

The Influence of Bauhaus Architecture, Ramallah as Case Study-West Bank Palestine

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Abstract: *The Bauhaus was the most influential modernist art school of the 20th century, one whose approach to teaching, and understanding art's relationship to society and technology, had a major impact both in Europe and the united states long after it closed. This paper presents the Bauhaus style. Its history and characteristics. It also studies its influence on Palestinian architecture as a form of the Bauhaus international influence. The research focuses on the city of Ramallah, which has significant Bauhaus buildings, taking the building of Hanania & Kharaz building as a case study. Historical Overview shedding light on the current Architectural design in Ramallah City Centre (RCC), in concerned with the problem of city image and city identity in urban planning and Design. This paper is came to recommendation how Bauhaus Architecture design influence an urban atmosphere that is beautiful, attractive, environmental, functional and able to hold the Palestinian life in a more descent appropriate way.*

Keywords: Bauhaus, modern design, Bauhaus style, Palestinian architecture, Ramallah City.

1. Introduction

The Bauhaus movement is characterized by economic sensibility, simplicity and a focus on mass production. "Bauhaus" is an inversion of the German term "hausbau", which means "building house" or house construction. [1]. The Bauhaus movement teaches "truth to materials" as a core tenet, which means that material should be used in its most appropriate and "honest" form, and its nature should not be changed. For example, supportive materials such as a steel should be exposed and not hidden within the interior framework of piece of furniture. The Bauhaus movement transformed the design and production of modern furniture by incorporating the use of steel as frames and supports for tables, chairs, sofas and even lamps. The use of machine-made, mass-produced steel tubing created simple forms that required little handcrafting of upholstery and contributed to the streamlined, modern look of Bauhaus furniture.

2. Bauhaus Architecture Style

What are the defining characteristics of Bauhaus design? The Bauhaus educational principles were a reaction to the heavily ornamented design which was common in the early 1900s. Applied to industrial design, architecture, graphics, interior design and typography, they include harmony of design and function (form follows function), with a deliberate lack of ornamentation. Futuristic architecture inhabitant. · Futuristic self-sufficient vertical city rises from the Sahara desert. The building, which is a futuristic concept design, looks like a giant rock rising from the sand. It would function. The influence of Bauhaus architecture wide walls. One would think that the Bauhaus was all about architecture after all, its name literally means construction house in German. In addition to that, the Bauhaus manifesto stated that the ultimate goal of all creativity is

building. However, this was not entirely the case, at least not if we think of architecture as an embodiment of realistic projects, as life size built environment characteristics of Bauhaus art, architecture and design. Nailing the detail Bauhaus design principles site point [2]. Even today, it still looks sharp and impossibly modern for its vintage and shows all the class Bauhaus type characteristics. Typography, architecture or sculpture. The Bauhaus architecture style combined artistic, practical, and social purposes. While it combines them, it also favors functionality over ornamentation and asymmetry and regularity over symmetry. It also favors space over mass, meaning that they wish to create space in the building instead of having the building take up the space.

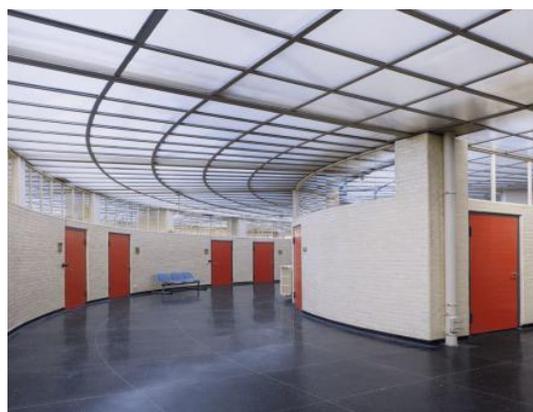


Figure 1: The interior of the 1929 Employment Office in Dessau Germany. Credit...Photograph by Fabrice Feuillet. Walter Gropius, "Arbeitsamt" Interior, © 2019 ARS, NY/VG Bild-Kunst, Bonn

Characteristics of Bauhaus architecture in Palestine

The movement, known as "Modernity", which also carries a hint of the present day in its name, was neither limited to

Germany nor to German artists. In the second decade of the British mandate in Palestine, architects began integrating new, modern building style, influenced by the international style, popular in central Europe during the 1920s and 1930s. It reflected a humanistic approach to popular housing that was derived from the social reforms in Europe at the time. The international style was essentially functional. It was expressed in the rather stark simplicity of the buildings exteriors: flat roofs, in contrast to the tiled gable roof, in contrast to the tiled gable roofs which characterized the 19th century Jerusalem neighborhoods.

2.1 Characteristics of Bauhaus architecture in Ramallah City

2.1.1 General overview of Ramallah

Ramallah means God's Hills in Arabic. It is a fitting name for the city that became the administrative center for the Government of the State of Palestine, the Palestine National Authority (PNA), in 1994. Located approximately 16km north of Jerusalem in the Palestinian West Bank, Ramallah was originally established in the mid-1500s by the Haddadin family as a Christian village. It grew throughout the 17th and 18th centuries as a predominantly agricultural village, and by the mid-1800s, missionary groups had built different schools and churches. [3]. The demographics of our city changed as more people moved to the newly incorporated city in the early 1900s, attracted by high living standards that resulted from developing trade routes with the USA. Since then, our prosperity, continuity and identity have been tested through separate periods of occupation and mass immigration. Today, the State of Palestine remains under Israeli occupation, meaning we lack control over Palestinian resources that are crucial for our resilience, including mobility, land, borders and water.

Ramallah city is a Palestinian city in the middle of West Bank. The old Ramallah occupies about 5,000 donums, and social services are concentrated at nearby locations. After Oslo- accords (1994), between the Government of Israel and the Palestinian Liberation Organization, Ramallah has doubled in term of its area and population. Ramallah began to grow as a result of natural growth and positive immigration including Palestinian returnee creating mosaic communities in Ramallah. This population growth has led to the increase demand of housing and social services. Therefore, the built up area has been expanded at a rate 585 donums per year (1994-2000) [4]. Ramallah is a city that entered the twentieth century as a village and by its end had become a de facto capital. There was an image of a different living style that arrived, politically, economically, living style, construction/built environment, cafés and entertainment, which all led to a change in the track of the resistance. Ramallah was consumption based before Oslo, yet the agreement caused a dramatic shift and increase. Ramallah's expansion has directed by its location within mountain area. It has followed the main regional road system to be connected with surrounding areas, such as connecting Ramallah with Al-Bereh city by Al-Manara - main city of Ramallah-. However, its growth to South is

restricted from north by Israeli land confiscation, allowing it to expand to east toward Al-Bereh, to West toward Beitunya, and to North toward Birzeit town. Both Al-Bereh and Beitunya are already surrounded by Israeli settlements causing a denser built environment [4], [5]. Many of these buildings have been demolished over years, due to many reasons, but plenty still beautifully standing. In this research we took Hanania and Kharraz building in Ramallah as out case and we'll compare the elements in this building with the ones in Dessau Germany. [6].



Figure 2: General view of the Al-Manara -main city square, Source authors 2020



Figure 3: Bauhaus building in Dessau, Germany 1920 with the famous logo BAUHAUS, designed by the German designer Herbert Bayer (form analysis), Source authors 2020.



Figure 4: Bauhaus building in Dessau, Germany opening analysis, Source authors 2020.

Bauhaus called for a rational and functional style. They rejected the ‘bourgeois’ decorative details and ornamentation. They wanted to use principles of classical architecture in their most pure form: functional, without ornamentation of any kind. Generally, Bauhaus buildings have flat roofs, smooth facades, and cubic shapes. Colors are white, gray, beige, or black. Floor plans are open and furniture is functional. Popular construction methods of the time –steel-frame with glass curtain walls – were used for both residential and commercial architecture. More than any architecture style, however, Bauhaus promoted principles of creative collaboration between planning, designing, drafting, and construction. Each of these tasks are equal tasks within the building collective according to the Bauhaus Manifesto. Art and craft should have no difference.

To summarize Bauhaus main features in Architecture:

- 1) Uses asymmetry and regularity versus symmetry
- 2) It grasps architecture in terms of space versus mass
- 3) Functionality over ornamentation
- 4) Cubic forms, right angled (although some feature rounded corners and balconies); they have smooth facades and an open floor plan
- 5) Large curtain walls
- 6) Exposing the structure of the building
- 7) Minimalism “Less is more”

Some of the key elements of Bauhaus architecture had to be adapted to the local environment, primarily because of the climate. So some modifications were applied to the Bauhaus features in order to adapt the local environment. As Bauhaus was embraced in Palestine since early 1930s, it’s worth mentioning the local modifications to some Bauhaus features made to adapt to the Palestinian environment and climate [7]. These local Bauhaus adaptations are:

-Smaller Windows

One of the key elements of the Bauhaus style in Europe was a large window. However, in a hot climate – large windows that let great amounts of light shine into the rooms – do not make sense. Locally, glass was used sparingly and long, narrow, instead of large curtain walls. Horizontal windows are visible on many of the Bauhaus buildings in Jerusalem. On some buildings, long narrow balconies, can be seen which in many cases have now been enclosed. This was an adaptation of the long narrow windows.

Also, the horizontal ‘strip window’ was a signature characteristic of Le Corbusier. Many architects were influenced by his architectural style.

- Stilt Columns (Pilotis)

Another element used by Le Corbusier was stilt-type columns (pilotis), which raised the buildings off street level thereby creating room for a green garden area if a public plaza, while providing greater airflow.

This type of building became quite common, in Jerusalem and the surrounding cities, although by the 1940’s fewer buildings were being built in this manner in Ramallah.

- Flat Roofs

Another of the local features of the Bauhaus buildings, are the flat roofs, as opposed to the typical shingled and slanted roofs, prevalent in the European buildings. The roofs served all of the buildings’ residents. While roofs in most cases did not feature gardens, (as envisioned by Le Corbusier), they were a place where social events were held and where the laundry room was often located as well.

- Reinforced Concrete

The local building technology of the time was not advanced concrete was first used (in Palestine) in 1912. Later it became widely used, because it was easy to work with and did not require skilled workers. As the Bauhaus reached the holy city of Jerusalem in the 20’s it was no doubt that it would find its way to the city of Ramallah. The city was invaded by the Bauhaus architecture by the British mandate, and it had its special kind of architecture, a mix between the local architecture and the Bauhaus architecture. Many of these buildings have been demolished over years, due to many reasons, but plenty still beautifully standing. In this research we took Hanania and Kharraz building in Ramallah as our case and we’ll compare the elements in this building with the ones in Dessau. The pictures below (fig 5, 6, 7, 8) represent all the principles of the Bauhaus school. We highlighted the elements so we can compare these elements with the building in Ramallah. As we can notice these elements are the lettering in the building, curtain walls, Pilotis, columns, continuity, big windows, cubic forms, exposing the structure of the building and cantilever.



Figure 5: Hanania and Kharazz building in the center of Ramallah City, West Bank, Source authors 2020.



Figure 6: Hanania and Kharazz building in the center of Ramallah City, West Bank, Source authors 2020.

The picture above is showing the continuity of the windows and the use of curtain walls also we can see cubic influence. To summarize, architects in Palestine are working under difficult and contradictory pressures. They cannot isolate themselves from international architectural development and contemporary trend in the world. At the same time, they are required to respond to local cultural needs and aspirations. There are indications that conscious efforts are being made in that direction.



Figure 7: Hanania and Kharazz building in the center of Ramallah City, West Bank (structure analysis), and Source authors 2020.

As we can see from the picture above (fig7) the use of lettering in elevation and as we mentioned previously, that the Bauhaus school used this type of element.

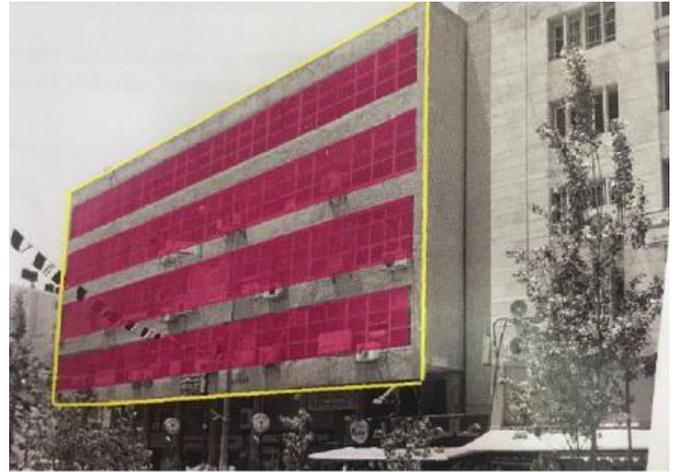


Figure 8: Hanania and Kharazz building in the center of Ramallah City, West Bank (Elevation analysis) Source authors 2020

From the picture above (fig8) we can notice the influence of Bauhaus school from the form and shape of the building. Also we can see local adaptation “smaller windows”. We can also notice that the columns in the form area has created a shaded cantilevered space.

So from the previous analysis we can tell that Hanania and Kharraz building in Ramallah was built with Bauhaus style but with some local adaptation.

In all examples, the use of contemporary technologies, as well as the design of characteristic elements played an important role, such as balconies, white façades and the rejection of any historical ornamentation. Architects and engineers should be more aware to the value of traditional architectural elements, studying traditional architecture and its effect on saving energy. Beside these elements massing and shading on elevations should be considered as well as landscape elements.

In design and construction process we should be more aware to the importance of orientation, finding the best orientation for the building can reduce heat loss in winter time and heat gain in summer time. And by well orientation architects can achieve better natural lighting and ventilation and air circulation in summer time. Some architectural elements should be taken in consideration, we should be aware to the opening and its treatments; opening sizes in different elevations are important valuable element, especially in southwest and east elevations. Glazing is not less effecting factor single, double, and triple glazing as well as reflected glass can give totally different thermal loss in summer and winter Building materials must be studied more, in order to use new building materials and techniques for isolation. This can be achieved by organizing building materials' exhibitions and public lectures in different places in Palestine. Experience, proven and appropriate Computer software's for local climate may help architect and engineers to calculate thermal loss [8].

3. Recommendations

For many, the most impressive example of Bauhaus-style architecture outside of its birthplace in Germany, is Jerusalem and Ramallah. The Bauhaus movement has had an unparalleled influence on 20th century art, architecture and design. Its clean lines, modernist aesthetic and socialist ideals can still be found in cities around the world – and in the minds of the people that design them. The desire to keep these buildings in their normal state is key to understanding the approach we recommended.

-Wood and steel frame windows: Window conservation is crucial when it comes to preserving the facades of buildings worth protecting, since windows are a central element of a building's appearance. Replacing deficient glazing and sealing existing windows substantially upgrades the insulation performance of buildings to today's standards, without any negative impact on their appearance.

-Terrazzo floors: Preserving the many different terrazzo designs and patterns, many of which are magnificently precise, is key when it comes to preserving the authentic architectural and interior elements of her it age buildings. Hence it is particularly important that such terrazzo flooring be preserved.

-Upgrading concrete elements: In the interest of developing approaches to building repair that allow for historically accurate heritage conservation, extensive investigations of the relevant buildings should be carried out, and repair measures should be tested using so called pilot building sites. This applies as well to the whole gamut of historic building materials.

A great number of original features of the building have survived: windows; electrical wiring; spyholes, showers; balcony elements; floor and door surfaces.

-Energy efficiency can best be achieved for Ramallah buildings by improving building cooling and the thermal insulation of building envelopes. Winter thermal insulation, which is so crucial for the structural design of residential buildings in Germany, plays only a minor role in Palestine.

-Buildings being set back from the street not only make for an optically wider street and provide shade for the lobby entrance, but also allow for considerably better air circulation in the street – which in turn creates a cooler microclimate in the adjoining spaces. This air circulation is most noticeable at street intersections; small air eddies at building entrances help to keep temperatures comfortable.

-Window, roof and facade insulation
Optimization in a manner that preserves an object's original structural fabric and is in keeping with heritage conservation good practice.

Making buildings energy efficient by raises a number of heritage conservation issues. The following materials are

currently used for building insulation: polymer foam; mineral-fiber products; and, increasingly, mineral insulation panels. Various insulation systems made of renewable materials are also available.

4. Conclusion

The Bauhaus principles or style, had indirect influence on the development of many other Architecture movement and styles in the future. There is a particular system designed for window opening, a modular setting, every dimension perfectly match another. The materials are used in the most sensible way (steel frame construction for maximizing the open plan, glass curtain façade for light. Confronting these domains, which are defined by different clients and represent different social groups, demonstrates that various reception modes and transfer processes with respect to the Bauhaus can be distinguished in the Ramallah's construction activities. The former Bauhaus students have, without doubt, left their mark on the short history of Palestinian architecture and the local discourse. Further, individual projects of prominent Bauhaus teachers can be identified as role models, which is reflected in various formal references a popularized Bauhaus style or "Bauhaus vernacular" is not warranted on this basis. Conversely, the different social groups of the Palestine encounter the Bauhaus students and their technical, planning, and artistic know-how with specific expectations.

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