

Early Modern Art Layouts in Breuer's Design

Devrim IŞIKKAYA
Department of Architecture
Bahcesehir University
Ciragan Street, No:4/6
Besiktas, Istanbul, Turkey
E-mail: devrim.isikkaya@bahcesehir.edu.tr

Abstract

Among the important pioneers of modern architecture and design, Marcel Breuer (1902 – 1981) occupies a very special position. By 1976, on the occasion of his receiving the Grande Medaille d'or from France's Academie d'architecture, Breuer was called "the last living landmark of the Bauhaus international school of architecture", when he died five years later, he was recognized as the last modernist icon related to Bauhaus, school of design.

Furthermore he was heaped with architectural honors and awards according to his 150 structures accomplished on four continents was named as one of the form-givers of the twentieth century, and described as a "monumental figure among modern architects" [1].

Breuer, in his design from the first chair to his most recent house, has always insisted upon giving equal weight, clarity, and expression to each important element – and to create a vibrant architecture of many contrasts of schizophrenic modern life by balancing the transparency and solidity in each project. His design manner as an icon of early modernism has influenced the contemporary architecture regarding the innovative theories of architectural culture, the creation of unique, fluid space, pure but varied organizations of regular geometry, encouraging the production of artificial, construction of industrial - modulated elements and their successful applications in sensitivity of a sculptor.

This paper's aim is to redefine and prove the existence of the traces of Breuer's design in the contemporary architecture in the context of modernism. In this context, the paper's preferred method is to find out the influences of Bauhaus school in Breuer's design concepts, to make a comparison between the traditional and modern architecture, to analyze Breuer's geometrical application methodologies and to discover the connections between Breuer and the contemporary architects regarding modern design theories.

1. Introduction: Bauhaus Influence on Breuer's Design

One of the most influential architects and designers of the 20th Century, Marcel Lajos Breuer– Lajkó to his friends – was born in Pécs, Hungary, in 1902. Frustrated by the course in fine arts in Vienna, Breuer dropped out and worked in a Viennese architect's office until he applied to the Bauhaus, a recently founded art and design school in Weimar, Germany, where he studied and taught until 1928. His early study and teaching specialized in furniture design, which introduced him to the older giants of the era of whom three architects – Le Corbusier, Mies van der Rohe, and Walter Gropius – were to have life-long influence upon his professional life. Gropius, as one of the founders of Bauhaus, school of design, had also assembled a good many modern painters and sculptors such as Feininger, Marcks, Itten, Mucbe, and later on Schlemmer, Klee, Kandinsky, Moholy-Nagy. His aim in 1920 was to unit the fine arts with the simple crafts in order to bring about an understanding of materials and tools of building [1].

In the time being, the school's program became clarified, the emphasis shifted materially from the crafts to modern technology. The concept was to train a new kind of artist-technician, who is capable

of coordinate all the specialists, take part in the building production. This artist – technician would have the vision and ability to plan including the esthetic sense to assure a new standard of quality for the industrially produced goods – from lamps to skyscrapers. During this time, especially under the influence of students like Breuer, the leading ideal of the Bauhaus became “Art and Technology – a new Unity” which is also described as a harmony, in that the students should create their own rhythm. In this sense, Breuer played a leading part in the development of the Bauhaus school in Weimar (and, later in Dessau), Germany. He made several contributions to the modern movement with his colleagues by exploring the principles of unit construction (combining standardized units into a technologically simple but functionally complex whole).

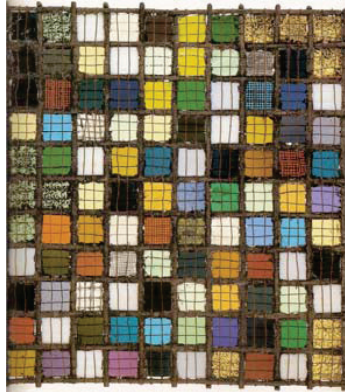


Figure 1: *Is this a façade, a painting, a sculpture or a furniture? (Bauhaus production)*

Breuer designed, the aluminium, nickel-plated ready-made tubular steel and plywood pieces including innovative furniture, such as Wassily chair, Romantic chair and notably the Wood-slat chair, under influences by the abstract aesthetic of De Stijl, the Dutch art movement at the Bauhaus in 1920's in Germany. All these objects are still fabricated and emulated today and regarded as landmarks in 20th century furniture design, which also made Breuer best known as one of the early 20th century's most influential furniture designers. Accordingly, the Bauhaus school became the most important center of modern art in postwar Europe, explored the rhythms and patterns of mass production industry and its machine aesthetic opened up new vistas in almost any field – from painting to ballet [2].



Figure 2: *A traditional Gaudi chair in chaotic, unique, unrealistic, geometrical order(left side), in contrary, a - modern Breuer chair in hierarchic, realistic geometrical order for mass production*

After 1928, Breuer's interest turned to architecture, a career he pursued across Europe to America which process is described by [1] as an incomplete transformation of the inheritance from furniture design into architectural scale.

He left Germany in 1935 and joined Gropius, moved to US in 1937 and became professor at the Harvard School of Design. Together they formed an architectural practice and designed mostly two storey villas at the east coast between 1937 – 41 in United States. During that time, the young Breuer

was enthusiastic about the experimental possibilities of housing design and teaching at the same time which he advocated the principles of modernism to students including Philip Johnson, Paul Rudolph and Edward L. Barnes, all of whom later became prominent US architects.

In 1946, Breuer left Harvard and established a design office in New York with his first partner, the industrial designer Eliot Noyes. Geller House on Long Island was his first project after the war. A spacious, airy timber structure hailed as a "house of the future" by the press. Just as Breuer's design reflex in distinctive forms on furniture design so can be seen in his architectural work, abandoned the naturalistic timber and stone in his house design and started to experiment concrete forms for public buildings, which he christened them as "concrete sculpture". New York's Whitney Museum (probably the best known), IBM's La Gaude Laboratory (his personal favorite), the headquarters of the Departments of HUD and HEW in Washington DC (he finally felt American), and Flaine (an entire ski-town in the French Alps) are some of the examples to this kind of work. In the following twenty years, he articulated each structural detail and the designation of different areas for different activities [1]. Breuer continued to work with combinations of glass, wood and stone rubble thereby imbuing his international style structures with the warmth and naturalism of their surroundings committed as an unprejudiced architecture determined more than anything else by the expression of use. The work of the Hungarian-born, German-trained designer-turned-architect came to typify an affluent, enlightened style of mid-20th century East Coast residential early modern architecture and the modern designed morphologies of cities and interiors around the world.

In brief, although Breuer had long since forged an independent identity and worked hard to dissociate himself from Bauhaus design and the architecture of Gropius, his architecture-both by itself and its identification can be described as Bauhaus-generated modernism [2].

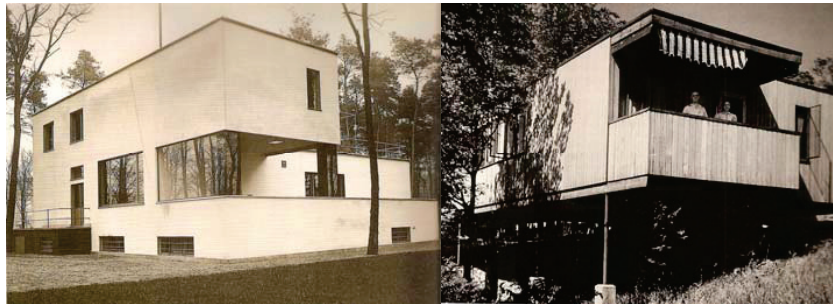


Figure 3: *A. W. Gropius House (left side) and M. Breuer House (right side) from different times: cubical form of pure geometry, cantilevered façade of modern buildings*

Regarding this, the Bauhaus influences on Breuer's design can be composed basically on his workings with the artificial, modulated materials, integration principles of regular geometric forms of construction elements, realistic abstraction of geometry and thinking of flexibility.



Figure 4: *Small metal house designed by Breuer in 1927(right side), house of flexibility, geometry of mass-productive surfaces, volumes for multi-functional use / Bauhaus design- machine aesthetic*

2. Principles of Breuer's Modern Architecture

The traditional architectural design – architecture as an aggregation of imitations of nature, is related to the national, vernacular concrete concepts, offering and using local and natural materials and producing their organic details, being unique and absolutely unrepeatable and therefore being mostly monumental and consecrated and suspended in the context of the social and physical conditions of the place where the product is generally situated [3].

The traditional architecture, which is bereft of the industrial mass production methods or against them, symbolizes usually the political power and describes directly the character of its owner, and represents also a related continuation of the past productions. The façades of the traditional buildings are interfaces between real and unreal, telling stories and generally independent from the building. The geometrical layouts of the traditional civilian architecture generally consisted of the organic forms aped to the nature in an irregular, ambiguous geometry.

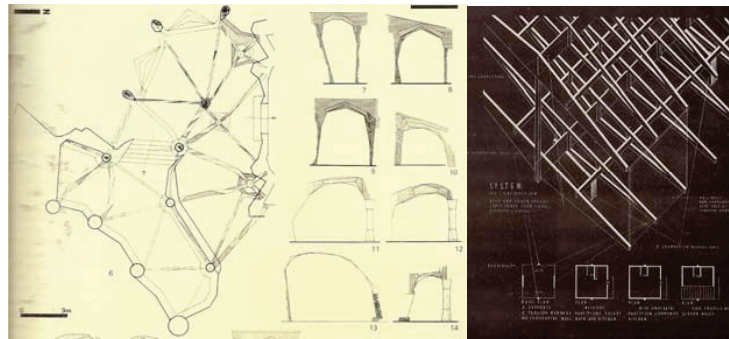


Figure 4: *The organic, unique structure in ambiguous geometric order of traditional architecture; in contrary the cubic, artificial structure of the “multiple house”: geometry as composition of repetitions*

In brief, the traditional architecture can be first of all recognized as a representation / construction of the holiness, so it should instinctively create the unique, monumental object consisted of chaotic, introverted, limited but fragmented compositions of unrepeatable – irregular geometric forms, which compose the rigid space of solidity.

Breuer, as one of the important pioneers of early modern architecture and design, indicates that architecture has very much to do with solutions, which are called the traditions of building, should constantly be checked against experiments with new developments. In this sense, space is not plastic, static, positive, projecting. It is hollow, negative, retiring [3]. It is never complete and finite. It is in motion, connected to the next and to the infinite space, which represents the modern architecture.

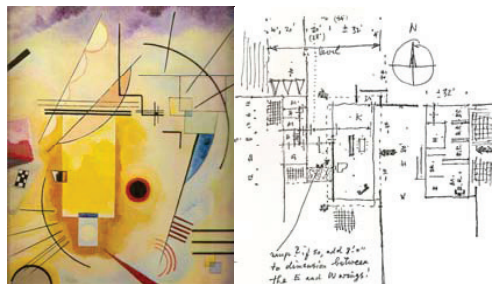


Figure 5: *Describing the infinite – fluid space, similarity between Kandinsky's and Breuer's sketches*

Breuer also argues that people have a new experience of space in motion, missing the details, seeing continuities: space in motion, space in flow, so people are concerned with the unity of this new medium, the flowing space designers try to mold. In this architecture in which one part is dependent upon the next, an anonymous simpler space with its introverted, independent and schizophrenic continuity / fluidity is emerging [3].

In this sense, describing the unity of practical conditions and their machine aesthetic and designing its unique and fluid space based on thinking in terms of motion which contents several variations of physical ambiances by composing the oversimplified relations of simple geometric forms such as squares, rectangles and circles in symmetric / asymmetric repetitive, continual order are the logics of the modern architecture and design, based on a creative standardization in machine aesthetic.

Breuer's understanding about the current design culture includes a unique composition of art and technology through regular integrations of predefined geometrical, industrial construction modules, which constitute the building. Volumes and façades of these buildings can be flexible with variable repetitive modulations (modulating space to our needs [3]), to a simple structural system comprised of generally artificial materials which are sometimes discovered or interpreted by the architect and the producer through a collective research and design process.

Breuer (2001) argues that architecture is not the materialization of a mood, it should not be a self portrait of the architect or the client, though containing personal elements of both. In addition it should primarily serve generations. In planning process Breuer interested and developed theories as a typical modernist architect, as well as organization of the self sufficiency. In this sense, modern architects should also consider the sustainability of the city and should be able to design in the composition of the big unit of as mix - used spaces.

In brief, for decades he had labored to purge historically based elements from traditional architecture and insisted on pure, flexible, transparent compositions of regular geometry.

3. Geometrical Analysis of Breuer's Architecture

According to Breuer (2001), a building is a man-made work, a crystal, constructed thing, which should not imitate nature, in contrary it should be in contrast to nature. A building has straight, geometric lines. Even where it follows free lines, it should be always clear that they are built. He also suggests that he cannot see any reason at all, why buildings should imitate natural, organic or grown forms. Breuer recognize building as an isolated composition, but a composition related to nature, a composition of contrast. He argues that nature and architecture are not enemies – but they are distinctively different. They should live together the way a man and a woman live together: it is certainly not necessary to assimilate husband and wife to each other. Regarding his opinion, it is a great mistake either to adapt building forms, or to adapt natural forms to the crystal, geometric forms of architecture, as it was done in the rococo period.

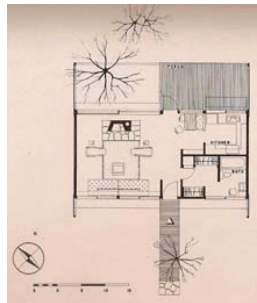


Figure 6: *A clear geometric organization of pure space*

Breuer (2001) also confesses that “justified rebellion” against rigid symmetry moved them towards an asymmetrical architectural composition around 1920. He clarified his manner based on symmetric and asymmetric organization preferences as follows:

“Symmetry was comme il faut before, asymmetry since...approach directly the problem of harmonious architecture, we would find a natural mixture of symmetry and asymmetry. An elemental symmetry is found in most primary natural forms, in all geometric forms; basically, symmetry is a system of practical relations to a center. Just as basically, this order is many times – not always quite naturally deflected by outside forces, by dynamics of motion, by the complexities of synthesis, the synthesis of efficient planning. It seems to me that the first conception of an architectural order has an elemental symmetry- just like a square, a parabola, a fish, a bird or a brick. Elaborations may cause deformations of this primary form, the whole may end in being asymmetric – not because of a new or old dogma, but because of a sense behind the form.” [1]

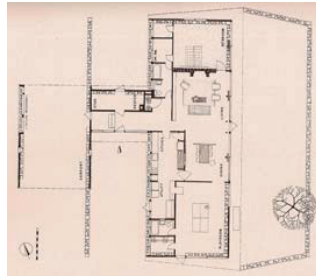


Figure 7: *A typical house plan organization for an asymmetric order*

Breuer sought for a fluid and pure space as a unification of contrasts and its simple organizations of regular geometric forms. A kind of regular chaos composed of the shapes in equal positions to each other makes up this dualism, which was Breuer’s principal, philosophical contribution to modern architecture, which is recognizable in his works and also in Kandinsky’s paintings, who was his fellow once. Kandinsky pursued the abstract and analytical organization and redefining of geometric layouts similar to Breuer [6].



Figure 8: *The abstract – analytical organization of geometry by Kandinsky and Breuer*

Breuer’s method was first of all to determine the symmetrical, rigid order of the plan and then to deconstruct it towards an asymmetric, hierarchic or democratic organization of variability on deformed axis. He changes the scales, forms, positions of the regular geometric shapes such as squares, rectangles which he mostly preferred, or circles. Especially the private houses he designed - mostly in his favorite H-plan and T-plan shapes in the east coast states such as Connecticut, New York and New Jersey, and the Robinson House with the bi-nuclear plan, in Williamstown, Massachusetts are kind of descriptions of his tendency to the cubist compositions in a certain rhythm in asymmetrical layouts.

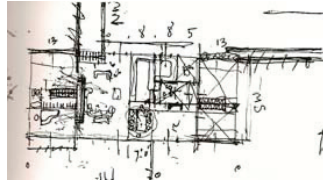


Figure 9: *Regular- hierarchic organization of rectangles-squares/variability on deformed axis*

In his works, he used mostly squares and rectangles in integrated repetitive order either for public buildings or for private houses. In public buildings, he preferred concepts of hierarchical organizations of repetitions of rectangles or squares or both in integration. In private houses, it is hard to recognize a hierarchy in geometry. Generally he used to create a kind of “regular anarchy” of different scales of regular rectangles or squares in deformed grid layouts.

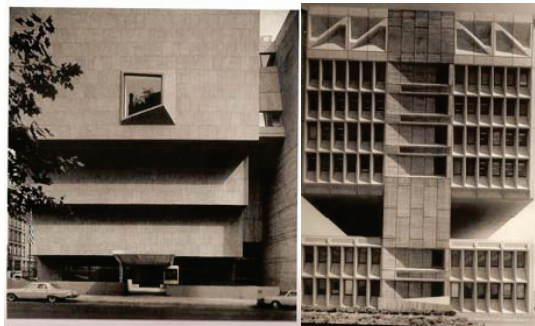


Figure 10: *Repetition of rectangles towards an hierarchic-monumental organization of public building's façade*

He also used triangular shapes or trapezoidal forms in terms of function. Circle or other organic forms such as parabola are kind of decorative objects for ceiling or façade coverings in certain repetitions or recreational elements such as contour of gardens or eaves.



Figure 11: *Using organic forms (circle, parabola etc.) either as decorative objects for the interior or as recreational objects*

His works, especially the Breuer House in Lincoln, Massachusetts, the Fischer House and Studio, in New Hope, Pennsylvania, the Chamberlain Cottage in Wayland, Massachusetts, the Foote House, Chappaqua in New York, and the Aufricht House in Mamaroneck, New York, completed between 1939-1953, can be recognized as accurate monumental organizations of sharp, asymmetric, pure, absolute and masculine geometrically organizations of rectangular – square repetitions, cubicle compositions in an hierarchic order along deformed axis, in brief as concepts of nested – fluid spaces for multi-purposed use.

4. Conclusion: Breuer's Traces On Contemporary Architecture

Two decades later and within five years after Breuer's death, in the architectural climate where the precepts he had upheld all his professional life had been challenged and effectively encouraged by architects, theorists, critics, and historians of revisionists persuasion [1]. In brief, as an architect, artist, and theorist, Marcel Breuer's influence on the contemporary architecture are as follows:

- **In design process:**

- seeking for **machine aesthetic**, interested in urban design, new design principles in private house, creating a vibrant architecture of many contrasts (**de-constructivism**), multifunctional mega-structural building design (Civic Center of the Future), designing the **fluid space**, theories and offerings of **mix-use space**, innovative design and application of **modules-flexible design**, using **moveable construction** elements, creation of the sliding glass walls, being pioneer of **tectonic design**, first concepts of **prefabrication**, using industrial, cheap material in dwellings – creating contrast, creating the cantilever eaves, **expressing structure**, visible inside – **transparency**, expressing the infrastructural elements, **low cost building design**, designing furniture as worldwide trademark

- **Use of material:**

- innovative usage of materials for construction, **unification art and technology** by application the industrial-artificial materials, **using industrial – anonym materials** in construction, creating or encouraging to create new construction materials such as molded plywood, laminated wood, stainless steel, aluminium etc., accepting a material firm as a client, make collaborations during design process (first integrated design process – team work), thinking of **futuristic building forms and materials together**, innovative use of concrete and steel

Accordingly, Marcel Breuer can be recognized as a revolutionary threshold in the modern theories and design processes. He is one of the most effective actor from the early modern times who influences the contemporary architecture and became a reference for the famous contemporary architects such as Rem Koolhaas, Jean Nouvelle, Dominique Perrault and Shigeru Ban in the context of creating pure geometric forms of spaces, using industrial elements, prefabricated construction systems in buildings and design theories such as transparency and fluidity and producing tectonic design concepts.

References

- [1] I. Hyman, *Marcel Breuer, Architect, The Career and The Buildings*, Harry N. Abrams, INC. Publishers, pp. 513-19, 39-41, 182-379. 2001.
- [2] M. Droste, *Bauhaus, Bauhaus Archive*, Benedikt Taschen Verlag, pp. 22-31, 66-68, 111. 1993.
- [3] P. Blake, M. Breuer, *Marcel Breuer: Sun and Shadow*, Dodd, Mead Company, pp. 14-17, 60-78, 126-140. 1955.
- [4] D. Harvey, *The Condition of Postmodernism*, Blackwell Publishers, pp. 59. 1990.
- [5] R. Zerbst, *Antoni Gaudi*, Taschen Verlag, pp. 6-35. 1993.
- [6] E. Weiss, *WassilyKandinsky*, Bastei Verlag, pp. 1-6. 1964.