

MODERN USE OF THE WORLD HERITAGE SITE – VILLA TUGENDHAT IN BRNO AND ITS SIGNIFICANCE FOR MODERN ARCHITECTURE

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Abstract

The article is devoted to one of the most famous objects of world cultural heritage – villa Tugendhat in Brno, which currently functions as a museum. Even though this object is well covered in scientific and popular sources, its function as a museum and its role in modern architecture and design require additional coverage. The principles of the formation of Villa Tugendhat and its similarity to the planning of other projects by Mies van der Rohe are analyzed. The techniques of functionalism are identified and attention is drawn to the previously unaccented aspect of the “eastern” techniques of interaction, “building-natural environment.” Such techniques are “garden within a garden” (the role of a smaller garden is played by a greenhouse in the central area, separated from the garden by a continuous glass plane), “borrowing the landscape” (the living room and terrace offer distant perspectives of Špilberk Castle and the city), “flowing spaces” (the guest area gives the impression of a continuous space with fragments of partitions acting as specific “screens”) and “the building is integrated into the garden” (unlike the traditional sliding architecture of China and Japan, in the villa Tugendhat this effect is performed by “immaterial” glass walls). Thus, attention is drawn to the fact that this object simultaneously contains transformed and modified Chinese and Japanese architectural techniques as a classic example of functionalism.

Keywords: Villa Tugendhat; Brno; World heritage; Modern use

Introduction

One of the UNESCO World Heritage Sites is the Villa Tugendhat in Brno. Here, the entire philosophy of functionalism is presented in the most concentrated and aesthetic way possible, combining simple forms, the functionality of the estate's layout and the interior space of the villa.

As is known, Mies van der Rohe's work is conventionally divided into two periods – European and American—and it was during his American period after emigrating from Germany that he concluded that the functionalism of the 1920s–30s significantly narrowed the role of new architecture only to the dominance of function over form; in fact, “function and form are a double candle,” one complements the other. However, analyzing the architecture of his object – the Tugendhat Villa in Brno—in our opinion, it is worth emphasizing that equal attention was paid

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to both the form and the functional grouping of rooms inside and to the combination of the object and the surrounding park space around it.

Villa Tugendhat is one of the “classic” examples of European functionalism. It is fundamentally different from the private houses of eclecticism and Art Nouveau since it was based on a fundamentally different philosophy. The main difference between functionalism and the “artists’ style” of Art Nouveau is that it is based on a clear geometry of simple forms, devoid of decor. And if Art Nouveau was based on creating original expressive forms combined with decor, then functionalism is based on the minimalism of elements, the absence of the reception of supplementing the form with decor and the clear geometry of large-scale volumes connected to each other. There was a radical departure from curvilinearity and ovality, derived from natural elements, towards rectangularity, derived from the technical component.

Geometry in aesthetics is always associated with rationalization, ordering of form and an attempt to describe it as simply and clearly as possible. Therefore, the work of the functionalist avant-garde, based on geometric abstraction, can be described as a search for the correct formula of artistic composition, which will guarantee the correct ratio of mass and space in which it is located.

Just as Art Nouveau at one time passed through various spheres of human activity—art, architecture, design, printed matter and everyday objects—functionalism found expression in both art and architecture.

A significant role in the European aesthetics of the 1920s and 1930s was played by creative associations in different countries that were in contact with each other and with like-minded people in the Soviet Union. Despite certain differences between these creative associations and the specifics of their activities, they were united by a common desire to create a new architecture based on the elementarism of simple geometric forms, an innovative approach to internal space and combining rooms into functional groups. A trend of “rational-geometric” architecture emerged – functionalism (constructivism, avant-garde).

The main goal of the study was to use the example of a world cultural heritage site – the Tugendhat Villa in Brno – to show how the problem of its modern adaptation and preservation is being solved and to highlight the role of this site for modern architecture.

The research topic determined the choice of the source base in the following areas:

- the influence of the natural environment on the perception of architectural style [1];
- preservation of the cultural environment [2-4];
- the role of restoration education for the preservation of cultural heritage sites [5];
- restoration aspects [6-7];
- traditional garden architecture of China and the “chinoiserie” style [8-13];
- European parks [14-15];
- the influence of Japan on the Bauhaus [16-18];
- Internet sources [19-20].

Materials and Methods

The study used the methods of historical analysis, art history analysis, graph-analytical method, comparative analysis method, field survey method and photo fixation method. The methods of historical analysis and art history analysis were used to determine the general historical conditions of the emergence of functionalism and to assess its philosophy and principles of creativity. The graph-analytical method was used to analyze the planning principles of Villa Tugendhat and other objects by Mies van der Rohe. The comparative analysis method allowed for comparing these plans with each other, revealing commonalities and differences between them. The field survey method and photo fixation method were used to supplement the conclusions with the authors’ materials.

Results and Discussion

Aesthetic order expressed using the clear geometry of functionalism

The main difference between functionalism and the “artists’ style” of modernism is that it is based on a clear geometry of simple forms, devoid of decor. If modernism was based on the creation of original expressive forms combined with decor, then, in contrast to modernism, functionalism is based on the minimalism of elements, the absence of the reception of supplementing the form with decor and the clear geometry of large-scale volumes connected to each other. There was a radical departure from curvilinearity and ovality, derived from natural elements, towards rectangularity, derived from the technical component.

Geometry in aesthetics is always associated with rationalization, ordering of form and an attempt to describe it as simply and clearly as possible. Therefore, the creativity of functionalism-avant-garde, based on geometric abstraction, can be described as a search for the correct formula of artistic composition, which will guarantee the correct ratio of mass and space in which it is located (Fig. 1).



Fig. 1. Villa Tugendhat in Brno, view from the park side. Photo by Y. Ivashko, 2024

Just as modernism once passed through various spheres of human activity – art, architecture, design, printed matter and everyday objects—functionalism found expression in both art and architecture.

A significant role in the European aesthetics of the 1920s and 1930s was played by creative associations in different countries that were in contact with each other and with like-minded people in the Soviet Union. Despite certain differences between these creative associations and the specifics of their activities, they were united by a common desire to create a new architecture based on the elementarism of simple geometric forms, an innovative approach to internal space and combining rooms into functional groups. A trend of “rational-geometric” architecture arises – functionalism (constructivism, avant-garde).

The Dutch group “De Stijl” (neoplasticism) and the work of Soviet artists Kazimir Malevich and El Lissitzky had a significant influence on the work of Mies van der Rohe. It is worth emphasizing that they had a similar influence on the work of another German functionalist, Walter Gropius.

Here it is worth paying attention to the important similarity between Art Nouveau and functionalism in terms of the origins of the style: in both cases, architecture was formed under the strong influence of art, but if in the case of Art Nouveau, it was an art oriented towards sensuality, the unconscious, mysticism and the decorative, then in the case of functionalism, it was an abstract art based on the geometry of simple forms and a limited color scheme.

The avant-garde architectural compositions of El Lissitzky and V. Tatlin could not be realized with the construction tools of that time, but they indicated the directions of development of modern architecture and made an impression on architects.

Art Nouveau rejected clear symmetry and rhythm, as it was based on natural motifs, while functionalism expressed rhythmic construction in geometric and spatial categories.

Rhythm in European interwar architecture partly derives from the neoplastic principle of spatial balance. In 1917, Piet Mondrian wrote in *De Stijl* that “the rhythm of relations, colors and forms [...] makes what is absolute in the relativity of time and space appear.” The neoplastic painting “Rhythm of the Russian Dance,” painted in 1918 by Theo van Doesburg, shows a significant similarity in structure when compared with the plan of the building by Mies van der Rohe. The theoretical design of the house, the so-called “Brick Cottage” of 1923, according to the author, expresses his desire to achieve a rhythm of spatial effect. There is therefore a clear analogy with the design of L. Mies van der Rohe, which subordinates the function of the building to an elementary pictorial composition.

Using the method of comparative analysis, the plans of several objects by Mies van der Rohe were compared – the German Pavilion in Barcelona (1929), the Villa Tugendhat (1930) and the concept of a museum for a small town (1942). In all three cases, the similarity of the plan lines to the avant-garde compositions of El Lissitzky is observed, however, with a clear adherence to lines and a dominance of intersections at right angles.

The idea of the “primordial order” of M. van der Rohe is one of the main European aesthetic concepts, which puts geometry at the center of the interests of artists and architects. The creator forms an architectural form based on rhythmic divisions, which indicates its connection with avant-garde art. The German pavilion in Barcelona, built on the occasion of the international exhibition in 1929, “reflects the mutual relations of art and architecture not only spatially, but also in the plan of the building, whose structure and geometry indicate a connection with the painting of van Doesburg and the *De Stijl* group.” The layout of the building adopted by the author assumes a certain rhythmic pattern of movement around it.

Permanent culminating elements of the composition, such as the leading surface of the wall, the water body that forces a certain organization of movement and the sculpture that is spatially dominant, are connected with the cycle of movement of people visiting the pavilion. The Tugendhat family house in Brno is an adaptation of the elements of the composition of the pavilion in Barcelona, made at the initiative of the investors. The building contains “the principles of the residential building, which in Barcelona were expressed ‘in abstracto’”. The abstract-geometric character of the exhibition pavilion provides considerable freedom of its form, in contrast to a residential building, where function, by definition, strongly determines spatial solutions.

The introduction of arches and the use of numerous compositional accents to separate the different living spaces mean that visually the house in Brno does not have such clear features of a neoplastic composition. In the project “Museum for a Small City,” the architect again presents a rhythmic organization of space, in which “the composition of surfaces is much more reminiscent of Mondrian’s paintings of 1914–1917. The mutual, although seemingly free, relationship of planes, bodies and the space between them leads to an abstract art expressing beauty through geometry and order.

Clearly defined sections and planes, arranged parallel or perpendicular, give all the above-mentioned projects a rhythmic orderliness, thanks to which the architect’s work clearly fits into the rationalist-geometric direction. However, Mies van der Rohe’s concept of the “primordial order” is largely an expression of a spiritual attitude inspired by Romano Guardini’s philosophy.

Using modern technology and rhythm, the above-mentioned buildings express a Christian dialectic focused on questions of nature and order.

Mies van der Rohe's functionalist objects combine simplicity of form, neutral polychromy with color accents and the use of expensive finishing materials in the interior. He first used this combination in his German pavilion in Barcelona (1929), where the volume was placed on a travertine plinth and the roof rested on asymmetrical walls of onyx, travertine, green marble and rows of cruciform chrome-plated steel supports. The interior space was divided by transparent glass partitions of gray and greenish colors. Significantly, the pavilion had no closed rooms or doors and the meaningful center of the composition was the marble sculpture "Dancer" by Georg Kolbe.

Gradually, Mies van der Rohe formed his concept of "universal architectural form," which consisted of the multifunctionality and transformability of the internal space. Ideal beauty became a sign of minimalism; the role of its exponents was assigned to emphatically simple geometric shapes with right angles and simple proportions, spacious empty interiors with a small amount of furniture and expensive finishing materials.

In his projects, Mies van der Rohe embodied the basic principles of minimalist interiors, namely:

- empty interior space with a small number of objects;
- functional zoning of space;
- conciseness and functionality of the constructive scheme;
- restrained, practically monochrome color scheme with individual bright accent spots, dominance of white;
- absence of decor;
- large areas of glazing;
- composite materials.

Villa Tugendhat continued the traditions of the German pavilion, embodied not in a temporary exhibition building but in a permanent residential facility with engineering infrastructure. The steel frame of the house, one story from the street and three stories from the park side, allowed the use of solid glass walls, creating the effect of the "immateriality" of the house and providing a unique light effect inside. Due to the half-empty interior, the house seems larger than it actually is, due to the visual effect of expanding the space. The decorative effect is achieved thanks to the natural qualities of the finishing materials – travertine, wood and onyx. The central onyx partition, oriented towards the park, is part of the main room with furniture designed by Mies himself. This wall transmits light and changes color at sunset, which is ensured by the orientation of the main rooms to the west.

Transformed oriental motifs of Villa Tugendhat

The history and architecture of Villa Tugendhat are described in detail in various sources, as it is included in a small list of the best villas in the world. Instead, we will pay attention to an aspect that, for some reason, remained outside the scope of mainstream research, although, in our opinion, it is this aspect that gives an understanding of why tourists from all over the world try to get to Villa Tugendhat, transformed into a museum.

Villa Tugendhat is located opposite the Art Nouveau villa of the owner's parents. Mies van der Rohe incorporated existing trees into the overall composition of the villa, continuing the theme of nature directly next to the house and in the interior. The facades of the villa are covered with climbing plants, which also contributes to the "dissolution" of the architecture in nature. Marketa Roderova-Mullerova, a landscape designer from Brno, participated in the landscape design.

One of the authors of the article, Y. Ivashko, is engaged in the study of Chinese gardens and traditional Chinese architecture, so she drew attention to the fact that in the case of Villa Tugendhat, the layout of the park in front of it essentially applied Chinese principles of landscape design but were creatively reinterpreted in a European interpretation. Let us name these

techniques, focusing on their interpretation in Chinese landscape design and analyze how they were used in the park of Villa Tugendhat.

1. The principle of the impossibility of viewing the entire garden is due to the division of space by green “screens” and groups of trees, which form a set of landscape paintings. In the park of Villa Tugendhat, there are also groups of greenery that play the role of peculiar screens (Fig. 2). However, in ancient China this construction was due not to aesthetic whims, but to the principles of feng shui, since in this way they blocked the path of evil heavenly spirits.



Fig. 2. Park view



Fig. 3. Lateral Park view

2. The principle of “borrowing the landscape,” when distant picturesque perspectives complement the garden's landscape design. In the park of Villa Tugendhat, distant perspectives of Brno and Špilberk Castle on the mountain open between the trees (Fig. 3). This technique is most impressively felt from the living room in the guest area.

3. The principle of a “garden within a garden,” when a smaller garden is part of a larger garden. In the case of the Tugendhat villa with an adjacent plot, this technique was transformed: the role of a “garden within a garden” is performed by a winter garden in the guest area, separated from the real park by a transparent solid glass wall, which creates the effect of combining them into one whole (Fig. 4).

4. The “dissolution” of the building in the landscape, which is achieved by sliding walls, correspondence of silhouette and dimensions and openness of space when the landscape “enters” the building. In Villa Tugendhat, this effect is created thanks to solid glass walls that “erase” the barrier between artificially created space and natural space (Fig. 5). From this point of view, it is worth mentioning the shocking object of the German architect Bruno Taut, the “Glass Pavilion” (1914), where he embodied the philosophy of “glass architecture” designed to destroy hatred in society. In 1918 and 1919, he published two works, “Alpine Architektur” (“Alpine Architecture”) and “Die Auflösung der Städte” (“The Dissolution of Cities”), where the theme of the merger of architecture with nature was presented in a utopian form.



Fig. 2. Winter garden



Fig. 3. The bedroom

In addition, here you can find certain allusions to traditional Japanese architecture, where the house was literally treated as a part of the garden and light sliding *shoji* not only met the climate and seismic conditions but also ensured the orientation of the dwelling to the garden and, if necessary, could be dismantled altogether. The interior was a free space, transformed if necessary by light wooden frames covered with paper – *fusuma* (sliding door) and screens. The admiration for the aesthetics of natural materials and the aesthetics of minimalism, where a limited number of objects was considered the embodiment of harmony, also comes from the Japanese tradition.

Now it is worth analyzing where the motifs of Eastern architecture and landscape design appeared in the European object of functionalism. It is a well-known fact that the founders of the Deutscher Werkbund, created in 1907, which became the predecessor of the Bauhaus, also felt the contemporary fascination with the traditional cultures of East Asia, primarily Japan. Mies van der Rohe also took an active part in these formations.

It is a well-known fact that such an “iconic” object that attracted the attention of functionalists was the Imperial Villa Katsura in Japan, which corresponded to the basic postulates of the new architecture: spaciousness, rhythm and minimalism. Walter Gropius, the founder of the Bauhaus, visited this villa during his trip to Japan and in a letter to Le Corbusier, he wrote that the architecture of functionalism is an analogue of ancient Japanese architecture. This villa was also seen by the expressionist Bruno Taut, who lived in Japan since 1933 and wrote his memoirs, “Nippon. Japan through the eyes of Europeans.” Other members of the Bauhaus – Theodor Bogler and Marianne Brandt – were also influenced by Japanese culture in their work and in the design of everyday objects.

These influences were intensified in the early 1930s when Japanese designers Iwao Yamawaki and Michiko Yamawaki gave lectures in German [20].

This explains why Villa Tugendhat is not a typical object even for European functionalism: it is based on reinterpreted and creatively modified Chinese and Japanese traditions, combined with those of functionalism (Figs. 6 and 7).



Fig. 6. Main façade from the street. (Photo by A. Serafin, 2020)



Fig. 7. Main livingroom (Photo by Y. Ivashko, 2024)

The museum in the villa was opened in 1994. In 2001, Villa Tugendhat was included in the UNESCO World Heritage List as the only monument of modern architecture in the Czech Republic. In 2010–2012, restoration work was carried out here to restore it to its original appearance, restore the technical equipment for air conditioning, the boiler room, the engine room etc. Instead of authentic furniture, copies were installed in the living room.

Since the villa can accommodate a limited number of tourists at a time, you need to sign up for a guided tour of all the rooms a few months in advance. It is open daily, but you can only see the interiors with a ticket on a tour. However, entrance to the park is free. In 2023, a virtual tour of Villa Tugendhat was created on all three floors, including the technical basement.

Conclusions

Villa Tugendhat is an example of how traditions transformed and reinterpreted on a different cultural basis and in different natural and climatic conditions create a fundamentally new impression. Although Villa Tugendhat was created by one of the main apologists of functionalism, Mies van der Rohe, it differs from such objects of functionalism as the Bauhaus in Dessau, the Villa De Monzi in Garches and the Villa Savoy in Poissy, primarily in its “immateriality” and fusion with the natural environment. In our opinion, such an unusual effect is explained by the ideas of functionalism, based on the oriental aesthetic principles, which were mentioned above. This turns Villa Tugendhat into a special, unlike any other, museum.

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