

---

## TRACING THE MODERN: space, narrative and exploration in the Museum of Modern Art, New York

---

070

**Sophia Psarra**

*University of Michigan*

**Jean Wineman**

*University of Michigan*

**Ying Xu**

*University of Michigan*

**İpek Kaynar**

*University of Michigan*

### Keywords:

Modern art  
Display  
Narrative  
Exploration  
Path analysis

**Sophia Psarra**

*Taubman College of Architecture  
and Urban Planning,  
University of Michigan,  
2000 Bonisteel Boulevard, Ann  
Arbor, MI 48109-2069  
Tel: 734 615 7249  
Fax: 734 673 2322  
spsarra@umich.edu*

**Jean Wineman**

*Taubman College of Architecture  
and Urban Planning,  
University of Michigan,  
2000 Bonisteel Boulevard, Ann  
Arbor, MI 48109-2069  
jwineman@umich.edu*

**Ying Xu**

*Taubman College of Architecture  
and Urban Planning,  
University of Michigan,  
2000 Bonisteel Boulevard, Ann  
Arbor, MI 48109-2069  
xuying@umich.edu*

**İpek Kaynar**

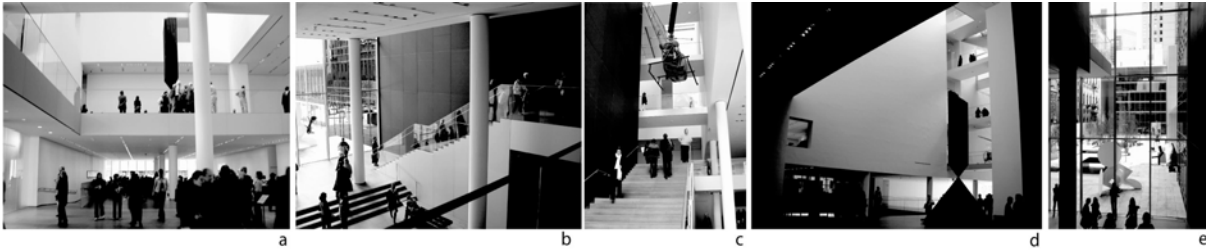
*Taubman College of Architecture  
and Urban Planning,  
University of Michigan,  
2000 Bonisteel Boulevard, Ann  
Arbor, MI 48109-2069  
ikaynar@umich.edu*

### Abstract

The Museum of Modern Art in New York (MoMA) has used architecture extensively to regenerate itself and redefine its identity. But in the latest expansion it changed not only its architecture, but also its exhibition design and the display concept. In this paper we focus on the relationship between the spatial configuration, the narrative strategy and the visitors' experience in the Museum. We argue that the MoMA defines its new identity through the visual integration of the building and the outside, and a metaphoric association with the Manhattan location. We also show that the display has departed from the linear classification of previous installations towards a multi-layered model of narrative. Our study of the 'Painting and Sculpture' layouts, on the fourth (1940-1970) and the fifth floor level (1880-1940), reveal a different conception for each of the two exhibitions. On the fifth floor the visitors encounter multiple visual relationships among paintings and art movements. On the fourth floor they experience more private conditions of viewing implying more individual conditions of artistic development. These spatial differences correspond to differences in the social character of the visit and the patterns of navigation. Visitors are more explorative on the fifth floor than on the fourth floor level. The paper concludes that the MoMA has combined its previous model of linear spatial sequence with its new model of spatial interconnectedness to *reinterpret* rather than *redefine* its pedagogical message.

### Introduction

No other museum has claimed a comprehensive structuring of a narrative as the Museum of Modern Art in New York or has created such a comprehensive collection. The MoMA is associated with the history of modernism, attempting to make order out of modern art and the complex relationships of art movements. But in its latest expansion it tempered the notion of a single coherent story, with the possibility of multiple narratives. It sought a continuous chronological overview, as well as interruptions constructing alternative readings across history. Intertwining sequential and non-serial notions of narrative, with those of time and space, the new building invites interrogation. But what makes the study of the MoMA interesting is not only its new strategy to the display, but also its architecture<sup>1</sup>.



**Figure 1:**

Sequence of public spaces.  
(a) entrance foyer, (b, c)  
stairs, (d) atrium, (e) view to  
the main stairs and to the  
garden

070-02

The idea of a comprehensive museum was by Alfred Barr, the first director. Together with Hitchcock and Johnson, Barr organized the first architecture exhibition in America with the title: "Modern Architecture: International Exhibition" and anticipated its large influence in the opening paragraph of the catalogue: "Expositions and Exhibitions have perhaps changed the character of American Architecture of the last forty years more than any other factor". Since then the MoMA has staged a series of influential exhibitions including two shows to anticipate the 1954 and 2004 expansions with the title "Towards a New Architecture". The allusions to Le Corbusier's manifestos suggest that the Museum has two interrelated stories to tell: the history of architecture and visual arts in the 20<sup>th</sup> and 21<sup>st</sup> century, and its own history through its extensive commitment to modernism (Lowry 1996).

Charged with this dual purpose, and with one story nesting inside another story, the new MoMA begs a number of questions: How does the new gallery layout on the fourth and fifth floor address the requirement for a primary overview of modern art and for alternative strategies for narration? How do the visitors experience the Museum and these strategies, and how do they explore the collection? And finally, if the MoMA has used architecture to regenerate itself, which is its new identity and how is it expressed in the new building?

### Architecture and Spatial Configuration

We will start with the last question looking at a brief history of the building. The Museum was established in 1929, and has undergone since then seven successive expansions. The first building, by Woodwin and Stone (1939), was changed in the 50s and 60s through a series of projects by Philip Johnson, including the Abby Aldrich Rockefeller sculpture garden. In 1984, Cesar Peli erected the Garden Wing and a residential tower with six of the museum's floors extending beneath it<sup>11</sup>. Taniguchi's scheme (2004) marked the seventy-fifth anniversary of the Museum integrating all the existing structures into a unified accommodation. The new design realized a long-standing intention: an expanded museum modeled after a comprehensive building program (Lowry 2005) and offering ample space for its departments. It comprises a new gallery section under a ten-floor tower, the renovated buildings, the new Education Building, and seven floors in Cesar Peli's tower. It houses 'Contemporary Art' on the second floor, 'Architecture and Design', on the third floor, 'Painting and Sculpture' on the fourth and fifth floors, and special exhibitions at the top level.

To see how the MoMA envisioned its new identity we looked at the criteria for the competition. This stressed several issues: First, the building should become '*a mediating force between the experience of the city and the experience of the Museum*', and have '*a more complex three dimensional interaction with the city*' (Riley 1998). Second, '*the architect should transform the campus and additions into a unified whole*'. Third, there should be 'fixed galleries' offering an overview and a tour through the entire history based on masterworks,

and adjacent 'variable galleries' presenting aspects of that history in further detail (Riley 1998).

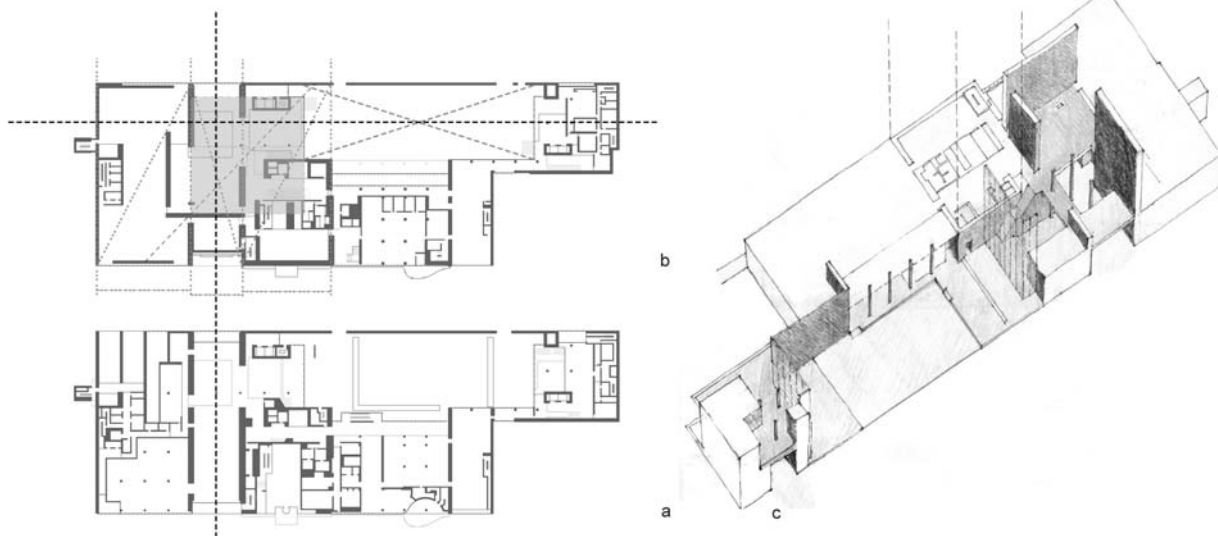
Inherent in these requirements were a number of contradictions. The Museum should have a strong interiority, but should also identify with the Manhattan condition. It should be a 'cherished sanctuary' and a dynamic 'laboratory'. It should be committed to history and to the future. These contradictions are associated with the question of how exactly to deal with Modernism, as a historical movement or as a continuing tradition? *So, our purpose is also to see how the Museum addresses these conflicts through the new building and the installation.*

Taniguchi's response to the brief was to use two entrances bringing the urban flow into the heart of the building, and open the Museum towards the city. He turned the garden to the central element, and re-orientated the complex toward the new axis of growth along the east-west direction. He integrated the various spaces into a whole, through a top-lit atrium, and used the junction between the tower, the garden and the atrium to organize circulation at a large scale. The atrium gave the gallery volume a tripartite composition and a centre. But there is also a strong diagonal accent linking the atrium, the galleries and the garden. Incorporating decentralizing tendencies within a classical composition we are reminded of the critical historicism of Corbusier and Mies as described by Rowe in 'The Mathematics of the Ideal Villa' (1984). But while these architects challenged centrality emphasizing an experience based on movement, Taniguchi allows the atrium and its relationship to the outside to be felt from the interior.

070-03

**Figure 2:**

*Floor plans and axonometric view of atrium and garden (axo drawn by K.Patel). (a) Ground Floor, (b) First Floor.*



The overlapping voids in the public areas bring seminal 'modern' texts in the mind: first, Barr's own comparison between de Stijl and Mies (Barr 1936), and Rowe and Slutzky's notion of 'shallow space' or 'phenomenal transparency', based on the same cubist paintings displayed on the fifth floor galleries (Rowe 1984). Taniguchi's scheme brings the verticality and the urban dynamic of Manhattan in the interior and combines the modernist idealism of classical symmetry and proportions with the 'shallow' space of modernism and the Neo-Modernist enthusiasm for light and space. But if this is what the geometrical and sculptural properties of the building 'speak off', we are interested in how its 'speaking' content relates to the spatial characteristics at a large scale.

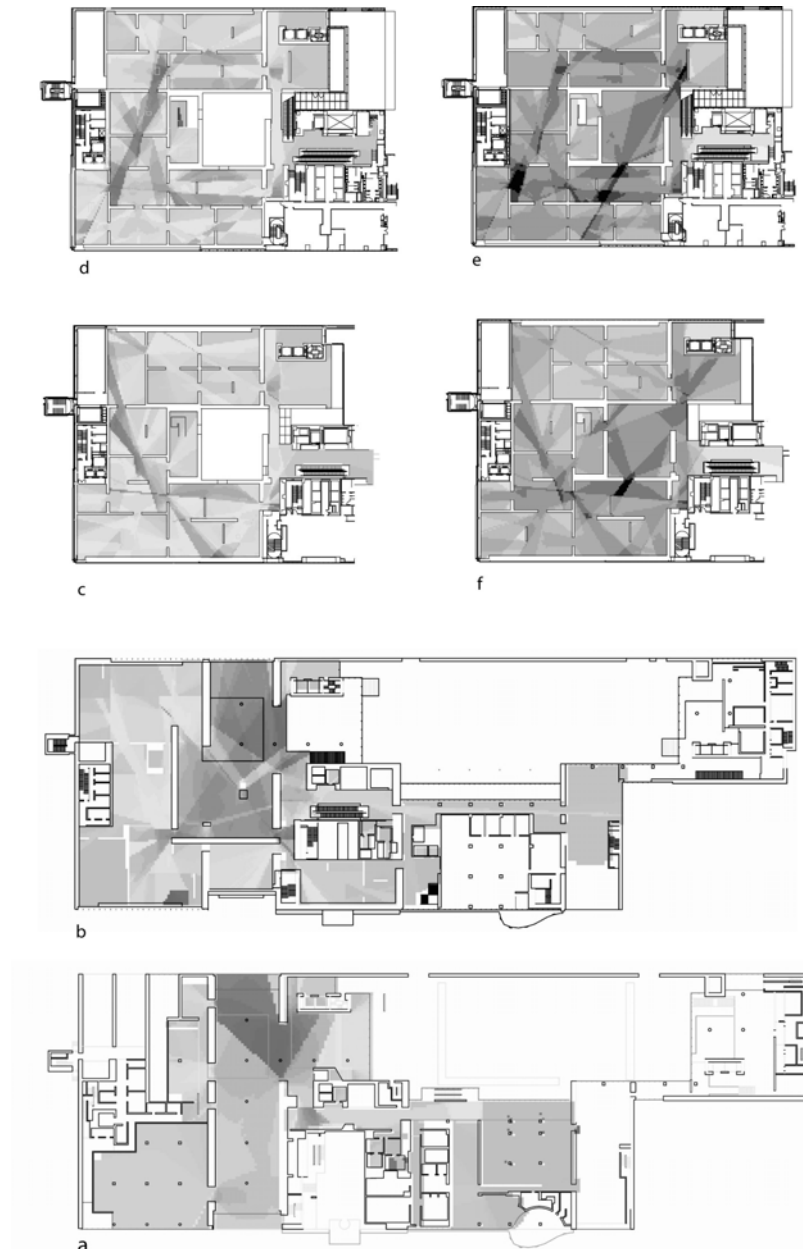
The visibility analysis of all floors shows that the atrium dominates the experience when moving extensively throughout the building. They also show that the diagonal accent is picked up at the level of spatial organization determining how the Museum is experienced as a whole

070-04

**Figure 3:**

*Visual integration.*

(a) Ground Floor, (b) Second Floor, (c) Fourth Floor excluding atrium (d) Fifth floor, excluding atrium, (e) Fifth floor including atrium, (f) Fourth floor including atrium.



Essential in the design brief was the requirement that *'the sequence of spaces from the entry throughout the Museum should be seen as a powerful metaphor for the unfolding narrative of the Museum, directly supporting the curatorial message developed in the galleries'* (Riley 1998). To see how the architectural message relates to the curatorial message we look next at the spatial organization of the fourth and the fifth floor housing the painting and sculpture exhibitions.

## The Spatial Structure of the Painting and Sculpture Galleries

There is no prescribed way to move in the galleries, but the rooms are interconnected allowing many plausible pathways to explore the collections. In addition, there are two entrances on each floor, while halfway along the course is a stairway, so that one can step out of the path and access the other level. However, to complete the visit in a forward direction, the visitors have to pass through the rooms linked in a sequence around the atrium. In comparison with the fifth floor, the fourth level offers fewer detours from the principal course and a longer primary sequence. This is because the axis of entry to gallery 17, exhibiting Pollock, is broken constructing two more changes in direction along the main route, and a more complex experience.

070-05

A second spatial characteristic to discuss is the visual relationships among thresholds. The doorways at the north and the south part are centrally aligned. Those at the centre are staggered, creating a progressive change of visual angle. The frontal alignment accentuates the works at the end of the axis. The staggered thresholds accentuate the painting in front of you as you enter, shifting the emphasis to a different painting with your movement. The doorways are also diagonally aligned creating multi-directional vistas that connect the main route with the subsidiary galleries. Unlike the axial and staggered thresholds creating formality, the diagonal links encourage unexpected visual relationships and new comparative readings.

The next key property to look at is the visibility structure of the layouts. The fifth floor is integrated around the main sequence linking the atrium, the entry, the exit, the principal route and the peripheral spaces. The fourth level is also integrated along the main route. However, the north galleries are segregated showing that it is difficult to negotiate this part of the layout. The impact of the two layouts on way-finding is made clearer when we look at the 'intelligibility' correlations (fifth floor:  $R^2 = 0.68$ , fourth floor:  $R^2 = 0.56$ ). To these differences we will return later, when we examine the relationship between the syntactic properties display and the visitors' circulation.

## The Display Concept – History and Placement

The study of the curatorial strategy at the new MoMA is inseparable from the history and the precedents that influenced the installation. The intellectual origins of the MoMA are with Alfred Barr, its first director. Barr conceived a comprehensive collection affording a synoptic overview of modern art. Through landmark exhibitions like, 'Cubism and Abstract Art' (1936) and 'Fantastic Art, Dada, Surrealism' in 1946, he developed a classification of art movements based on a genealogical natural system that was also 'both synchronic and evolutionary in nature' by 'summarizing time, place, artist and style'<sup>iii</sup> (Kantor 2002).

Inclined towards the practice of formal description<sup>iv</sup>, Barr proposed 'at the risk of grave oversimplification' - a structuring of modern art into two main currents: '*The first and more important current finds its sources in the art and theories of Cezanne and Seurat, passes through the widening streams of Cubism and finds its delta in the various geometrical and Constructivist movements which developed in Russia and Holland...*' (Barr 1936). The second current had its starting point in Gauguin, flew through the Fauvism of Matisse to the Abstract Expressionism of Kandinsky, reappearing with Surrealism. The former was 'intellectual, structural, architectonic, geometrical rectilinear'. The second current was 'intuition', 'emotional', 'organic, biomorphic', 'curvilinear', 'decorative' and 'romantic'. The first was classical in its austerity and dependence upon logic and calculation'.

The second tended towards 'the mystical', 'the spontaneous' and the 'irrational'. Drawing from Nietzsche's oppositions between formal control and primal impulse through the mythological figures of Apollo and Dionysus, Barr dramatized further the contrasts between the two strains (Nietzsche, 2000).

Barr acknowledged that the two currents interacted with each other and that modern art had not a teleological development. However, in his first installation in 1964 he used rooms as stylistic chapters and strung them together in chronological sequence placing Cubism and Abstract Art on the second floor, and Fantastic Art, Dada, Surrealism on the third level. The prescribed path and the staggered thresholds emphasized a linear flow of history, what would be termed 'the labyrinth, or beads-on-a-chain, model of installation' (Elderfield 2004). In 1984 Rubin emphasized Barr's two-part-story, but through a single sequence, in which 'galleries led first to the "rational" strain moving next to the "irrational" line. But the spatial strategy for the installation created a labyrinthine path, without an option to change course, or knowing where you are in the sequence.

070-06

**Figure 4:**

Second floor information plan, The Museum of Modern Art, New York.  
(a), 1978-79, (b) 1986, (c) 1996



The new building gave an opportunity to develop an entirely new concept for the installation. However, the current display is based on subject galleries, similar to Barr's chapter rooms on both fifth and fourth floors that while not being always strictly devoted to styles, are always descriptive of historical periods.

*'The fact that Cezanne was painted before Picasso was painted, and that Picasso was painted before Modrian was painted, is not insignificant to know about history, and is one of those things that we pride ourselves on being able to present with a greater density and thoroughness than other museums present it'*<sup>v</sup> (Varnedoe 1996).

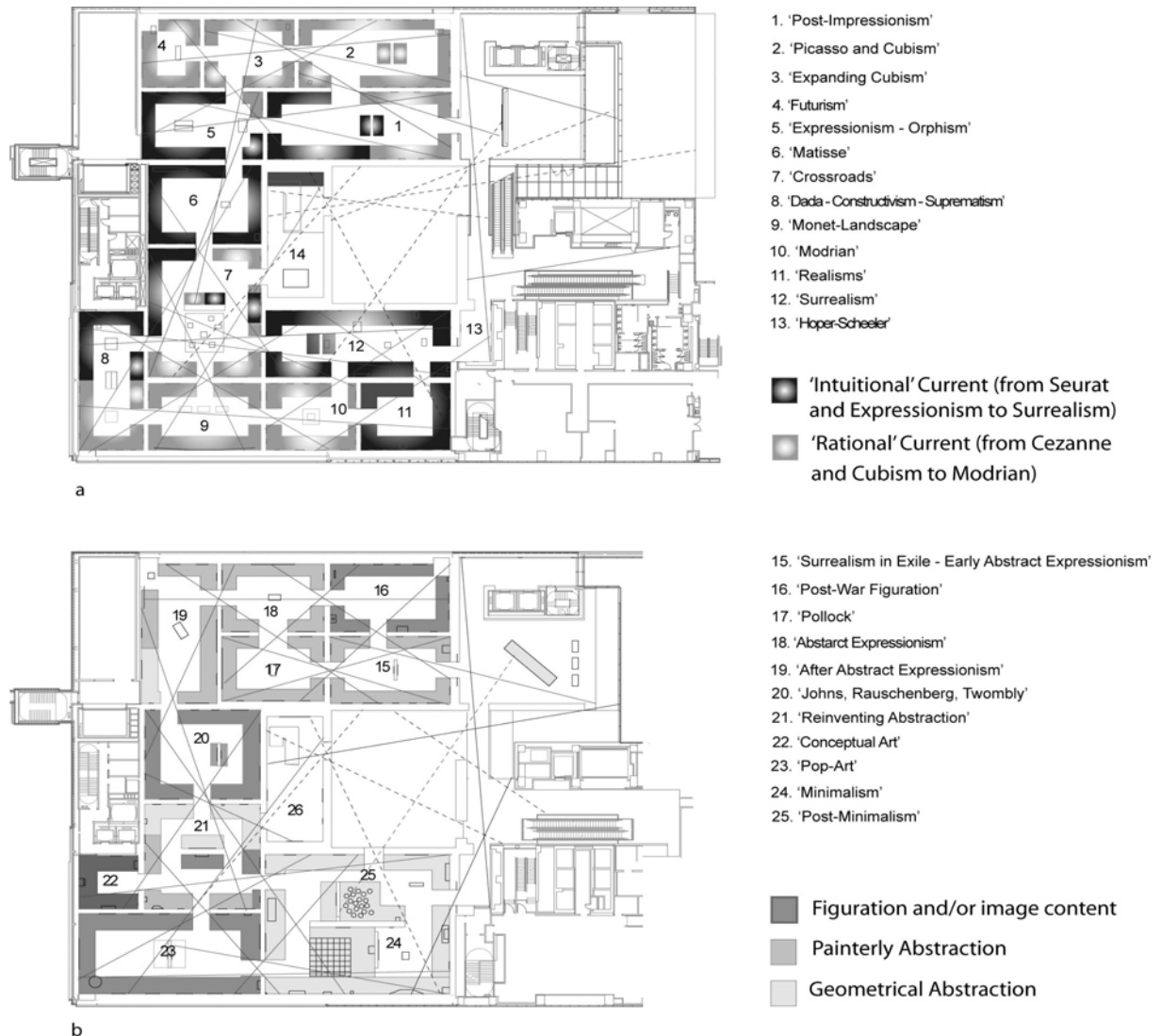
Although historical sequence is of primary importance, chronological development seems to carry a lesser significance. At the macro scale the development of art moves from 1880 to 1938 on the fifth floor, and from 1940 to 1970 on the fourth level. At the micro scale, the chapter rooms are devoted to paintings from similar periods, but their arrangement is not always based on chronological order. As to the chronology of successive galleries, there are cases of temporally co-existing periods, and others where periods overlap advancing forward in time.

To discuss the placement of the collection we will journey the galleries starting from the fifth floor and descend to the fourth level<sup>vi</sup>. We enter room 1, where the 'story' begins, the Post-Impressionists (1880), the first step towards abstraction. The left and the right wall surface represent Seurat and Cezanne, the two 'founding fathers'. Cezanne's line, leads to gallery 2 representing Cubism, while Seurat continues with Gauguin, and Van Gogh, the founders of Expressionism. Following the principal sequence, we access 'Expressionism and Orphism'. This leads to 'Matisse', and then to 'Crossroads', showing works from several artists instead of a single movement. The final step in the sequence is room 12 displaying Surrealism. The subsidiary rooms at the north are devoted to Cubism and Futurism. The south galleries accommodate both streams: Dada in axial relationship with its outgrowth - Surrealism, and Suprematism/Constructivism in axial relationship with the abstraction of Modrian and the surrealist works of 1930s Picasso.

070-07

**Figure 5:**

*Display organization, Painting and Sculpture Galleries (October 2005). (a) Fifth floor, Modern Art 1880-1940, (b) Fourth Floor, Modern Art 1940-1970*



070-08

Descending to the fourth level the visitor moves from pre-war Paris to post-war New York. The display starts with 'Abstract Expressionism', a movement influenced by its European predecessors, by abstraction and the flat plane of Cubism on the one hand, and the automatism of Surrealism on the other. The four galleries at the north side stage the birth (gallery 15), European currents (gallery 16), and the mature phase of this period through Pollock (gallery 17) and 'Abstract Expressionism' (gallery 18). The rest of the rooms accommodate three strands that were either influenced by, or departed from, or defined themselves in opposition to Abstract Expressionism: 'Post-Abstract Expressionism' (galleries 19, 20, 21, and 22), 'Pop-Art' (gallery 23), and 'Minimal - Post-Minimal Art' (galleries 24 and 25).

### **The Spatial Logic of the Installation**

Having described the distribution of art works we come now to explore the conceptual logic of the installation and the ways it is embodied in space.

*'We wish not to lose the sense of the main thread, the sense of a graspable parade of what we feel are some of the greatest achievements of modern art; that there would be some sense of mainstream, but that it would be punctuated, adumbrated, expanded, by a series of alternatives in which one might go into greater depth in a particular period'* (Lowry 1996).

This statement finds expression in the placement of the objects and their spatial arrangement. Starting with the fifth floor, Barr's two streams are located so as to create two intersecting courses. The Expressionist 'intuitional' line occupies the principal route advancing forward from the introductory (gallery 1) to the final chapter (gallery 13). The 'Crossroads' gallery forms an intermission, dwelling on the interconnectedness of currents and forking in a kaleidoscopic way. By inserting examples of diverse art associated with both the 'rational' and the 'intuitional' currents, it fills the essential 'gaps' for the principal route to provide a synoptic overview of modern art. By opening in five directions it offers deviations from this journey.

In contrast to the intuitional line, the 'rational' current recedes into the edges of the layout. There is a hierarchical difference between the two currents, as the 'intuitional' line is visually integrated and controls access to the 'rational' one located at the more segregated parts of the plan. But as in the 'Crossroads' gallery, the south galleries consist of room chapters that are exemplars of both streams. So, in spite of their spatial differences, the two genealogies interrupt each other, creating an ambivalence regarding their clear cut classification. Ambivalence is created not only in relation to the two streams, but also with regards to individual artists. Matisse, for example is preceded by two galleries of the principal route at the north and followed by two at the south. He is at the 'centre' of this route - in terms of step depth from the atrium. Sitting between 'beginning' and 'closure', this gallery implicates the central role of the artist in the development of art suggesting that he might feature in both currents.

The unfolding of the two lines describes the installation strategy in terms of spatial succession. The axial visual links in the galleries describe it in terms of spatial synchronization. For example, Cubism and Futurism, Dada and Surrealism are axially aligned expressing the affinities and the contrasts between the two styles. But while the frontal axes articulate relationships among art works that might be anticipated and predictable, the diagonal ones propose conceptual connections that are more unexpected. The multiple chiasmic relationships they construct invite the visitor to discover alternatives coexisting in space instead of didactic arrangements. *'In the history of*



Art', Barr wrote, 'there are few more entertaining sequences than the influence by way of Holland of a painting of a Spaniard living in Paris upon the plans of a German architect in Berlin' (Kantor 2002). The multiple visual connections might be thought of as akin to the ways in which artists and art movements in Europe crossed national frontiers and forms of expression.

In contrast to the diagonal views, the staggered thresholds phase the exploration with an emphasis on artworks shifting along with the visitors' movement. This pattern reinforces the sense of discovery. Implicated in this journey is the role of Matisse and Picasso. Picasso is placed at two dead-end spaces, two steps away from the entry and exit (gallery 2 and gallery 12). Two of his paintings (gallery 3) are axially connected with 'The Harlequin' (Picasso, gallery 7) and Matisse's 'The Red Studio' (gallery 6). So, while Matisse inhabits the centre of the principal route, Picasso drives the second and penultimate chapters. Then, the two re-appear one after the other in rhythmical intervals, and side by side as you traverse the plan from Cubism (gallery 3) to 'Matisse' (gallery 5) and to the 'Crossroads' (gallery 7). Their positioning is guided by overall symmetry in terms of depth from the outside and by rhythm in terms of gradual discovery. These strategies point at the two leading figures as another duality in the list of opposites that underline the display. The two artists carry the story along metonymically, framing it at the boundaries and punctuating it rhythmically at the centre. They are part of a chorus of voices as well as the protagonist guiding the performance.

**Figure 6:**

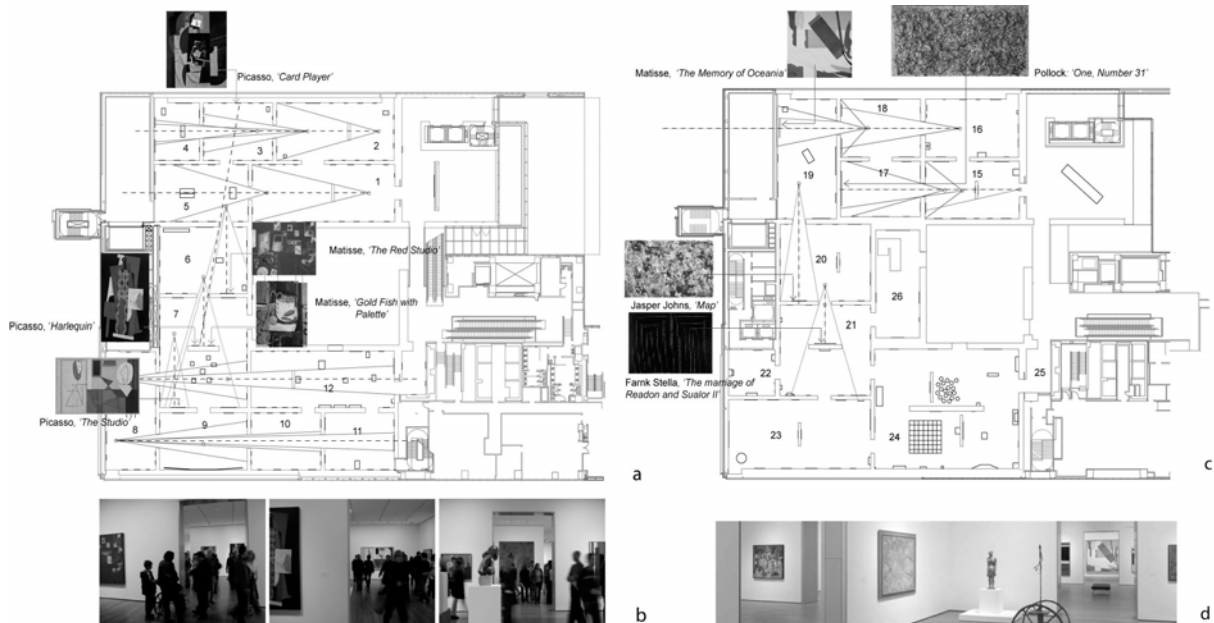
*Axial and staggered views.*

*(a) Fifth floor*

*(b) Galleries 6 and 7, from left to right: Matisse's 'Red Studio', Picasso's 'Harlequin', Brancusi (foreground) to Miro (background).*

*(c) Fourth floor*

*(d) Galleries 15, 16, 18, 19, from left to right: De Kooning 'Painting' 1948, Reveron 'Woman of the River', Picasso 'Pregnant Woman', Giacometti 'The Chariot', (foreground), Rothko 'No 3/No 13', Matisse 'Memory of Oceania' (background)*



It becomes clear that the narrative organization has departed from the linear sequence of previous installations. Spatially interweaved the two currents flow through the enfilade of rooms in serpentine movements, twisting with gaps and cancellations, interrupting each other then assuming their course until the next intermission. The new display strategy oscillates between opposites like spatial sequence and circuits of movement, frontal axial links and diagonal viewing positions, formality and irregularity, idealism and realism, the simplicity of the two-part classification and the complex relationships among art works and art movements.

Moving to the fourth floor instead of a dominant contrast, we find a set of parallels and oppositions presented as 'arguments' and 'counterarguments', like 'painterly abstraction' (an engagement with the physicality of the work) and 'geometrical abstraction' (a reaction to

expressionism and to the artists' 'handwriting' by brushwork, or any type of marks on the canvas) - or 'abstraction' (seen as a denial of representation), and 'figurative representation' or 'image content'<sup>vii</sup>. These 'arguments' and 'counterarguments' are sometimes seen in room by room succession and others in the same gallery in close juxtapositions. Johns and Rauschenberg for example, who reinvented the content of everyday objects, are in gallery 20, followed by gallery 21 ('Reinventing Abstraction') devoted to works that moved away from emblematic representation. Or Frankenthaler and Louis, who opened new possibilities for handling paint, are in the same space with Kelly who 'proposed severe abstract alternatives to painterliness' (gallery 18) (Elderfield 2004). Some of these arguments are conceptually and axially linked with art work shown in distant spaces. So, fusing the boundaries between the work as art and the work as object, artists like Kelly and Stella (galleries 18 and 21 respectively), are axially linked with Minimal and Post-Minimal art focusing on the reality of the object and its spatial presence.

*'The positivist assertion of the first decades of the Museum's existence, that modern art forms a single, coherent narrative that can be reflected in the Museum's galleries needs to be tempered by the recognition that the very ideas of modern and contemporary art imply the possibility of multiple, often contradictory narratives' (Lowry 2004 ).*

Our study of both floors shows that the installation with its combination of fixed and variable galleries is built around this recognition. The spatial mechanisms constructing 'multiple narratives' are grounded on three strategies: first, a main sequence that intersects with secondary galleries generating circuits of movement. Second, exemplars of opposite art strands separated into different rooms, but also interlaced into one space. Third, open visual relations that integrate these strands from distance.

While the main sequence and the pattern of integration prioritize a set of spaces distinguishing between a dominant and a subsidiary story, the two entrances, the half-way exit and the circulation loops have an equalizing effect. They temper the linear progression and predominance of the main route in terms of visual integration and depth from the atrium. The axial visual relationships allow each room to be open to a whole series of rooms blurring the divisions among room chapters. As to the placement of objects, the classification of art movements into separate spaces, and the juxtaposition of opposites into the same space further diffuse the boundaries between contents.

But apart from their similarities the two layouts have also strong differences. There are more circulation loops and opportunities for diversions on the fifth floor than on the fourth level. The entrance gallery on the former is integrated, while the entrance and the north galleries on the latter are segregated. Finally, the main sequence on the fifth floor consists of a smaller number of rooms than the main sequence on the fourth floor level. The greater levels of integration on the former create greater levels of interaction among art contents. In contrast, 'Early Abstract Expressionism', 'Post-War Figuration' and 'Abstract Expressionism' on the fourth floor are isolated from the rest of the spaces. This isolation might seem akin to the viewing conditions essential to appreciate works descriptive of this period. The 'action paintings' of Pollock or the 'color fields' of Rothko were intended to engulf the viewers requiring them to submit all faculties of understanding to the large size, boundlessness, and multilayered nuances of their canvas<sup>viii</sup>. So, these galleries are meant to absorb the attention of visitors encouraging focused viewing.

## Spatial Organization, Exploration and Narrative

*'By locating objects and people in time as well as in space, the Museum is constantly mapping relationships between works of art and their viewers, so that the space of the Museum becomes a site of narration where many individual stories can be developed and realized'* (Lowry 2004).

What kinds of narration do the visitors realize with their movement and how do the differences between the two floors affect their exploration and the social character of the visit? To answer these questions we randomly sampled fifty visitors on each floor and tracked their routes for twenty minutes. Although there is no prescribed way to access the galleries, most visitors enter through the north entrance (70%) seeing the collection in historical sequence<sup>ix</sup>.

In terms of exploration only 50% of the visitors on the fifth floor covered all rooms within the observation time, as opposed to 70% that exited the fourth floor galleries within this period. In addition, there are greater levels of variation in paths with regards to the numbers of rooms crossed by each path on the fifth floor (std. deviation 7.41) than on the fourth level (std. deviation 3.79). So, the visitors stay longer on the fifth floor than on the fourth floor exploring the layout in more individual ways with respect to each other.

To study the explorative behavior in detail we converted each path into room sequences in the order in which they were visited. Next we calculated the repeating frequency of sequences, consisting of two rooms and three rooms respectively. This was to identify whether there is a confluence of paths at those galleries that branch into other rooms offering circulation options. A computer program was written in Matlab that computed the repeating times of 2-room and 3-room sequences expressed as a percentage of the total number of paths. Sequences of two rooms show the extent of confluence and divergence of to-movement in contiguous galleries independently of the direction from which paths flow. The three room sequences show the extent of confluence and divergence of to-movement and through-movement incorporating thus, directional choice.

On the fifth floor there is a prevailing itinerary with 50% of the visitors covering all galleries of the layout in a large sequence 1-2-3-4-3-5-6-7-8-9-10-11-12-13. On the fourth floor there is less differentiation in the visitors' paths with 74% of the people accessing the galleries at the north in the order of 15-17-18-19. Overall, the prevailing path on this floor is 15-17-18-19-20-21-22-23-24-27. In terms of the south galleries the level of similarity in paths is similar to that on the fifth level (49%).

These results show that: first, most people follow the longest possible sequences on both floors. Second, the time spent on each floor, the degrees of variation in terms of the number of rooms visited, and the path sequences indicate that the visitors are more explorative on the fifth floor than on the fourth level. Third, the intelligibility measures and the spatial characteristics of the two layouts are responsible for these behavioral differences. The visitors grasp the fifth floor better than they understand the fourth floor which has an impact on their levels of choice and exploration. This is confirmed by a significant correlation on the fifth floor between the integration values for each room with the observed flow rates across thresholds ( $R^2=0.78$ ), and a less significant correlation of the same attributes on the fourth level ( $R^2=0.38$ ).

If variation in paths is an indication of variation in the narratives realized with people's movement, then half the visitors on the fifth floor and the south part of the fourth floor, experience, according to the

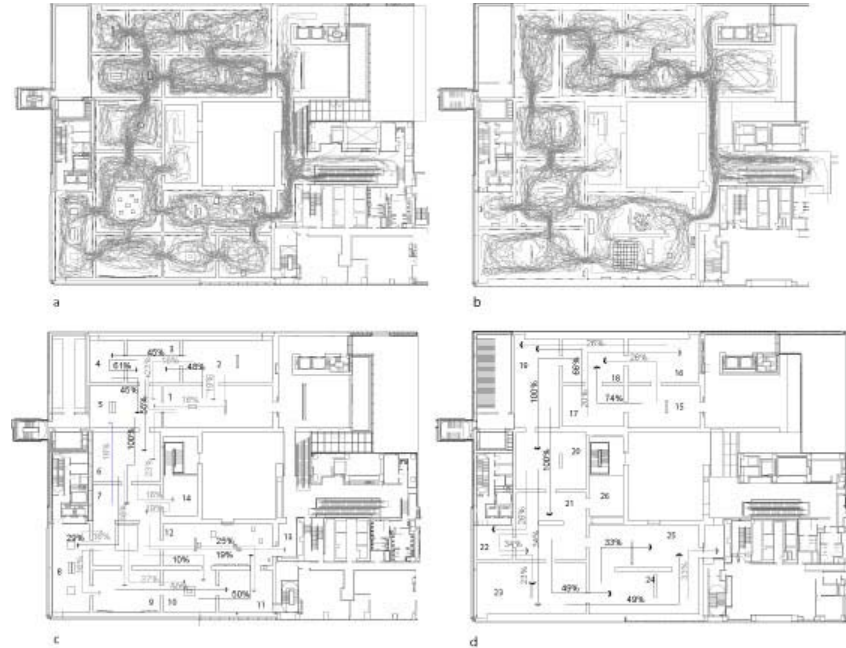
Museums' intention, different kinds of narration. Since visitors flow equally into 'Picasso and Cubism' (gallery 2) and Expressionism and Orphism (gallery 5) Barr's two streams carry equal weight in initiating the story of pre-war art. The fourth floor story is primarily told through 'Pollock' and 'Abstract Expressionism' with 74% of visitors missing post-war Europe in gallery 16.

**Figure 7:**

The visitors' paths.

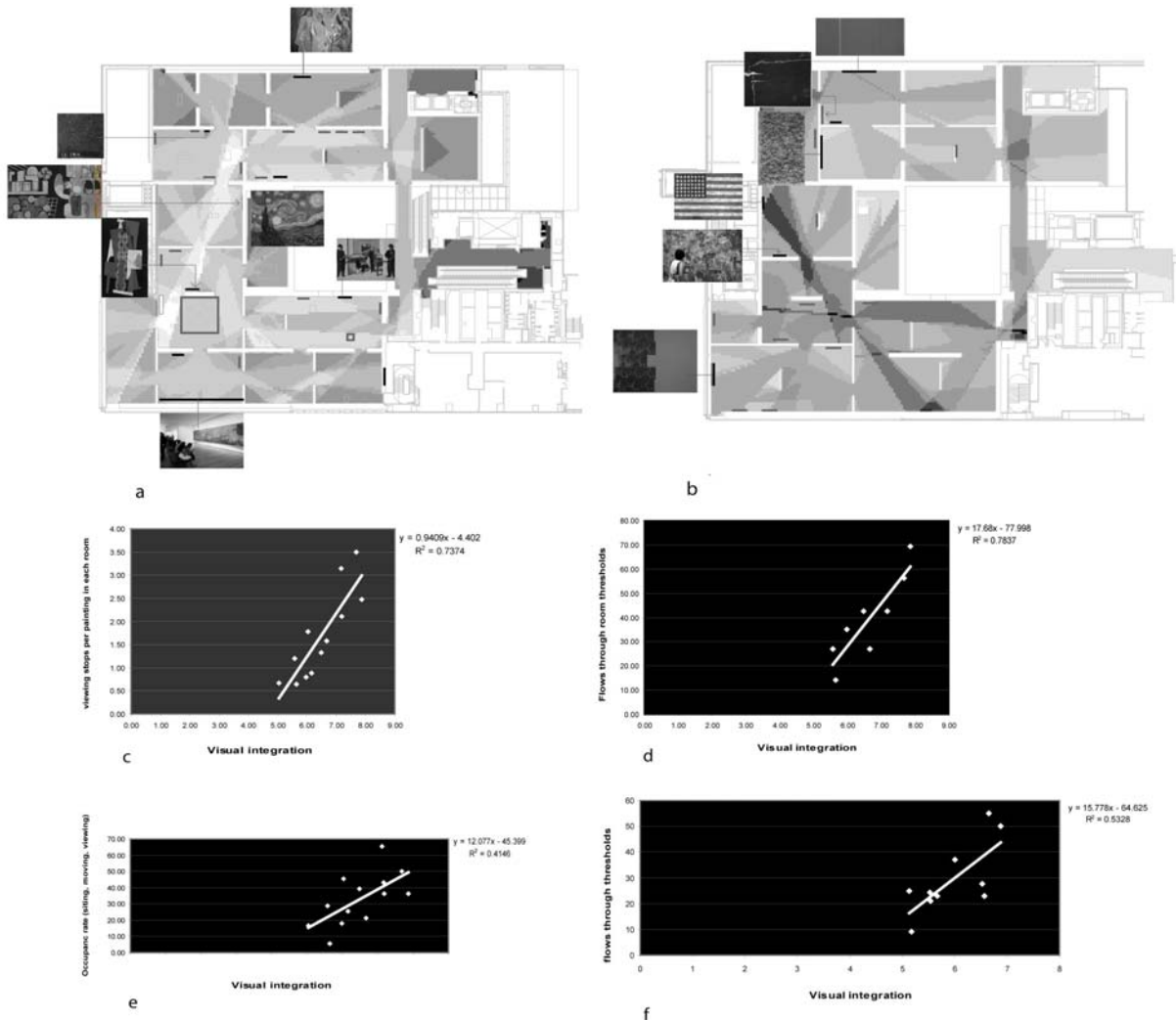
(a) Fifth floor, (b) Fourth floor, (c) Fifth floor, three room sequences, (d) Fourth floor, three room sequences.

Dominant sequence on the fifth floor (by 50% of the total number of observed visitors), rooms: 1-2-3-4-3-5-6-7-8-9-10-11-12. Dominant sequence on the fourth floor (above 49% of the total number of observed visitors), rooms: 15-17-18-19-20-21-23-24



**Figure 8:**

(a) The paintings with the highest viewing rates on the fifth floor, (b) the paintings with the highest viewing rates on the fourth floor, (c, d, e, f) correlations



If the paths show that visitors do not prioritize any of Barr's genealogies in terms of narrative sequence, the paintings that attracted the highest viewing rates can help us to see whether they prioritize any of two streams in terms of the narrative message. With the exception of Picasso's 'Les Femmes d'Alger' (O.J.) (gallery 2) and 'Monet's Water Lily Pond' (gallery 10), the works that attracted the highest numbers of stops are primarily situated along the main sequence. So, the curatorial message for most visitors is primarily transmitted through Barr's 'intuitive' line. A strong correlation between visual integration and the average number of visitors that stop to view each painting in each room on this floor ( $R^2=0.72$ ) confirms that the stream descending from Expressionism plays a major role in communicating the pedagogical message<sup>x</sup>. On the fourth floor most of the paintings that attract the highest rate of stops are also situated on the main sequence, with the exception of three paintings in gallery 23 descriptive of 'Pop-Art'. However, there is no significant correlation between integration and viewing rates on this level.

070-13

### Architecture, Curatorial Message and Identity

The differences between the two layouts in terms of spatial configuration and the ways in which visitors explore the collections indicate that the pre-war art on the fifth floor is experienced as an interconnected and intelligible story. On the other hand, post-war art is seen as a more linear, more introverted and less coherent development. There is a wide belief that the reformulation of pictorial space in the early twentieth century resulted in immense diversity, but also in an underlying system of shared values, for which the interactive nature of the Bauhaus served as the ideal model. On the other hand, post-war art carried greater levels of individuality and progressively increased degrees of abstraction. Together with these changes came a proliferation of ways to challenge inherited concepts of social, political or aesthetic content, including the nature of art itself, its mechanisms, materials, representations, its viewing conditions and products. The visual integration on the fifth floor promotes the idea that in the first part of the 20<sup>th</sup> century art was subject to an interactive process. In contrast, the weaker levels of integration on the fourth floor imply that post-war art dwells on individual artists or schools that are related together in a loose way rather than by a tight system of values.

The MoMA is often defined as a 'laboratory' or a place of intellectual intensity 'forever willing to take risks and favor controversy' (Lowry 2004). If we return to the requirement in the brief that the experience of the building should be a metaphor for the Museum as a whole, and for the narrative message in the galleries, it seems that the identity of the MoMA projects is close to the visual interconnectedness on the fifth floor, or otherwise the Bauhaus model. This is because the visual relations in the atrium and the strong integration links with the city advance an idea of the Museum as a dynamic field of intersecting routes and departments. This observation brings us back to our question: How has the MoMA used architecture to reconcile the notion of a progressive institution modeled after the spirit of Modernism, which in many ways is considered as a historical movement?

If the Bauhaus is a metaphor for an idealistic museum, the Manhattan streetscape offers a transfiguration of this metaphor from a passed to a contemporary context. 'A city never preempts what is going to happen; rather, it offers the latent potentials for things to happen, to happen in a kind of related way' (Koolhaas 1996). In anticipation to MoMA's expansion Koolhaas identified an issue of urbanity rather than one of architecture, combining the un-programmed with certain

degrees of organization. The synthesis of the Bauhaus and the Manhattan metaphors is what satisfies the conflicting requirements of the MoMA to be devoted to the established and the experimental, the predictable and the unforeseeable, and to modern art as history and as a living condition.

*'In the end though, Barr's old aim remains: the exhibited collection must offer a continuously present, visible demonstration of what the Museum stands for. "An experience of all possible things is not a possible experience" Kant warned. The exhibited collection offers the experience only possible in the Museum of Modern Art'.* (Elderfield 2004).

070-14

Our last comment returns to Alfred Barr, the intellectual origins of the MoMA, and the new strategy for the installation. It becomes obvious from our work that the display concept is a spatial reinterpretation of Barr's original classification into a synchronic - visually integrated arrangement and an evolutionary sequence. The Museum's 'progressive' identity in the new building therefore, is a matter of historic reinterpretation and architectural expression rather than pedagogical reformation.

### Conclusion

We have suggested that by integrating the interior the exterior and the various spaces of the building as a whole, Taniguchi articulated an institutional, architectural and symbolic identity for the MoMA based on spatial configuration. We have also argued that the Museum's identity is defined by a synthesis of two prototypical metaphors: the Bauhaus and midtown Manhattan. Our analysis of the painting and sculpture galleries has shown that the installation of pre-war art encourages a multi-layered, visually integrated social visit. In contrast, the display of post-war art creates a more linear, private and idiosyncratic environment. Finally, we suggested that the new MoMA remains committed to its intellectual history, and its unique role as a comprehensive Museum of Modern Art.

**Acknowledgements;** We wish to thank The Museum of Modern Art and especially Debora Szwartch and Sarah Ganz for their valuable contribution to our conversations and for facilitating the observation study. We would also like to thank the Rackham School of Graduate Studies and the Taubman College of Architecture and Urban Planning, University of Michigan for funding this work. Our thanks go also to Nick Senske and Rachna Lal for their technical assistance during the first phases of the research.

### References

- Barr, Jr.A.,H., (Ed.), 1946, *Fantastic Art, Dada, Surrealism*, The Museum of Modern Art, New York.
- Barr, Jr.,A.,H., 1936, *Cubism and Abstract Art*, The Museum of Modern Art, New York.
- Benedict, M., 1979, "To Take Hold of Space: Isovists and Isovist Fields", *Environment and Planning B*, 6.
- Elderfield, J.R, (Ed.), 1999, *Modern Starts*, Museum of Modern Art, New York.
- Elderfield, J., (Ed.), 1998, *Imagining the Future of the Museum of Modern Art*, The Museum of Modern Art, New York.
- Elderfield, J., (Ed.), 1998, *Philip Johnson and The Museum of Modern Art*, The Museum of Modern Art, New York.
- Elderfield, J., (Ed.), 1995, *The Museum of Modern Art at Mid-Century*, The Museum of Modern Art, New York.

Elderfield, J., 2004, *Modern Painting and Sculpture, 1880 to the Present*, The Museum of Modern Art, New York.

Hunter, S. (Ed.), 1985, *The Museum of Modern Art*, New York.

Hughes, R., *American Visions*, Alfred A. Knopf, New York.

Hillier, B., 1996, *Space is the Machine*, Cambridge University Press, London.

Joselit, D., 2003, *American Art Since 1945*, Thames & Hudson World of Art, London.

Kantor, S., 2002, *Alfred Barr and the Intellectual Origins of the Museum of Modern Art*, The MIT Press., MASS.

Lynton, N., 1992, *The Story of Modern Art*, Phaidon, London.

Nietzsche, F., 2000, *The Birth of Tragedy*, Oxford University Press, Oxford, New York.

Newhouse, M., 2005, *Art and the Power of Placement*, The Monacelli Press, New York.

Newhouse, V., 1998, *Towards a New Museum*, The Monacelli Press, New York.

Lynes, R., 1973, *Good Old Modern*, Atheneum, New York.

Peponis, J., Conroy-Dalton, R., Wineman, J., 2004, "Measuring the Effects of Layout upon Visitors: Spatial Behaviors in Open Plan Exhibition Settings", *Environment and Planning B: Planning and Design*, 31.

Psarra, S., 2005, "Spatial Culture, Way-finding and Educational Message – The Impact of Layout on the Spatial, Social and Educational Experience of Visitors in Museums and Galleries", M. Leod (Ed.), *Reshaping Museum Space: Architecture, Design, Exhibitions*, Routledge, London.

Psarra, S., Grajewski, T., 2002, "Track Record", *Museum Practice*, 7.

Psarra, S., Grajewski, T., 2000, "Tracking Visitors Can Help Improve Museum Layouts", *Museum Practice*, 5.

Psarra, S., Grajewski, T., 2000, "Architecture, Narrative and Promenade in Benson and Forsyth's Museum of Scotland", *Architectural Research Quarterly*, 4.

Riley, T., 2004, *Yoshio Taniguchi Nine Museums*, The Museum of Modern Art, New York.

Rosenberg, H., 1959, *The Tradition of the New*, New York Horizon Press.

Schoenholz, H., Heliczer, C., 2005, *MoMA Highlights*, The Museum of Modern Art, New York.

Rowe, C., Slutszki, R., 1984, *Transparency: Literal and Phenomenal in The Mathematics of the Ideal Villa and Other Essays*, The MIT Press, Mass.

Stavroulaki, G., Peponis, J., 2003, "The Spatial Construction of Seeing in Castelveccchio", J. Hanson (Ed.), *Proceedings*, 4<sup>th</sup> International Space Syntax Symposium, University College London, London.

Tzortzi, K., 2005, "Kroller-Muller vs Louisiana: Alternative Explorations of Museum Experience", A. van Nes (Ed.), *Proceedings*, 5<sup>th</sup> International Space Syntax Symposium, Technical University of Delft, TUDelft.

Tzortzi, K. (2003), "An Approach of the Microstructure of the Gallery Space, The case of the Sainsbury Wing", J. Hanson (Ed.), *Proceedings*, 4<sup>th</sup> International Space Syntax Symposium, University College London, London.

- 
- i. In 1997 the Museum appointed Yoshio Taniguchi as the architect of the expanded MoMA culminating a process consisting of forums, conferences and events including a charette and a limited architectural competition.
  - ii. Lowry, G. Pocantico Conference convened in 1996 with the theme: Building the Future: Museums of Modern Art in the Twenty-first Century, in 'Building the Future', in Elderfield, J., (1996), 'Imagining the Museum of Modern Art', The Museum of Modern Art, New York.
  - iii. 'He habitually devised charts – diagrammatic schemes that were synchronic in structure and juxtapositional rather than linear – that aimed at furthering his formalist evolutionary system and ordering the chaotic expressiveness of avant-garde art by summarizing time, place, artist and style'. Kantor, S. G., (2002) Alfred H. Barr and the Intellectual Origins of the Museum of Modern Art, The MIT Press, Cambridge, Mass.
  - iv. 'Of course Barr – and therefore his successors – inherited the formalistic context of Fry and the Bauhaus, which shaped the institution. And Barr's obsession with genealogy is simultaneous with the so-called neo-Darwinian Modern Synthesis of 1930s and 1940s paleontology which combined Darwinism and Mendelian genetics to offer the view of a single evolving human lineage'. Elderfield, J., (2004), 'Modern Paintings and Sculpture', The Museum Of Modern Art, New York, p. 25.
  - v. From the conference and lecture series, Pocantico, Conversation II, in Elderfield, J., (ed) (1996) 'Imagining the Future of the Museum of Modern Art'. Elderfield, J., The Museum of Modern Art, New York.
  - vi. It should be noted that the combination of the fixed and variable galleries in the Museum allows periodical changes in the installation and that our analysis and presentation of the display is descriptive of the period in which we conducted the observation study (October 2005).
  - vii. 'The Post-Abstract Expressionist presentation charts two principal directions...The first comprises artists who built on or tempered the painterly abstraction of their predecessors...and those who transformed its painterliness by infusing it with image content...The second direction encompasses a broad group of artists ...revealing crosscurrents that complicate, develop and seek to escape from a dominant style'. Elderfield, J., (2004), Modern Paintings and Sculpture, The Museum of Modern Art, New York, p. 297).
  - viii. 'At a certain moment the canvas began to appear to one American painter after another as an arena in which to act rather than a space in which to reproduce, redesign, analyze, or express an object, actual or imagined. What was to go on a canvas was not a picture but an event...What matters always is the revelation contained in the act'. Rosenberg, H., (1959), 'The Tradition of the New', New York Horizon Press.
  - ix. It is important to note that from those entering from the south entrance on the fifth floor only 50% continue the exploration in the reverse chronological order. The rest of the visitors retrace their steps exit the galleries and reenter through the north side.
  - x. This observation can also help us deduce that Picasso's 'Les Demoiselles' and Monet's 'Water Lilly Pond' play a strategic role in attracting people out of the primary sequence to the peripheral galleries.