

ANALYSIS OF THE ARCHITECTURAL TRENDS IN THE FRAME OF ARCHITECTURAL FORM; 1900-1950 PERIOD

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Abstract

The new urban structure reasoned by the industrial developments since the beginning of the 19 th Century has brought the social problems forth as well. Highly-populated cities have caused the unhealthy living conditions and communal conflicts. The problems faced by the people have turned not to be those of only one class or a community but affected all the society. As a result, all the critics and the proposals of solution have emphasized the political polarizations and the opposite ideologies. Since then, the developments of the art and the architecture have not naturally mannered out of this trend. The architects have directed towards the design, proved themselves in the field, and have appeared the seasonal trends while the the chaotic atmosphere continued.

This scientific study has focused on the concept of form, analyzed it within the place, and made a research about the influences of the architectural trends in 1900-1950 period upon the place. This research has depicted the developing trends in 20 th Century, and made a comparison between each other in history and in form. Additionally, each trend has been backed by an architectural sample to describe it best. The architectural samples have been presented both with outer and inner photographs too. Consequently, it has been seen that the trends have got intersected historically due to this comparison. In the meantime, the similar and the different characteristics of the trends have been shown an account of the form properties. This scientific research has also mentioned that any construction of the 20 th Century architecture can take place in more than one trend.

Key words: Place, Architectural, Trends, Form

1. Introduction

People and society have different lifestyles at different times in the physical and cultural environment which are in a constant interaction and change. These differences in lifestyles reflect on architecture, the forms of architecture, and accordingly space. The essentiality in this reflection, "form", is an important item as an indicator of its environment (Ching, 2007).

In architectural design, physical environment and historical period like social environment, geographic and climatic conditions play a major role in shaping the form. Therefore, architectural form in design integrity is an indicator of the period and movement in which it emerged.

Considering about the differences in historical periods, form concerns are again in the forefront. While designing more majestic and imposing structures in past centuries, there was a constant architectural concern about imitating previous periods. Design became different and was individualized in 20th century and after then. With differences in user needs and reduction of family structure, a 50 or 60 m² housing in which one person lives has a place in design.

While religious space architectures were in the forefront in 14th century and after then, societal needs became different in 20th century and constructions for different purposes like shopping and hotel spaces, etc. were formed. Technological developments were one of the most influential factors in design in historical periods. When viewed the design from this aspect, it is seen that construction forms are in continuous differentiation.

In this context; form reflected different properties as a result of different interactions and changes, and caused the architecture to be separated with different stylistic features and periods (Şentürer, 1993).

In this study, the concept of form will be defined, and the effects of architectural movements emerging between 1900 and 1950 on form will be mentioned about. By showing the multitude of movements emerging in the first half of the 20th century, they will be compared with each other in terms of both historical and formal aspects.

2. Architectural Form

Architecture is a concise art which limits the space for us to be able to live in and creates an arrangement surrounding our lives (Rasmusen, 1994). Being an essentiality in forming the layout, architectural form creates a visual impact.

Architectural form is the arrangement of mass, outer shape of the constructions as an architectural product. Permanent basic factors affecting this arrangement scientifically are listed as follows (Onat, 1991):

- Formal principles, attitudes shaping the general character of the form
- Constituent parts of the form, bringing them together, their connections
- Dimensions and sizes
- Ratios
- Location and orientation
- Mobility

Architectural structures consist of different forms. Some forms give a feeling of stillness and inactivity and these forms are called static forms. Egypt Pyramids can be given as the best example for static forms. Thanks to their broad and solid base, pyramids redress the balance and eliminates the risk of tipping. Right-angled masses create stability while inclines may create static forms. The important thing is to create a sense of immobility and stability. In contrast to static forms, dynamic forms show energy and movement. Dynamic forms generally have curved shape and contours (Kaptan, 1997).

Architectural forms are called as closed forms if they do not have principles like continuity, reproduction or repetition to ensure unity and integrity. Here form does not continue and it is limited. As for open formed structures, form has movement and rhythm, and creates a sense of continuity, appendability and reproducibility (Kaptan, 1997).

Developments in differentiation of architectural forms by dividing them into periods and stylization should be associated with the search in the historical process. Functional analysis of the space plays a quite important role in creating architectural form and many architects have created the whole three-dimensional forms with the help of functional analysis.

As mentioned above, there are lots of architectural forms. Within the scope of this study, concrete/abstract forms and organic/inorganic forms will be examined within the framework of architectural movements that were effective between 1900 and 1950.

2.1. Concrete and Abstract Forms

Concrete means to be sensate, physically demonstrable and constantly valid. Concepts like day-night, short-tall, etc. are real concreteness. Linguist Orhan Hançerlioğlu defined the meaning of concreteness as "Perceived with senses, found in nature" (Hançerlioğlu, 2000).

Concrete art occurs with the imitation of any object that the designer sees around texturally, formally, chromatically, etc.



Figure 1. Mies van der Rohe, Farnsworth House as an example for concrete form (URL-1)

Concrete art within the art terminology, "Express an understanding of geometrical composition" (Sözen et al, 1996). Concrete forms are the ones that directly exist in space and shaped by the style of the designer with the use of basic geometrical forms. When viewing Mies van der Rohe's design in Figure 1, it is seen that it exactly meets the definition of "concrete art" within the art terminology.

As not being physically present, abstract means not being clearly described and perceived by thought. It comes from the values based on human senses. It refers to the subjective and indefinite values. Concepts like good-bad, beautiful-ugly, etc. are abstract ones (Kuban, 1990).

The concept of abstraction emerged for the first time with painting and sculpture in Europe in 1910s. The architect Doğan Hasol says “Abstract artists base their work on shape, colour, movement and texture relations by wandering away from the subject” (Hasol, 1975). Abstraction is generally generated by utilizing geometrical forms.

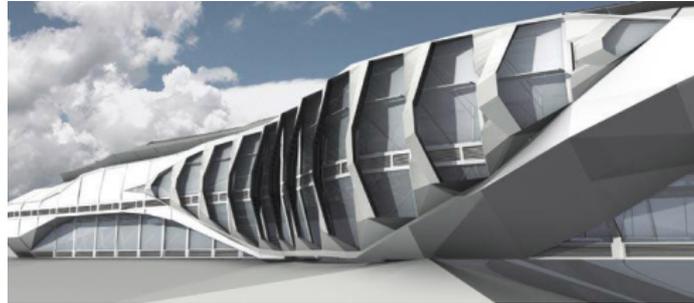


Figure 2. Matthew Majack, as an example for abstract form (URL-2)

Abstraction in design process occurs by using any kind of design elements extraordinarily and untraditionally. The example given in Figure 2 is one of the best ones for abstract architecture. Formal structure used extraordinarily and untraditionally draws the attention here.

2.2. Organic and Inorganic Forms

Forms that are created with inspiration by living organisms in nature are called organic forms. They are generally in a mobile and dynamic integrity with curved and circular lines. In contrast with monotony, they are the forms that represent the dynamism of life as in living beings (Jules, 1974). Unity and integrity principles in organic forms are composed with the use of curved and circular forms in movement and motion.

Organic architecture, “is a modern architectural style proposed by the famous American architect F.L. Wright. It envisages a creation process including independent design and a structure design integrated with nature. The use of natural materials shows itself by features like flexibility avoidance, horizontal development, etc. Wright used this approach especially for family housings during a long carrier from the late 19th century to 1950s. (Sözen et al., 1996).



Figure 3. Frank Lloyd Wright, an office named Commercial Buildings as an example for organic form. (URL-3)

Frank Lloyd Wright’s interior design in Figure 3 is a good example for organic formed structures. Volumes perceived as columns in office space designed were obtained by looking at the irregular forms of the organism. Angled forms which lost their motional movement are called inorganic forms. These forms are defined with stability in mineral structure order (Jules, 1974). Given that organic forms come from living organisms, inorganic forms can be associated with the structure of the atom. When viewing Figure 4, it is seen that the designer and architect Zaha Hadid created his work by using geometrical forms and the whole work is dominated by inorganic forms.



Figure 4. Zaha Hadid, an example for inorganic form (URL-4)

Even though organic forms are obtained from circular forms envisioning vitality and dynamism, generally angled, geometric and static forms are used in inorganic formed architectural structures. Design whether obtained from organic or inorganic forms needs to be integrated with the function of its environment and structure.

Organic formed architectural structures are generally designed by using circular forms envisioning vitality and dynamism while inorganic forms are generally designed by using angled, geometric and static forms.

3. Analysis of Architectural Movements within the Scope of Architectural Form; Between 1900 and 1950

Styles were formed with association of the parts used in an ornate, simple and rich manner in the previous periods of 20th century. In 20th century, this concept was considered in a broader sense and more comprehensively than previous periods. Design includes not only architecture but also all branches of art as a concept. Styles of individual artists emerged with the use of common aspects of art among 20th century movements. Since the end of the 19th century, the unity of style seen in the past disappeared especially in 20th century; and styles in this period did not fully cover their periods and did not last long. Architecture in the 20th century was completely in personal development and architectural groupings occurred around these people.

In this part of the study, architectural movements emerging between 1900 and 1950 like Art Deco, Art Nouveau, Arts and Crafts, Constructivism, Bauhaus and De Stijl will be examined formally with leading examples.

Art Deco Movement;

In Art Deco movement emerging in the early 1900s, effects of 19th century are seen. Therefore, there are symmetrical manner monumental fictions in the facades of the structures. Besides, vivid and bright colours were used.



Figure 5. Exterior and interior appearance of Cincinnati Union Terminal (URL-5)

In Hamilton in the USA, Cincinnati Train Station was designed in 1993 by architects P.P. Cret and R.A. Wank under the name of Fellheimer and Wagner Company (Figure 5). In the overall arrangement of this structure having Art Deco features, classical symmetrical manner monumental fictions come into prominence. After two masses rising gradually, the composition consisting of half circular belt in a horizontal circular way with two arms on the two sides backing away in mass composition is the first view that spectators perceive facing to the structure" (Polatkan et. al, 2006). Besides, it presents a theatrical structure with effects of Baroque art. Generally concrete and inorganic forms are used in structures of this period.

Art Nouveau Movement;

Art Nouveau (Jugendstil) is one of the movements that emerged in early 19th century and culminated in the 20th century. It is a movement presented by architects and artists with industrialization emerging previously. Architects satisfied their desire for decoration in this movement with motifs made of organized forms like plants. Modern architecture was born from this productive environment (Sanrinen, 1967).

Catalonian Antoni Gaudi is the most extraordinary architect of Art Nouveau period. Curvilinear structural walls improved the architecture with thin masonry vaults.



Figure 6. Exterior and Interior Appearance of Antoni Gaudi, Casa Mila, Barcelona, 1905–1910 (URL-6)

When looking at the famous architect Gaudi's works, the strength of formal approach is seen clearly. His designs were generally affected by organic and biological forms. He used some forms belonging to plant and animal world looking like bones, wings, flowers, snails and caves. Gaudi's one of the most interesting buildings is Casa Mila built in Barcelona in 1910 (Figure 6). People in Barcelona called this building as "La Pedrera" because of its organic structure and its facade shaped with geological formation. The building got its name from its exterior appearance. Thanks to its organic formal structure, it is perceived as a part of the surrounding environment.

Arts and Crafts Movement;

Some architects with firm self-confidence and unique point of view developed their own styles against Art Nouveau movement. One of these architects is American Frank Lloyd Wright (1869–1959) who developed a unique design philosophy. He is known as the American leader of Wright Arts and Crafts movement (Kuban, 1990).

Wright built a series of country houses in 1909 following Art Nouveau period. One of the most important one is "Robie House" (Figure 7). Wright's architectural style free from decorations in parapets of the structure where mass plays are available, in weather strips and eaves horizontal lined forms are seen to be used.



Figure 7. Exterior and Interior Appearance of Frank Lloyd Wright, Robie House (URL-7)

Thanks to large windows used indoors (Figure 7), the building is in touch with nature and thus it has interior and exterior integrity. Linear shaped strips used in ceiling and presentation of lighting catches the attention. These strips create a unity with horizontal bands used in building facades and thus repetition of the form used outdoors is seen.

Constructivism Movement;

Lots of experimental movements emerged in early 1920s. One of these movements is Constructivism movement that emerged in Russia in years after 1917 October revolution when Socialist reality was effective and continued to be effective in the long run in the Soviet Union in late 1920s. In Constructivism movement, strong forms that remind engineering products without a concrete source were used (Kuban, 1990).

This movement was developed by Russian sculpturer Naum Gabo and French painter sculpturer Antoine Pevsner and its principles were explained under the name of "Realist Manifest" published in 1920. According to Gabo, sculpture can be made by sculpting a mass or by binding together various elements constructively

(Kuban, 1990). Mechanical aesthetic is at the forefront in Constructivism. Painter, sculpturer and architect Vladimir Tatlin and painter, architect Lissitzky are the leading artists of this movement.



Figure 8. Tatlin Tower (The Third International Monument), Vladimir Tatlin, 1920. (URL-8)

Tatlin Tower built by Vladimir Tatlin in 1920 remained as a project demonstrating constructivism and could not get to the stage of application. The form of this structure with a socialist expression is formed by a logarithmic series and refers to the Eiffel Tower on the other side (Ching, 2007). Abstract formal language of engineering was used in this structure demonstrating structural dynamism. It became a complete example of exceptionality with its form and colour in a period when we got used to seeing closed structures. Besides its form, it revealed its assertion and discrepancy with its red colour (Figure 8).

Bauhaus Movement;

Architecture coming to a full stop because of the World War 1 revived with the “Bauhaus” school founded in Dessau by German Architect Walter Gropius in 1925–1926. Bauhaus school is the most comprehensive breakthrough aiming to apply modern style in all interdisciplinary branches (Kuban, 1990). With this movement, serial production concept was added to modern forms and it started the creation process. In this way, industrial product design which was an unknown concept until Bauhaus became a part of architecture.



Figure 9. Walter Gropius-Adolf Meyer, Bauhaus, Dessau, Germany, 1925–1926. (URL-9)

Bauhaus School Building having all characteristics of the movement was designed by Walter Gropius and Adolf Meyer (Figure 9). The building with a cubic form has margins with the same form. The most important characteristic of the building is transparency and colourlessness. Bauhaus School Building could not be built at the level required because of economical problems after World War 1.

De Stijl Movement;

Some artists like Piet Mondrian who was the most important painter of 20th century and Dutch painter, architect Theo Van Doesburg played an active role in the movement named “De Stijl” in Holland. Colour theories used by artists of the period gained acceptance in this movement. The painter Piet Mondrian had an influence on the composition of architectural facades and the use of colour by creating grids with vertical and horizontal black lines on a white background and by using base colours like yellow, red and blue on the gaps appearing (Figure 10). Dutch Gerrit Rietveld created the 3 dimensional picture of Mondrian formally in “Schöder House”.



Figure 10. Exterior and Interior Appearance of Schröder House, Rietveld, 1924–1919 (URL-10)

No matter how much De Stijl defenders support functional architecture, structures of this movement generally gave artistic and aesthetic results, but disputes emerged in theory and application. De Stijl movement has two main elements. These are absolute space and 90 degrees. The right angle here does not have a formal meaning. Asymmetrical composition of simple rectangular shapes and base colours became the distinctive characteristic of “De Stijl” architecture and art school.

4. Conclusion

Form is a plastic and scientific concept handled in the light of visual perception. As seen in space examples examined, the concept of form was used in 20th century architecture by designers consciously. The fact that form was handled differently by each architect caused different movements to emerge in 20th century. Architects set technical problems aside and started to focus on the design itself with technological and industrial developments. Thus, almost each architect developed their own style.

Effects of 19th century are seen in Art Deco that emerged in early 1900s. That’s why, there are symmetrical manner monumental fictions on facades of the structures.

Materials offered by industry started to be used in Art Nouveau movement emerging in late 19th century and proving itself in 20th century. Organic forms were formally used in this movement. In this period, stained glasses, reliefs and murals were commonly used and decorated spaces were obtained.

Facilities of art and industry were integrated in Arts and Craft movement. Supremacy of architectural form to the nature is seen with architectural style free from decorations in this movement. Therefore, cubic forms with mass plays came into prominence in this movement.

One of the experimental movements emerging in early 1920s is Constructivism. Mechanical aesthetic is in the foreground in Constructivism. Formally, structural dynamism is in the foreground.

“Bauhaus” school was founded by Dutch architect Walter Gropius in 1925-1926. Its purpose is to handle with designs of art, architecture, craft and industrial products. Glass stood out as a material in the architectural period when cubic forms were more commonly used, so transparency was achieved in spaces.

One of the movements emerging in developing architecture and fine arts is De Stijl. Simple angular forms and asymmetrical compositions were made in this movement. Base colours were used in details of spaces where shades of grey dominated.

In conclusion, it was seen that movements intersected with each other historically thanks to this comparison. Their similar and different characteristics were presented in terms of their form features as well. Within the scope of this study, it was stated that any structures of 20th century architecture may be included in more than one movement.

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