visible from a single point or if all of its parts can be observed by an uninterrupted path, geometrically similar to the shape, which traces its perimeter. These two conditions are satisfied by the inner scenery square and the outer shell square respectively. The discussion thus reach a formal definition of the idea of rooms within rooms which, as it has been seen in the chapter 3 informed Meier’s design of the HMA galleries. In 2003, exhibition scenery was so arranged as to create a square within a square. The emergent square of scenery, however, is situated off-center with respect to the gallery. This results a clear distinction between a “front-interface” compressed zone, as one enters the gallery in close proximity to the inner square, and a wider “back-zone”.

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Figure 6.30. Gallery 204 layout in 2003: a, b) vertical extended surfaces  c, d, e, f) spatial enclosures of squares  g) overlapped zones

Given these rules, a second and larger emergent square is also present, whose 2 edges are defined by the outer walls of the gallery and the other two edges by the transverse central partitions near the gallery entrances, as shown in Figure 6.30d. The same rules and process have been applied in Figure 6.30e for emerging the third square. The analysis considers as well the spatial structure of the entire gallery as the fourth square, as shown in Figure 6.30f.
Supposing that all four squares are recognized and registered visually, kinesthetically and cognitively, one can see that all areas of the gallery are parts of either one or both of these squares. The examination can thus arrive at a breakup of the gallery layout into overlapping zones as shown in Figure 6.30g. The relatively simple layout of 2003 potentially allows a visitor to perceive overlapping spatial units and therefore overlapping potential groupings of displays, according to the architecture of the exhibition.

It would be assumed in the analysis now that the requirement of closure is relaxed, so that an emergent square sub-shape is recognized when only two of its sides comprise solid boundaries but all of its corners are still defined by built edges. With this more generous assumption 3 more squares emerge at corners of the gallery (Figures 6.31a, b, c, d, e, f, g) and this leads to a richer overlap diagram as show in figure 6.31h. But, with the general scope of the rules evoked, the reading of sub-shapes cannot be further elaborated and come to a stop. In other words, while the diagrammatic analysis evoked here is axiomatic and also finite. It is based on assumptions that have not been tested as to whether they correspond to typical modes of perception, but at the same time it leads to an unambiguous interpretation of the design.
Given this, the discussion now inquires how the layouts of 1997 and 1983 might be read in a similar way, following the exact same rules in principle. In 1997 there is no intention to define recursive squares. Even the outer gallery shape cannot be easily perceived if one postulate the same rules because it not visible in its entirety from one point nor can it be perceived by a geometrically similar continuous path running alongside. In short, the geometrical integrity of the gallery shape has been perceptually compromised. As it has been discussed earlier, this results from a deliberate attempt to accommodate an exhibition narrative which demands its own perceptual units. When one extends all scenery walls and looks at the ensuing underlying grid (Figure 6.32a and b), no square emerges subject to the more demanding principle of closure. Based on this interpretation, there are no overlapping shapes at all (Figure 6.32c). If the analysis uses the more relaxed requirement regarding closure, only one squares emerges (Figure 6.33a), hence the overlapping diagram does not show a radical modification (Figure 6.33b).
Figure 6.32. Gallery 204 layout in 1997: a, b) vertical extended surfaces; c) overlapped zones

Figure 6.33. Gallery 204 layout in 1997: a) the spatial enclosure of the only square; b) overlapped zones
Is this reading inadvertently influenced by too rigid an insistence on looking for squares? In fact, the arrangement in 1997 does not allow the reader to identify self-similar overlapping shapes even if she allows herself to look for rectangles of any proportion. The lack of recursive self-similarity is quite a fundamental characteristic of the layout. Indeed, even if the reader allows herself to look for any overlapping closed shapes (taking account the 3-D arrangement) she can find none. The examination can, therefore, conclude with some certainty that the architecture of 1997 embodies no intention towards creating a sense of overlapping spatial units and a sense of overlapping groupings of displays. Quite on the contrary, the main aim is spatial discretization, even though the discretization is based on a language of interlocking places and surfaces that resonates with the original language of Meier (as one could read two overlapping rectangles in the 1997 reconfigured layout).

In 1983, the pattern of overlapping emerging squares subject to the above rules was quite prolific. As shown in Figure 6.34a, there are 9 emergent squares in the sub-shapes diagram. These form a complex pattern of overlapping zones as shown in Figure 6.34b. In some regions there are as many as 6 overlapping squares. In other words, the principle of alternative readings is quite deliberately celebrated in the architecture of 1983. Even if the analysis uses the more relaxed requirement regarding closure, 5 more squares emerge and the overlapping diagram becomes richer, as the diagram of overlapping zones demonstrates (Figure 6.35).
Figure 6.34. Gallery 204 layout in 1983: a) vertical surfaces; b) spatial enclosures
While in 2003 the idea of rooms within rooms is interpreted almost literally, with modest additional emerging spatial structure, in 1983 the principle is applied in multiple ways, some evident and some less so, so that one is dealing with rooms within rooms and rooms over rooms at the same time. In addition, in 1983 one can observe an interplay between a geometry which emphasizes axial symmetry (along the entrance paths) and centrality (with the square
room in the middle) and a secondary geometry, primarily realized through intermediate beams and the 3-D arrangement of surfaces which equally emphasizes eccentricity.

The main conclusion drawn in this section is that the architectural evolution of exhibition scenery design parallels the evolution of visual relationships. The original layout in 1983 sets up a greatly elaborated spatial game which calls for multiple readings of space. By comparison, 1997 appears as a rupture of this principle and as its replacement by the opposite principle of discretization. Intellectual curiosity, however, is also celebrated in 1997, because the discrete sub-spaces form a complex zig-saw interlocking puzzle within the confines of the rigorous geometry of the museum shell. Quite simply, intellectual curiosity is not directed to overlaps and alternative readings, but to subdivision complexity. The layout of 2003 represents a return to the principles of 1983, with simplification. Alternative readings are suggested and not exuberantly but quietly celebrated.

6.4. Groups and Classes

From an intuitive point of view it is obvious that the groupings that are potentially suggested by the spatial arrangement interact with the classifications implied by the curatorial labeling of displays. The examination captures this interaction quite simply by asking: First how many categories are either contained or intersected by each square identified above (9 squares for 1983, 0 square for 1997 and 4 squares for 2003 based on the more restricted reading of closure; 14 squares for 1983, 1 square for 1997 and 7 squares for 2003 based on the more relaxed reading of closure). Second, how many squares are either contained, or intersected by the areas devoted to each curatorial category. The results of the analysis are presented in Figure 6.36.
Quite evidently in 1983 architectural sub-shapes sometimes intersect multiple categories and sometimes pick up sub-sets of displays within categories. In 1997 there is no interaction between sub-shapes and categories other than the containedment of categories within clear spatial boundaries, as already indicated in chapter 5. In 2003, sub-shapes suggest alternative comparisons between displays that belong to the same more freely defined curatorial categorization, “Neo-Classicism and Impressionism”.

Thus, the layout 1983 is quite unique in at least one respect. It sets up a pattern of rich non-correspondence between architectural groupings and curatorial classifications of objects, implying multiple potential readings of the relationships between objects. In 2003 architecture encourages visitors to compare objects in different ways, but this happens without intersecting curatorial classifications. Instead, alternative groupings operate within the classification.
6.5. Embodied Spatial Experiences

The preceding discussions examined the manner in which architectural design properties can encourage or discourage multiple readings of a gallery layout. Specifically, the visibility analyses of Gallery 204 identified variations in the ways that co-visibility and cross-visibility operate to deliver curatorial messages within the gallery over three periods of time. In addition, the analysis examined the properties of sub-shapes in the layouts which led to the distinction between co-visibility and cross-visibility as a generator on the one hand, and sub-shapes as suggestion, or cue, or trigger on the other.

In consideration of these analyses, the last stage of this study brings the discussion to an end by examining the formal properties of the layout and the way it is experienced by a viewer whom is moving through the gallery. The focus is on the sequential understanding of interior spaces as a viewer walks inside the gallery. The examination determines how co-visibility, cross-visibility and sub-shapes come together and are embedded in the spatial experience of a gallery layout. The study involves a comparative analysis of three stages of Gallery 204 in 1983, 1997 and 2003 with respect to a viewer’s perception and in relation to what is actually seen. Based on the HMA and SEB archival materials, the three stages of the gallery are reconstructed using three-dimensional representation models. The study employs the visual fields taken along a path determined according to the most used trajectory that covers all the curatorial categories and architectural sub-shapes in the layout. By applying the same method for each time period, this study systematically examines the gallery according to the viewing photographic images taken by cameras placed at intervals of six feet along the path during pausing moments. Beginning at the entrance of the gallery, the camera moves forward through the spatial boundaries of each layout until it reaches the end of the gallery, marked by the second entrance. The cameras target the horizontal front within a 60-degree cone of vision, as one of the most common conventions, from the viewing height of an average person who is five feet five inches tall. In Figures 6.37, 6.38 and 6.39, therefore, a series of cameras have documented a viewer’s perspective and spatial and
perceptual experience while traveling within a certain defined path in the gallery during three distinct periods of time. The set of snapshots and two-dimensional frames capture the views as a way to reveal an interpretation of seeing within the spatial boundaries of the gallery and to perceive the structure and experience the spatial fields provide to the viewer. Specifically, since the 1983 and 1997 layouts could not be directly observed, the camera shots provide the only means of reconstructing the principles of the potential visual and spatial experience of the viewers who visited Gallery 204 during those years.

In 1983, the entrance to the gallery gives a challenged perception of space due to a multiple layering of space (Figure 6.37a). As the opening shot shows, horizontal beams, vertical walls and openings within the walls relate to one another in such a way as to provide multiple views and readings of the space in the foreground, middle ground and background layers. In fact, to a viewer, the visual fields are often framed through vertical and horizontal spatial boundaries, as beams and columns are strongly perceivable within the viewer’s path. Through these spatial frames, the viewer could perceive and establish an association among the different spaces of the gallery, as was discussed earlier in Chapter 3. Specifically in Figures 6.37a, e, f, n, o, p; the shots highlight a sense of co-visibility and cross-visibility through the spatial boundaries and present multiple ways of framing space and viewing the spatial sub-shapes. Within the gallery boundaries, therefore, one can see several modes of spatial grouping, dividing and overlapping zones. Furthermore, the views suggest a sense of direction in the gallery through a clear sense of visual continuity among spaces along with the frequent variation in visual information from each shot to the next one. For instance, what begins from almost the frontal, shallow and flat space in Figure 6.37m is suddenly broadened to multiple views and layers in Figure 6.37n.
Figure 6.37. Sequences of spatial and visual experience in Gallery 204: 1983
In 1997, as shown in Figure 6.38a, the space appears to narrow at the entrance; and it is only possible to predict a portion of the gallery with one direction. The viewer can instantly take hold of the entire space. The visual information does not have many alterations, while changes appear after a rather long movement in the gallery. The visual field thus remains invariable throughout the entire the path. While approaching the beginning of the gallery, the viewer gets a frontal view of the entire space which appears as a closed zone with an opening at the far end. Turing left (Figure 6.38k) the viewer is positioned in a narrow corridor with limited views and a sense of compression. Within this corridor, the frontal view is blocked by another vertical surface that creates a strong sense of flatness of space as shown in Figure 6.38m. Turning left, the viewer sees the gallery open up with another corridor that is well lit due to openings. After such a rigid trajectory, the navigation in the gallery terminates with an opening to a wider space.

Figure 6.39 shows shots of the gallery taken during the 2003 reconfiguration. Similar to the transition to the perception of 1983, the 2003 layout exhibits a clear sense of co-visibility and cross-visibility across spatial boundaries (Figure 6.39b). The space, however, appears to be simpler and less ambiguous. The horizontal beams have been reduced within the viewer’s visual field, therefore affecting a sense of less framing and fewer alternatives for reading spatial sub-shapes and multiple ways of grouping boundaries.

In a comparative analysis, the three spatial experiences present a number of contrasts between very limited views and views across the gallery, a rigid path and an opening up, wide spaces and narrow ones, multiple sub-shapes to none, depth and flatness. As shown in the figures, the spatial experiences of 1983 clearly differ from those of 1997. The internal walls of 1983 define interlocked shapes. Their geometrical organization could be read as fastened together or sub-shapes of space penetrating into each other. In addition, the multiple readings of space as well as the tension between different spatial directions offer multiple visual comparisons in the gallery. While the 1983 shapes often appear bonded and interrelated, the edges of the 1997 shapes are all superimposed and identified, creating a simpler interpretation of space with less cross-
visibility and less cross-comparison across the gallery. Furthermore, while the layouts of 1983 and 2003 carry a sense of traveling between the spatial boundaries of the gallery, the layout of 1997 embodies a sense of being bonded and bordered by them. In contrast to the layouts of 1983 and 2003, where the entrances to the galleries are located centrally and provide the viewer with many choices of movement; the entrances of the layout of 1997 are often located in a corner position and conduct the movement trajectory without offering choices.

The three-dimensional views to the space in Gallery 204 provided an idea of the experience and general impression that viewers had when they entered and navigated the space over years. The study recognizes that grouping is simultaneously influenced by the architecture of sub-shapes as well as the sense of co-visibility and cross-visibility, both of which changed in the path over time. The study shows that the modifications made to the latest compositional strategy in 1997 to the original scheme in 1983 have weakened the potential for grouping. The gallery has moved away from the multiple overlapping grouping model towards a more conventional juxtaposed grouping model, even though in 1983 and 2003 a degree of cross-visibility among the spatial groupings has been maintained. The significance of this finding can be addressed based on alternative hypotheses: curatorial ethos (pedagogical intentions for displaying objects) and the requirements of exhibition economy (maximization of surfaces exhibitions).
Figure 6.38. Sequences of spatial and visual experience in Gallery 204: 1997
Figure 6.39. Sequences of spatial and visual experience in Gallery 204: 2003
6.6. Synopsis

The chapter concludes with the proposition that co-visibility and cross-visibility may comprise the engine that drives museum design intentionality as well as museum experience, while overlapping sub-shapes might offer distinct architectural enrichment that calls for alternative groupings, classifications, modes of comparison and groupings. In other words, while co-visibility and cross-visibility may represent a critical mechanism of layout design, sub-shape overlap acts as a statement of program. Over the years, this specifically architectural mode of stating the program of multiple comparisons, classifications, and modes of viewing was weakened substantially in 1997 and only marginally retained in 2003.

Notes to Chapter 6

1 Empirical studies, including Peponis et al. 2004 and Tzortzi 2005, demonstrated that the pattern of viewers’ exploration in a display setting could be influenced by visibility towards specific objects.

2 A line L has always limited but nonzero length (Stiny 1980).

3 The analytical study focuses on the fundamental spatial attribute of the gallery rather than its color, texture and lighting condition.

4 Addressing the movement trajectory, Brawne’s study (1992) underlined the modes in which the configuration of space organizes the morphology of movement within a gallery. Specifically, Brawne made a comparison between the spatial influences of a centrally situated door to the one that is located in a corner. Through the gallery, the middle door forms a straight central path which on its each side provides equal valued spaces; hence offering the viewer a variation of choices of movement to left and right. By entering from a corner position, in contrast, the viewer has no choice of movement even though she can promptly capture and takes hold of the entire gallery. It is notable that in the Bauhaus-influenced earlier installations in MoMA, visitors were conducted in a linear path by “directional shapes and footsteps pained on the floor”, such as Bayer’s 1930s installations (Newhouse 2005: 254). On the contrary, MoMA exhibition, in the post modern style, had a departure from norm by introducing multiple paths to visitors whom made their own choice of exploration and aesthetic connections of themes.
Chapter Seven: Theoretical Synthesis

Outline

The preceding chapters examined the interrelation between different spatial properties of display layouts in order to understand how curatorial intentions and architectural design strategies interact. The concluding chapter is organized in three sections: the first section briefly provides an overview of the trajectory of changes in the HMA second floor galleries over the years; the second section reflects on the results of the HMA analysis to draw together the curatorial and architectural principles that govern the radically different exhibition layout principles accommodated in the building; and the third section provides a theoretical discussion on the interaction among architectural shell, exhibition scenery and curatorial narrative in the museum building. The chapter comes to an end by identifying future research directions.

7.1. HMA: A Trajectory of Change

A coherent body of literature, reviewed in the Chapter two, has addressed the spatial structure and configuration of museums. Among other questions, this body of literature discusses whether the architecture of exhibitions should be viewed as an integral component of museum building design, whether it should dominate over a museum building that acts merely as a neutral container, or whether it should be treated as a relatively autonomous piece of interior architecture that interacts with, but is not integral to, museum building design. In this dissertation the architecture of exhibitions has been studied in its own right in order to assess how it potentially affects viewers' experience, the perception of a collection of objects and the
transmission of curatorial intentions. In museum galleries, objects are placed together according to various spatial and conceptual orders. A visitor’s experience of a gallery, therefore, simultaneously engages distinct layers of organization, spatial and conceptual, architectural and curatorial. The dissertation has raised questions about the interrelation of these two and the ways in which the spatial organization of the museum sustains, or even enhances curatorial pedagogy by influencing the interface between viewers and the objects displayed. The High Museum of Art, and the second floor of the original Meier’s building in particular, was chosen as a case study to adequately examine this question. Three different stages in the evolution of the HMA exhibition designs were selected: 1983, 1997, and 2003.

One question that had to be studied in the course of the work was whether manifest changes in the history of the HMA layouts have been associated with fundamental changes in underlying spatial structure. In other words, was one confronted with a sequence of variations on an original spatial theme or a non-linear history of discontinuities? In pursuing this question, the analysis investigated the ways in which within the confines of a slowly evolving permanent collection of objects (rearranged and displayed on a regular basis), a given rigid building shell and within the outline of Meier’s architectural language, the architectural design of the modified layouts responded to specific curatorial programs. The examination employed diagrammatic studies and morphological analytical tools associated with Space Syntax techniques to comparatively analyze the HMA layouts. The tension between the architectural layout of space and the curatorial layout of objects was examined in further depth through by focusing on one of the galleries. The focus on a specific gallery was aimed at understanding in more detail how specific design strategies convey curatorial intentions at the small scale of architectural features, rather than the scales of the museum building as a whole. The study investigated how the arrangement of objects takes into account the patterns of visibility established by the layout in order to attract viewers’ attention. For instance, the detailed analysis of Gallery 204 showed how the most important displays were positioned so as to take advantage of strategic views from the entrances into the gallery or to capitalize on the centrality of certain hanging surfaces.
In addition, the study emphasized the manner in which fields of co-visibility, cross-visibility and spatial groupings suggested by the architecture of exhibition surfaces could help to define alternative and sometimes overlapping visual frameworks within which objects get compared.

Given the analytical investigation, it has been shown that at least one layout transformation, represented by the 1997 reinstallation, did not merely constitute a variation on the theme of the original design in 1983, but rather a radical discontinuity. The 2003 layout, instead, was a re-introduced and simplified version of the 1983 layout. The analysis showed that the fundamental shift in 1997 was associated with a more didactic installation where viewers were set to experience space as a sequential narrative. This was in contrast to the 1983 layout that supported a spatial experience bringing together multiple points of views and overlapping spatial groupings. Furthermore, it was argued that the modifications to the original scheme have weakened the potential for architecture to suggest spatial grouping of objects over and above the groupings arising from curatorial classifications.

In the light of the findings of previous museum studies using similar methodologies and conceptual frameworks, the comparison of the three stages of evolution of the HMA, suggests some conclusions of potentially much wider relevance. First, relations of visibility and the structure of visual fields are generic spatial properties which are always critical to museum space and are explicitly taken into account in the formulation of architectural and curatorial intentions alike. Second, architectural devices can be used to suggest spatial groupings, discrete or multiple, disjoint or overlapping, over and above those implied by curatorial classifications. The generic laws which come into play to suggest groupings are associated with the ability to freely recognize sub-shapes within the overall perceptual shape of a setting. However, the research does not as yet have a satisfactory analytical and quantitative theory of what the laws governing the creation and potential perception of sub-shapes are; more importantly, the deliberate manipulation of sub-shapes is not generic to the formulation of exhibition design and curatorial intentions. It arises as a result of deliberate intent on some occasions only. Precisely for this
reason, the architecture of the HMA is of special interest to the broader area of museum studies.

7.2. Intersecting Views and Intersecting Classes: An Inverse Relation?

The result of the analysis could lead one to a seeming paradox. From the perspective of the 1997 transformation of the HMA, the previous layout offered multiple vistas, cross views, and overlapping spatial frames but overlaid these upon a more conventional spatial classification of the objects by style, chronology or geography. The new layout radically reduced cross views in a more restricted set of vistas and entailed a more restricted circulation sequence with the intention of providing viewers a better understanding of the multiple interpretations of the local arrangement of objects which were classified in a thematic installation. In summary, while the 1997 layout exposed viewers to a specific spatial message and a homogeneous spatial experience, the 1983 layout offered a heterogeneous spatial experience through multiple scales, views and access. There seems to be a certain reversal in the mutual roles of the spatial principles that drive the layout and the spatial principles that drive the arrangement of the objects, as if the relative simplicity of one is needed in order to compensate for the relative complexity of the other. This is all the more intriguing when one takes into account that between 1983 and 1997 the permanent collection had not changed dramatically, and that a large sub-set of displayed objects could be found in both layouts, as shown earlier in the Figure 4.5. In fact, the curatorial shift from the 1983 layout to the 1997 layout was not about a fundamental change of objects but a fundamental change of rules of their arrangement (Figure 7.1). In the following, Basil Bernstein's (1975; 1990; 2000) concept of pedagogy helps to formulate a preliminary interpretation of this shift.
Class and Frame

Bernstein proposes that for the transmission of knowledge within a pedagogical system, there are two questions to be asked: first, how strong the boundaries are between different contents; second how well defined the rules are that govern the sequence, the pace and the processes of transmission. Where boundaries between contents are strong there is strong "Classification". Where rules over transmission are well defined there is strong "Framing". Classification, the preservation of boundaries between contents, is associated with wider social principles of power, the preservation of distinct social identities. For example, strong classification reinforces the authority of particular groups over a discipline or field of discourse, or indeed over the bearing of an area of knowledge over culture and society. Framing, the imposition of rules over transmission, is associated with social control. Strong framing creates explicit criteria whereby those that are taken through the pedagogy are evaluated.

Insofar as museum exhibitions can be treated as pedagogical devices, the 1983 layout of the HMA can be seen as an attempt to simultaneously weaken classification and framing. While objects might have been arranged according to chronology, media, or typology, the creation of
multiple vistas and viewing frames, as well as the creation of cross-views would have allowed viewers to compare objects across classes. At the same time, the variety of local viewing sequences afforded by the circulation loops would suggest weaker control over transmission. Viewers could vary not only their pace but also the order of their exposure and re-exposure to displays. The 1997 layout is more complex. While locally aimed at explicitly weak classification (the bringing together of diverse objects according to a theme), it globally imposes a strong classification (the separation of one theme from another). This works like a "hidden pedagogy" in that the emphasis on the local breaking of boundaries distracts from the global curatorial control over the principles of arrangement. At the same time, the 1997 layout constitutes an attempt at strengthening framing. Viewers are taken through a much more dictated sequence and their viewing is subject to a much stronger containment of what is to be seen and compared at any given point in time. In other words, the analysis proposes that the 1997 layout can be interpreted not only as a rather fundamental spatial shift but also as an equally fundamental shift in curatorial approach and in the underlying pedagogical principles.

The interpretation of the 2003 plan requires that more factors be taken into account, starting from the changing nature of the permanent collection. Porcelain for example, was important in 1983 but was not featured as a distinct part of the collection in 2003, while many parger paintings made their appearance. In addition, there have been shifts in curatorial intention. Though this is never stated explicitly, it appears as though there is a deliberate attempt to reduce the role of layout as a pedagogical device. The fact that viewers were more likely to be able to orient themselves with respect to the layout as a whole, due to the distribution of integration and syntactic centrality (as noted earlier in the chapter 5), underscores the way in which the spatial mediation between the building shell and the individual object is deliberately kept simple.

The comparative analysis, thus, illustrated fundamental paradigmatic shifts in curatorial intent, leading to equally powerful shifts in the principles applied to the organization of space. Thus, the
traces of radical discontinuities in the HMA evolution document: First, a trajectory of changing spatial requirements to accommodate a growing institution; second, a trajectory of changing curatorial strategies, and pedagogical doctrine for displaying objects to the public; third, a trajectory of formal transformations within the restrictions of the HMA building shell and its dominant established architectural language; and fourth a trajectory of distinct patterns of spatial experiences in the ways one views and explores the architecture of galleries (insofar as experience can be interpolated from analysis, without recourse to field studies of visitor behavior). Thus, the HMA becomes an interesting case to study in the multiple intersections between building design, exhibition design and architectural language within a permanent building shell.

7.3. Architectural Shell, Exhibition Scenery and Curatorial Narrative

If indeed the interior architecture of exhibition scenery can change fundamentally, regarding both the structure of space and underlying curatorial intentions, what then is the role of the architecture of the museum building? The question is particularly relevant when the building shell remains intact, as it did at the HMA through the period under study. The question has no easy answer and the following comments are tentative.

First, one would have different expectations depending on the nature of the architecture of a building. A shell elaborated in its detail, especially if bearing extensive ornamentation, such as often found in major 19th century museum buildings, would react differently to change than a shell with minimal ornamental elaboration which is designed to set up particular spatial themes. The HMA clearly belongs to the second category. Having said that, some of the major spatial motifs celebrated at the HMA have not been affected by the changes in architectural exhibition scenery. These include the ramp and the experience of moving on the outer edge of the atrium, as well as the balcony galleries providing overview of the atrium space and views to the ramp
and other spaces on the perimeter. Many experiential effects of these powerful features tooted by commentators (stated in the chapter 3) remain intact.

One would be tempted, therefore, to suggest that the front stage architectural drama was unaffected by the back stage unfolding of exhibition scenes. In the light of the arguments presented earlier, this suggestion would appear too simplistic. Given the architectural drama, the question always arises as to how architecture is invested with curatorial meaning. As reviewed in earlier chapters, in 1983 the gallery spaces were used to present the least familiar collections as a contrasting preamble to the main exhibition of familiar decorative arts. Similarly, in 1997, the gallery spaces were used to display the manner in which the arts engage the human body, the most intimately familiar of the exhibition themes, that visitors were invited to look upon in new ways. On both occasions there seems to have been a deliberate use of the greatest museum space to create a powerful effect on viewers, as a prelude or as a follow up to their exposure to the main exhibition narrative in the quieter spaces at the back. In 2003, such strategy about the exhibition galleries is less apparent. Using them as rest areas seems to alter some of their potency; using them as mere extensions of the galleries at the back seems to challenge their special architectural character.

The front stage drama is not the only thing that needs to be addressed. Based on the analyses offered above and the comments reviewed in the chapters 2, 5 and 6; central to the design of the building is the idea that the structural system interacts with exhibition design and works to provide an overall orientation in the exhibition, even though partitions with openings usually prevent any straight movement path along the structural axis. This idea, in essence, was lost in the 1997 remodeling. The loss has important consequences for the overall experience of the building. In 1983 and 2003 one can say that the overall experience conjoins different scales together, almost as an embroidery that works from large to small patterns. In 1997 there are two different structures of experience which become contrasted rather than interfaced: the
drama of global overviews around the atrium versus the tightly framed spaces of exhibition narrative at the back.

The question asked at the opening of this section, therefore, has two different answers. First, good exhibition designers can insert exhibition layouts which significantly depart from the philosophy of the original design while demonstrating recognition of the overall architecture of the building. This can lead to rich visitor experiences. It certainly has the advantage of producing a rich sense of possibility for anyone that stays familiar with the building over a longer period of time, specifically in relation to a permanent collection. Second, particular qualities of architectural space that appear germane to the original design can be modified or replaced. The fact that the building remains physically intact does not mean that the experience it generates is imbued with the same qualities.

What then is the relevance of this discussion to curators who, by virtue of their key role, have to undertake different exhibition strategies, including ones not anticipated when a building is originally built. In the case of the HMA, while the analysis could show the uniqueness of the Meier’s building, especially in terms of richness of visibility and architectural sub-shapes, it also revealed that the inflexibility of the building creates great constrains to the work of curators (for example, as addressed in the Chapter 3, the layout was very limiting for displaying large size paintings or providing cross-views to the objects). Within these constrains, the architects of modified layouts were challenged to address the HMA different curatorial needs. In fact, the new addition of the HMA designed by Piano amplifies the issue of inflexibility in Meier’s building, as the museum extension basically moves away from the articulated space of Meier towards the classical neutral box which brings evidently more flexibility for the curators. However, while Meier’s building presents a great deal of inflexibility for curators, it also provides for viewers a rich variety of spatial qualities and conditions for seeing objects and people. The arguments presented here support the statements made elsewhere (by the HMA curators, noted in the chapters 3 and 4) that it is essential for curators to look at the architecture of the museum
building as a resource, imposing constraints but also carrying potentialities. The more exhibition design works to acknowledge the building the more the experience of visitors remains rich. Furthermore, the more exhibition design works in congruence with the underlying the spatial structure of the building the more the intelligibility of the spatial setting helps viewers better navigate the exhibition narrative.

Thus, in the larger context of museum studies, the HMA stands as a critical exemplar of conflicting qualities: richness on the one hand, inflexibility on the other. It works as a unique example of how architecture can enrich museum experience, working as an informal pedagogy that suggests alternative ways of seeing and understanding and invites repeated visits and long-term exploration. It also works as an example of how an architectural philosophy built into the fundamental structure of the building shell can work as an unwelcome constraint upon curators and exhibition designers. Taking the simple but fundamental themes of layered cross views, for example: it is one thing to have layered cross views where and when it is desirable, and it is quite another thing to have them celebrated along the building axis, have openings occupy the middle of wall surfaces, and have columns mark the axis and interrupt the potential continuity of surfaces. Thus, the challenge embedded in the architectural inheritance of the HMA can be stated as follows: what would be an alternative architecture which preserves the subtle and rich qualities that Richard Meier has created and yet provides greater scope for curators and exhibition designers to deal with changing collections and changing exhibition paradigms? Could such architecture be developed within the rich language of Richard Meier? Could it also be developed in alternative design languages?

In the light of these questions some further tentative comments can also be made about the Renzo Piano extension. This flexibly accommodates parts of the permanent exhibition, especially very large works. It is also designed to accommodate temporary exhibitions and has become prominently associated with Louvre-Atlanta and ambitious program of inter-institutional exchange. The more a museum is oriented towards temporary exhibitions however, the more
the manner of staging them becomes important. In an increasingly global culture to see an exhibition in Atlanta, rather than travel to see it in New York or Paris surely remains an important aim. In addition, however, the distinct character of a local institution, such as the HMA, has to depend on how a temporary exhibition in shown, not merely on which temporary exhibition comes to town. From this point of view, the dilemmas embedded in Richard Meier’s original building retain all their potency. Renzo Piano has certainly created vibrant and well proportional external spaces, allowing the HMA to act as a unique urban setting in Atlanta. The architecture of the interior however, largely remains less assertive, still inviting curators to develop a precise and recognizable approach to the manner in which temporary exhibitions are shown locally and the distinctive perspective that the HMA may contribute to a global cultural exchange.

7.4. Synopsis: Final comments and extensions

The dissertation systematically studied the correspondences and perhaps even the analogical relationships between the curators’ and architects’ modes of structuring, ordering, distributing, and displaying objects in space hence generating exhibition architecture. The analysis, thus, bonds the curatorial layout of objects to the architectural layout of space through the analytical description of the visibility fields and the formal composition and the spatial experience of a display layout. The dissertation findings could inspire design of museums and the methods could be an instrument in the evaluation of museums and galleries for investigating various design alternatives, creating new design concepts, finalizing design choices and foreseeing different design strategies. Having established a correlation between the curatorial and architectural layout of objects and space, the findings could be useful not only to the exhibition architects and designers of a new display layout but also to the exhibition curators and planners who aim to make the most benefit out of the potential of an existing layout. Curators and designers would be able to foresee how different types of layouts generate different ways of viewing and groupings of objects. For instance, the curatorial and compositional strategies can make the
most of exhibition arrangement by knowing which spatial zones have the potential to be seen more and how they give rise grouping. The dissertation showed that in any museum, space is the common language between curators and architects. Space syntax provides a way to describe the common language of space so as to incorporate, in a single representation, the concerns of architects and the concerns of curators. This is a major methodological point. A layout, conventionally represented in plan, section and axonometric, can still be read in very different ways according to the assumptions that a viewer brings to the reading. An objective description of the spatial qualities of a layout, particularly those directly associated with potential visitor experience, can provide the common basis for a joint reading of a layout from curatorial and architectural points of view.

One possible line of developing this research in the future would consist of comparing the HMA to other museum buildings designed by Meier in order to systematically enquire whether the spatial richness of the HMA is unique or whether there are spatial and stylistic patterns that run across his designs. Such a comparison could be pursued in depth by tracing the parallel histories of internal exhibition layouts housed in Meier museum buildings.

While the dissertation complements previous studies in a methodologically precise way, by concentrating on the correlation between the layout of objects, visibility and architectural sub-shapes in a gallery in one museum, a single case study cannot support a more general theory on the subject. Another line for developing the research in the future would address the formal language of sub-shapes. First, the methodology developed in this dissertation, which was appropriate to a specific case, should become part of a generalizable methodology. Second, alternative devices and architectural languages for suggesting spatial grouping should be studied. Comparative studies on different settings, will, over time, help determine whether the morphological analysis and findings of the chapters five and six can be developed into a more general theory about architectural sub-shapes to parallel the theory of visual fields.
An important extension of this work, from the point of view of museum studies, would seek to test empirically whether viewers do indeed perceive objects as being grouped according to the co-visibility, cross-visibility and sub-shape principles discussed in this dissertation. The basic question to ask is “identify the objects that are in the same space as “given object” in this setting”, even though the specific formulation of the question needs to be refined in the context of a research methodology. The hypothesis supported by this dissertation is that in 1983 different people would perceive different groupings, and perhaps the same individual would perceive several alternative groupings. By contrast, the 1997 layout would suggest limited groupings and the same groupings for many different individuals. The 2003 layout would occupy an intermediate position. Of course, any testing of the hypothesis would depend on an elaborate electronic model of the museum, virtually reconstructing the exhibition settings in their pertinent detail.

To summarize, this dissertation establishes a rich model of the function of museum spatial morphology in both theoretical and analytical terms. It does so by focusing at a particularly rich case study, the HMA in Atlanta. The key question discussed throughout this study has been how to understand the interplay between architectural, spatial and curatorial intensions and exhibition design strategies. In the case of the HMA, at least, the architectural language does more than create a particular structure of visibility and movement, thus determining what one can see and where one can go. It also suggests principles of viewing and principles of understanding. Based on the analysis of the HMA, the dissertation shows that it is possible to develop analytic descriptions of exhibition space which are simultaneously sensitive to the concerns of curators and architects. Thus, the dissertation offers an in-depth analysis of an individual building of special significance for museum studies while also showing how space functions as the common language of architecture and curatorship.
Notes to Chapter 7

1 Classification, Bernstein (1975: 88) argued, “does not refer to what is classified, but to the relationship between contents…to the nature of the differentiation between contents…thus refers to the degree of boundary maintenance between contents”.

2 Framing, Bernstein (1975: 89) noted, determines “the structure of message system, pedagogy” and raises “the form of the context in which knowledge is transmitted and received. …the range of options available to teacher and taught in the control of what is transmitted and received in the context of pedagogical relationship. … the degree of control teacher and pupil possess over the selection, organization, pacing and timing of the knowledge transmitted and received in the pedagogical relationship”.
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