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Jovana Vukanić, University of Belgrade, jovanavukanic96@gmail.com

ANALYSIS OF REVITALIZATION AND CONVERSION OF CULTURAL AND HISTORICAL SITES ON THE EXAMPLE OF RENZO PIANO BUILDING WORKSHOP-PATHE FOUNDATION

Abstract

Designing and building a new building in a historic city block is connecting modern and contemporary architecture with existing historically significant buildings. The Pate Foundation of the Renzo Piano Buiding Workshop design team is located in Paris, France. The subject of research of this paper would refer to the analysis of revitalization and conversion of cultural and historical objects. The aim of this paper is to use a detailed analysis of the origin and development of all buildings on the site to indicate the ability of designers that their architectural building can get a good aesthetic solution that fits into the environment and does not disturb the cultural and historical significance of previous and existing buildings.

Keywords: Renzo Piano, Pathe Foundation, preservation, conversion, cultural heritage, glass.

АНАЛИЗА РЕВИТАЛИЗАЦИЈЕ И КОНВЕРЗИЈЕ КУЛТУРНО-ИСТОРИЈСКОГ НАСЛЕЂА НА ПРИМЕРУ ПРОЈЕКТАНТСКОГ ТИМА RENZO PIANO WORKSHOP-PATHE FOUNDATION

Сажетак

Пројектовање и изградња нове зграде у историјски градски блок јесте повезивање модерне и савремене архитектуре са постојећим историјски значајним објектима. Пате фондација пројектантског тима Рензо Пиано Буидинг Воркскоп налази се у Паризу у Француској. Предмет истраживања овог рада би се односио на анализу ревитализације и конверзије културно историјских објеката. Циљ рада је да се помоћу детаљне анализе настанка и развоја свих објеката на локацији укаже на способност пројектаната да њихово архитектонско здање може да добије добро естетско решење које се уклапа у окружење и не нарушава културни и историјски значај претходних и постојећих објеката.

Кључне ријечи: Renzo Piano, Pathe Foundation, очуванје, konverzija, kulturno nasleđe, staklo.

1. INTRODUCTION

The design of the building for the Pathe Foundation by architect Renzo Piano combines the preservation of the demolition and the new building in same time. The Jerome Seidou Foundation was once the largest film equipment and production company in the world, and now serves as an organization to promote the history and heritage of film and Pathe. The curved form of the building, lined with glass and perforated panels is hidden from view behind the historically significant facade, but protrudes above it, announcing its presence. And if the eggshaped structure seems to be squeezed between the surrounding buildings, ready to burst, it actually has enough space to breathe to allow even the neighbors enough daylight and ventilation. The foundation's new program includes showrooms, a 70-seat film screening room, Pathe Foundation offices and an archive.

2. OBJECT ANALYSIS

2.1. HISTORICAL REVIEW

The foundation was founded in 2006 with the aim of creating a center in Paris that will promote cinematography with the help of the historical collection of the company for the production and distribution of film equipment, which was founded by the Pathe brothers in 1886. The building of the cinema was chosen as the new headquarters of the foundation, where the Gobelins Theater used to be, with a cult facade that has been preserved to this day, which can be seen in Figure 1 (Figure 1). The facade on Gobelins Avenue has been restored and preserved due to its historical and artistic value. There are sculptures on it, a man representing a drama and a woman representing a comedy, by the famous sculptor Auguste Rodin, which is why it is considered a cult building in the Gobelin area.

Figure 1. *Pathe Foundation, Renzo Piano, Paris, France: Gobelins Theater Façade*

2.2. TYPE OF INTERVENTION

The project required the demolition of two existing buildings in order to create an architectural form of organic shape that corresponds to the location and its limitations. The designers did their best to respond to the functional and representative program requested by the Foundation, as well as to make the space surrounding the building better and more functional. The foundation is conceived as a multidisciplinary space dedicated to the film industry that meets all the needs of visitors. Within the building there are rooms for silent film, exhibition spaces with the heritage of the center for research and documentation, as well as rooms for various workshops and trainings. (1)

2.3. THE CONCEPT OF THE REVITALIZATION SOLUTION

From an architectural point of view, two aspects especially characterize this Piano design. The first important thing is the way the architect dealt with the problem of natural light, since the foundation's

headquarters is almost completely closed to other buildings, which can be seen in Figure 2 and is located in one of the inner courtyards of the Gobelin area (Figure 2). The distance from the neighboring buildings did not allow openings on the facades of the newly designed building, so the architect found a solution in a domed transparent roof over which the last two floors with offices and a library are naturally lit, so natural lighting is necessary. The remaining three levels above the ground where the permanent exhibition is located in the exhibition gallery, warehouses and archives do not require natural lighting, so the condition that the facades do not have openings is met. (2)

Figure 2. *Pathe Foundation, Renzo Piano, Paris, France: Location of the building on the plot (2)*

Another fascinating thing is how the designer managed to design the smallest possible foundations of the building with a satisfactory shape, forming a buffer zone between the existing buildings and the newly designed building, so as not to disturb the intrusion of natural light and ventilation of existing buildings surrounding the yard (Figure 3). This facility causes delight and surprise among visitors when they see an amazing building inside the courtyard that is almost invisible from the street. The new transparent façade immediately behind the restored façade represents the main public entrance to the foundation (Figure 4). This so-called greenhouse offers a direct view of the inner courtyard. In this case, the formation of such a facility is solely the result of location conditions.

The distance from the neighboring buildings, access to the plot and other location conditions were well analyzed, everything was respected so as to create a more than pleasant ambience that is naturally well lit and ventilated. Seen from the street, a discreet light can be seen through the retained and renovated facade of the foundation's buildings, and in the evening light penetrates.

Figure 3. *Pathe Foundation, Renzo Piano, Paris, France: The relation of newly designed eith the ezisting buildings (2)*

Figure 4. *Pathe Foundation, Renzo Piano, Paris, France:Main public entrance to the Foundation (1)*

2.4. THE CONCEPT OF SPATIAL SOLUTION OF THE OBJECT

Architect Renzo Piano is behind the project of the new headquarters of the Jerome Seidouk-Pathe Foundation. He designed a five-story shell-like building with 7000 protective sunshades and an unusual way of using the material. In addition to the outer glass cladding, the interior of the building is treated with a combination of wood and steel (Figure 5).

Figure 5. *Pathe Foundation, Renzo Piano, Paris, France:Combination of wood and steel in interior (8)*

This rounded building of 2200m2 is integrated into an inner courtyard surrounded by several Parisian buildings in the Gobelins area. On the first level there is a permanent exhibition dedicated to the history of cinema. At the second level of the foundation, some of the first cameras are on display. A total of 200 pieces of cinematographic equipment that follows the development of the apparatus that Pathe sold from 1897 to the 1980s (Figure 6). The foundation's collection also includes footage and photographs taken on sets and filming.

The marketing collection contains printed archives, film scripts, theater programs. Exhibited on two floors, these temporary exhibitions will serve as an illustration of different film cycles and allow visitors to discover a specific age, theme or director (Figure 7). (3)

Figure 6. *Pathe Foundation, Renzo Piano, Paris, France: Exhibition item (2)*

Figure 7. *Pathe Foundation, Renzo Piano, Paris, France: Archive (2)*

This architectural work is a great example of how an avant-garde building is inserted into the historical environment, many call it an organic work and compare it to an armadillo and it is considered one of the best Piano buildings.

2.5. THE CONCEPT OF A FUNCTIONAL SOLUTION OF THE OBJECT

As already mentioned, the ground floor of the building was formed inside a block of buildings in the Gobelins area of Paris. It is of the transit type, it is possible to pass through the ground floor from one side of the location and exit to the other side and the other street. At the back of the location, connected to the ground floor, there is a garden with birches visible through a glass wall (Figure 8).

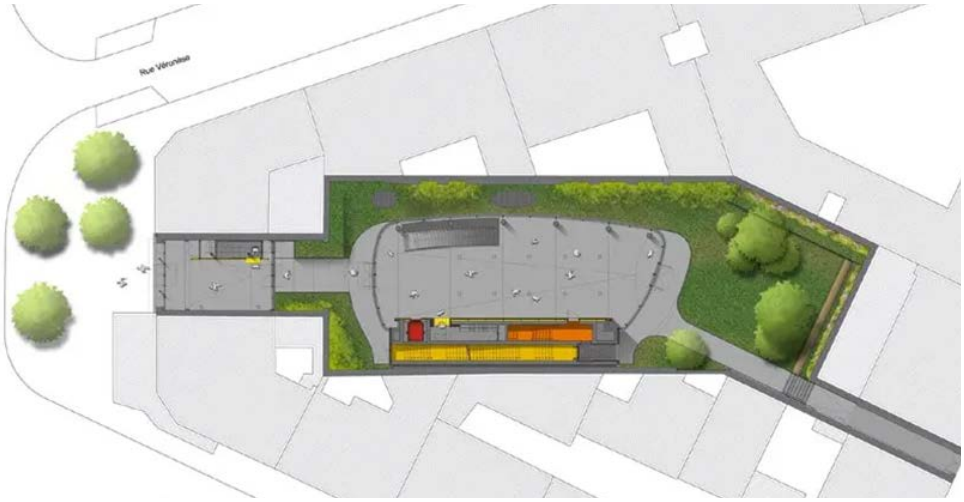

Figure 8. *Pathe Foundation, Renzo Piano, Paris, France: Ground Floor (2)*

The space between the cult facade and the new building is used as a point of sale for cinema tickets in the basement available to the public. The rectangular shape of that passage is the only orthogonal shape in the base of the building, functionally used to accommodate the external fire escapes. Stairs from the ground floor lead to the basement, where there is a hall for showing silent films with seventy seats (Figure 9) as well as an exhibition gallery that exhibits changing settings, such as the exhibition of film posters from the beginning of the twentieth century. [4]

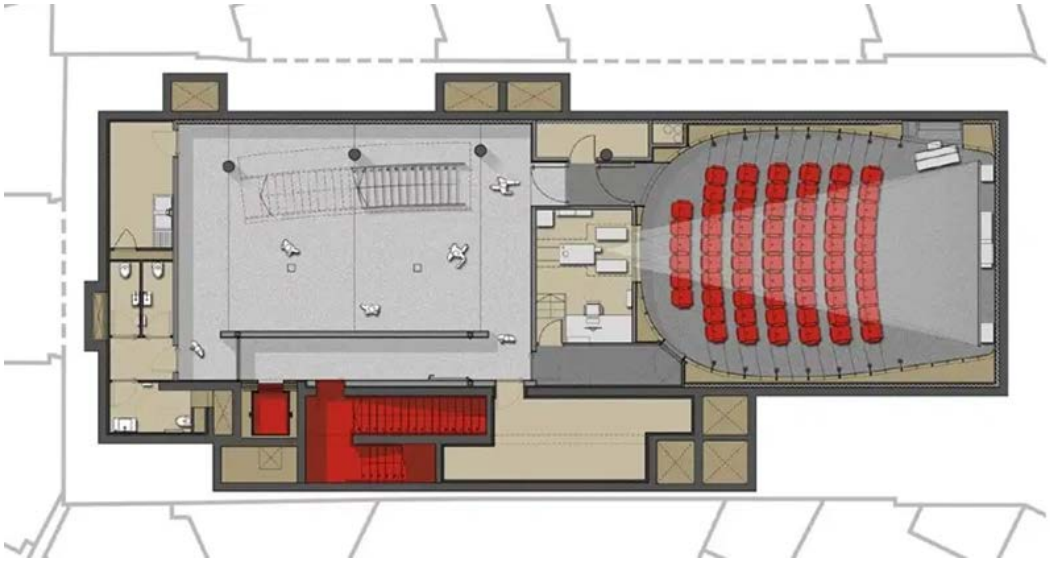

Figure 9. *Pathe Foundation, Renzo Piano, Paris, France: Basement Foundation (1)*

Figure 10 shows another gallery on the first floor, where film cameras and projectors are exhibited, placed on a long platform without protective glass, so as such the whole exhibition looks like a modern sculpture.

Figure 10. *Pathe Foundation, Renzo Piano, Paris, France: First Floor Foundation (1)*

A small location with great limitations gave birth to a great object, which gives the conclusion that necessity is the mother of invention. The most transparent area of the building is the research center on the fifth floor, shown in Figure 11, located in a vault with 32 parabolic arches made of glued laminated wood spanning over 15 meters (Figure 11.).

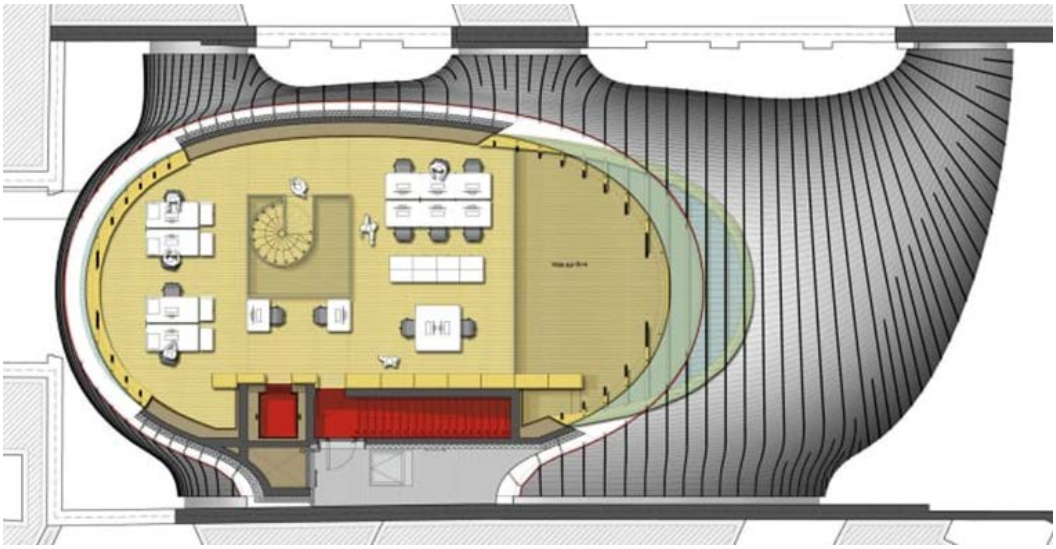

Figure 11. *Pathe Foundation, Renzo Piano, Paris, France: Fifth Floor Foundation (10)*

The design team chose the construction of laminated larch, both because of its appearance and beautiful effect in the interior, given that the construction is visible, and because of its flexibility. An interesting thing about how dedicated the team was in making this work and how much attention was paid to the smallest details is that the designer Sahlman went to a factory for the production of this wood in Italy and inspected and approved each bow before it was transported. To the location. Due to the limitations on the location, the largest arches had to be delivered in two parts, so they were connected on the spot with steel screws and plates. One of the details of the construction is shown in Figure 12 (Figure 12). The arches are tied in a steel gutter, which runs along the perimeter of the building, because they could not directly rely on the concrete shell that goes from the second to the fourth floor.

The glass shell, which consists of double-curved glass, creates a domed roof opening 30 meters long. Seven thousand curved aluminum plates or slats form the outer cladding over the glazing as well as the rest of the concrete structure and function as protection from the sun and from neighbors. [5] In the vertical section shown in Figure 13. The arrangement of functions by floors can be best seen, which has already been discussed. Two basement floors of orthogonal shape, intended for visitors, and the ground floor where you can see through the glazed part of the garden in the back of the location, above are three floors where you can see that they have no window openings, and the last two integrated with the construction create a magical interior and special you experience a play of light penetrating an object.

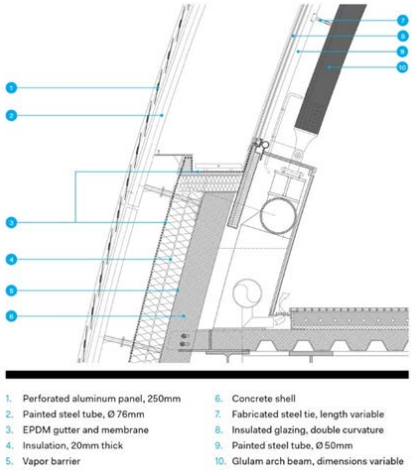

Figure 12. *Pathe Foundation, Renzo Piano, Paris, France: Construction Detail (7)*

Figure 13. *Pathe Foundation, Renzo Piano, Paris, France: Vertical cross section (3)*

With this project, the neighbors from the buildings that got more natural light and a better view from the windows around the perimeter of the location, are no longer looking at the windows of the six-storey building that used to be there. The designers were guided by which spaces they had to leave open, thus connecting directions, creating a concept and establishing that the shape of the building must be rounded, with arched girders and construction so that all neighbors have enough light and no one's comfort is disturbed. The intrusion of the sun's rays and exactly which parts are open can be seen in the longitudinal vertical section (Figure 14.).

Figure 14. *Pathe Foundation, Renzo Piano, Paris, France: Longitudinal vertical section (3)*

The entire building is covered with a perforated aluminum casing, hiding the transition from the upper glazed layer of the building to the full concrete part. The transparency of the perforation is not the same everywhere, it is 30% to the south and 50% to the north, in order to establish a good balance of light penetration in the summer and winter months. [7]

3. CONCLUSION

The building, which features a long glass vault, covered with perforated aluminum panels of organic shape that compare to an armadillo, has the title of one of Piano's best works. The highest point of the building is concentrated approximately in the center of the location, where it rises to five floors, and then dramatically descends to the ends, keeping a view of the neighbor and access to daylight, while seeming almost invisible from the streets. This five-storey building is characterized by a sleek design of bold shapes, excellent interior design, the way in which the arched transparent roof lets in natural light in the building, as well as the overall shape of the building.

The applied research showed that the development of the conceptual architectural and urban design of the building is reflected in the solution of the urban functional and design concept as well as in the selection of adequate materials. The location, planned content and principles of work will be significantly used for the design of such facilities. The location on which the facility was built dictated the conditions of construction and analysis of the environment, and the importance of the neighboring buildings influenced the design and selection of applied materials.

Today, such facilities have become responsible for a wider audience and wider public access, so their availability is achieved through the field of entertainment, business, tourism and the economic market.

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