

DESIGN PROBLEMS WITH RENOVATING AND ADAPTING AN OLD MILL ON THE EXAMPLE OF THE EXECUTION OF AN ORIGINAL PROJECT

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Abstract

Nowadays, postindustrial areas and buildings are becoming more and more valuable. Very popular are those with special historical and architectural values, which are additionally located in large cities. The situation of those possessing fewer attributes encouraging their adaptation is worse. Sometimes, however, there are reasons why a decision is made to invest in such buildings despite the many difficulties connected with the implementation of these investments. This situation was presented on the example of the renovation and adaptation of an old electric mill in Łaziec into a restaurant.

Keywords: Renovation, adaption, modernization, postindustrial areas and buildings

1. INTRODUCTION

In current times, post-industrial areas and buildings are readily adopted to serve commercial, recreational and even residential purposes. Potential users are particularly interested in buildings located in the centers of cities. This is not only due to the greater numbers of inhabitants, but also the fact that these people are more open to new experiences of this kind. The situation of postindustrial objects located in small towns is completely different. There are very many such objects throughout Europe.

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Currently, due to their poor technical condition, the majority of such buildings are being torn down. On the whole, these are not examples of buildings with unique construction and sophisticated architecture, but their exceptionality stems from their intended use. In the case of such buildings, the time at which they were created is not the main criterion of assessing their value. Very often, they were the locations for professions which no longer exist today.

Such types of buildings do not arouse significant interest among investors. The high costs of their renovation and adaptation to existing building regulations effectively discourages potential buyers. Contrary to what one might think, the fact that they are rarely included in the register of historic monuments is actually an advantage, making it easier to find investors. What type of business activity will make it possible to reimburse investment costs in these generally small towns? These are the main problems we are faced with when making decisions regarding such investments.

The fate of postindustrial buildings very often depends on their location, as well as a number of various values they are characterized by. Among these values we can distinguish, among others: formal, historical, semiotic, emotional, functional (use) and economic ones [4]. There is no doubt that their location in relation to the city center is the most important factor in determining the manner in which such buildings are developed [5]. Sometimes, however, such objects are in fact located in the centers of cities, but within areas which had been covered by extensive industrial plants. In such a case, the quality of the surrounding land determines the value of the given building. Taking into consideration the location factor, one can distinguish a separate category of buildings, i.e. "rural industry". Included here are, among others: mills (water, wind and mechanical), granaries, barns, cowsheds and stables, dairies and distilleries. Due to the distance of these building structures from city centers, many other factors have to be involved in order to catch the interest of potential buyers.

Among examples of buildings falling into this category adapted to serve different uses are the granary converted into a restaurant in Gliwice, or old mills adapted to serve as a hotel in Sucheniowo or Wadowice.

2. OLD MILL BUILDING IN ŁAZIEC

An example of a postindustrial building which initially did not draw the interest of potential investors is an old mill located in the village of Łaziec. Ultimately, the building, dating back to 1945, was adapted for gastronomic purposes. Since the time the mill was constructed, it has belonged to the family of the investor

who, for sentimental, reasons hoped to preserve this building and give it a "second life".



Photographs 1, 2. Młyn Zygmunt (Zygmunt Mill) Restaurant building prior to renovation, (photograph by A. Grzonka, 2011)

2.1. Materials and technologies

The old electric mill, which until recently served its initial purpose, is a four-storey building with a full basement in the form of a rectangle, covered with a gable roof.

The building is located in Łaziec, in the gmina (municipality) of Konopiska near Częstochowa. This is an area where the Polish Jurassic Highland begins. A characteristic trait of the historical development found here are walls made of limestone, completed with brick elements. Bricks were used to construct the corners of the building and window openings, which resulted in the better bonding of the entire wall structures.

The limestone walls are strongly incorporated into the picturesque region of the Kraków-Częstochowa Upland, and unquestionably a positive feature of the landscape. Such technology continued to be used to construct the majority of structures up until the 1970's.

Following a brief review of such existing buildings, it can be seen that the values that this type of construction presents are not appreciated today. As a general rule, the beautiful wall tends to disappear beneath a styrofoam covering, "adorned" with multi-colored plaster. There are very few buildings which are modernized correctly, with respect given to the existing building fabric. This has a negative impact, especially in current times when architecture has undergone globalization and great pressure is placed on individuality.



Photographs 3, 4. Existing buildings in the area of Łaziec,
(photograph by A. Grzonka 2011)

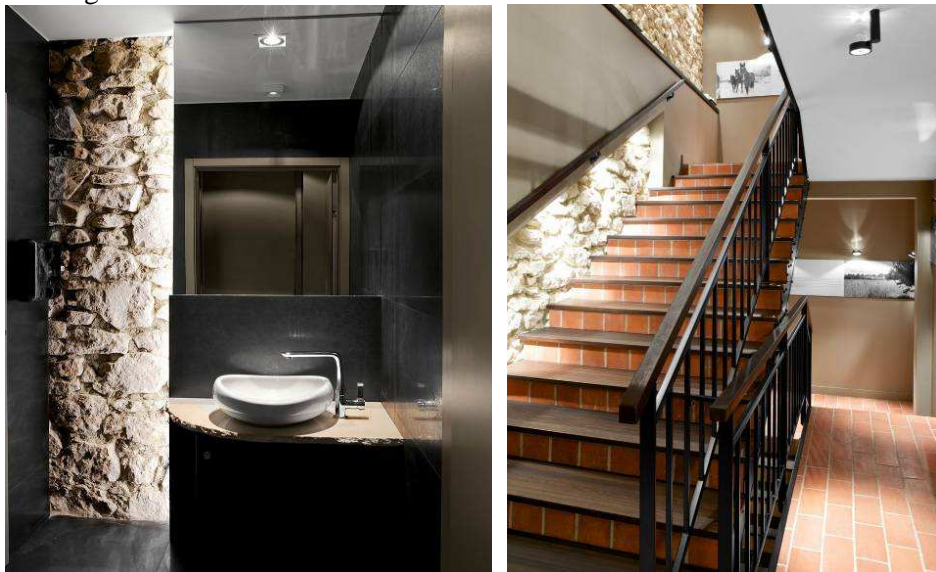
Such original technology strongly emphasizes the regionality of the place, thus influencing its cultural value. The natural stone wall became an inspiration for the architectural project of the restaurant "Młyn Zygmunt". However, turning this idea into reality was not so simple.



Photograph 5. Młyn Zygmunt Restaurant building following renovation,
(photograph by A. Nyk, 2014)

Before commencing work on the project, a technical inspection of the condition of the existing building was carried out. One of the problems which appeared was the issue of insulating the building, which was to be carried out. As a result of conservation and esthetic considerations, the most common and

recommended method of insulating buildings - from the outside, was rejected. Thermal insulation was carried out on the inside of the building. Initially, the insulation was to be made using purely mineral Epatherm climate boards manufactured by Epasit. Ultimately, however, for financial reasons, Ytong cinder blocks made of cellular concrete were used. Boards of mineral wool obtained from glass fibers characterized by the best heat transfer coefficient λ (lambda) and intended for carrying out thermal insulation on the inside of buildings were used as insulation.



Photographs 6, 7. Młyn Zygmunt Restaurant following renovation,
(photograph by A. Nyk 2014)

The stone walls were subjected to renovation by replacing the mortar. The existing lime mortar had begun to crumble, which could have even led to the collapse of the building. In order to avoid such a situation, the decision was made to replace the existing mortar. This was no easy task. The works were carried out in phases on the entire building, including its interior. It was decided to use lime-cement mortar due to the beneficial qualities of lime. This substance has a positive effect on increasing the elasticity and adhesiveness of mortar to the surface. Along with the increase of lime in mortar, water vapor permeability increases, in addition to increased flexibility and the ability to self-heal minor damages. However, applying the new mortar posed the biggest problem. It could, on no account, be smoothed out, as this would have made the wall appear newly built.

In order to connect the exterior and interior of the building, a natural brick walls were exposed on the inside. By doing so, however, another problem arose - fulfilling the energy performance requirements of the building, which ought to be additionally carried out in order to obtain a building permit. This is why the surfaces of the exposed walls and their size are not random. Walls exposed on the inside were protected with a sealer to prevent the release of dust, and illuminated to emphasize their significance.

2.2. Fire safety of the building

The biggest challenge for the architect, however, was adapting the building to fire safety regulations. The wooden structure of the building caused many problems. Initially, it was recommended that all wooden elements be covered, which was of course unthinkable from the esthetic point of view. The problem, was solved by applying a solution allowed by §2 of the Regulation of the Minister of Infrastructure on the technical specifications for buildings and their location [6]. As a result, a technical assessment of the state of fire safety for the reconstructed building with a changed service function was prepared, on the basis of which exceptions to the regulations were made.



Photograph 8. Młyn Zygmunt Restaurant building following renovation,
(photograph by A. Nyk 2014)

The aim of the work was to indicate appropriate (ensuring, above all, the safety and possibility for the effective evacuation of people) alternative solutions in the scope of building fire protection and confirm them with the Provincial Chief

Officer of the State Fire Service. The assessment covered a series of analyses, the effect of which was reaching a compromise between esthetic concerns and fire safety regulations. The authors of the technical assessment proposed introducing alternative solutions in the building, e.g.: equipping the building with a fire detection system.

The above made exceptions did not include the stairwell, which unconditionally had to be adapted to the specifications. The existing wooden stairs were taken apart and the opening in the ceiling structure enlarged to accommodate a full-sized stairwell. Landings and risers of the reinforced concrete stairwell were covered with original ceramic pantiles dating back to when the mill was first built. The pantiles were a recovered building material, acquired after taking apart a building and reused in the construction of another. The steps were made of oak wood, which had undergone ammonia fuming; this, among others, increased its durability. Because of the fact that the entire stairwell constitutes an element which was included in the existing building, it was decided to emphasize its distinctiveness. As a result, the space was used as a type of gallery, presenting the history of the mill and area in which it is located.

2.3. Symbolic aspect of the renovation

A more symbolic aspect of this renovation was reference to the existing interior construction of wooden elements, which had been taken apart due to the necessity of designing the space necessary for the proper functioning of a restaurant. The solution to this problem provided inspiration for further design tasks. The wooden elements that had been taken apart were used to create the new furnishings of the restaurant. The wooden mosaic frame around the elevator shaft and front of the bar counter is, for example, characteristic. The mosaic was created by cutting wooden patches obtained when taking apart the casing of flour chutes located upstairs, where a banquet hall was created following adaptation.

3. CONCLUSIONS

There is a continuous need for taking up discussion regarding the necessity of renovating postindustrial objects which do not appear to constitute any great historical-cultural value. The adaptation process is not an easy task, but after first carrying out a proper assessment of the possibility of transforming a given postindustrial structure [1], can turn out to be very successful. Precise analysis makes it possible to uncover such values in buildings that can invoke new emotions in their users and, what is connected with this, a new quality of life. They are an interesting source of inspiration and lead to increased regional

identity among the inhabitants. However, such adaptation of buildings will not be possible without the support of lawmakers and those verifying individual laws. While understanding the validity of the necessity to meet the user-safety requirements of individual buildings, one should take into account that in addition to the "letter of the law" there is also the "spirit of the law".

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PROBLEMY PROJEKTOWE ZWIĄZANE
Z RENOWACJĄ I ADAPTACJĄ STAREGO MŁYNA NA PRZYKŁADZIE
AUTORSKIEJ REALIZACJI

Streszczenie

W obecnych czasach tereny oraz budynki przemysłowe są chętnie adoptowane na cele biurowe, rekreacyjne, a nawet mieszkalne. Szczególnym zainteresowaniem potencjalnych użytkowników cieszą się obiekty zlokalizowane w centrach miast. Wynika to nie tylko z ilości mieszkańców, ale również z większej otwartości ludzi na nowe doświadczenia. Zupełnie inaczej przedstawia się sytuacja obiektów przemysłowych, które zlokalizowane są w małych miejscowościach.

Słowa kluczowe: renowacja, adaptacja, modernizacja, obiekty przemysłowe

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