Structural Restoration and Adaptation to Modern Architecture of the Baroque Oppersdorf Palace, Wrocław, Poland

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Abstract This paper is an overview of structural interventions which should be made to the Baroque Oppersdorf Palace during its renovation. All main technical problems were analyzed and proper constructional solutions were presented. Several characteristic types of destruction were detected, caused by natural deterioration and also by mechanical influences (war destruction, lack of conservation etc.). The main building structure has survived from the Baroque period, except for the wooden roof. Some of the cellar vaults and some of them over the first floor were also not destroyed. However, some main reconstruction work was done, probably in the last few years of the 19th century. For example, a break with a new staircase and some masonry vaults over the cellar were changed to ones of Klein type on steel beams. The main aim of the reconstruction was to strengthen the historical structure of the building and adapt it to the modern architecture and to reorganize the buildings inner space, but keeping the external proportions, architectural details and ornaments unchanged.

Keywords: Historical building, revitalization, architectural research, structural interventions

Introduction

The building of the Oppersdorf Palace with several hundred years of history, was subjected to repeated alterations and modernizations during its life. Exposures of the structural elements as well as the building functional-structural set and characteristics from different periods of construction, can serve as confirmation of these activities. Only the stone foundations, brick vaults and fragments of existing wooden floors can be accepted as the oldest structural elements. The interior decor of the Palace was largely not kept as it was partly restored. Modernizations of the building often consisted of great functional changes to its elements, for example, the bricking up of existing entrance holes, building new ones, altering window openings that resulted in changes to the elevation, changes to the arrangement of rooms, partition walls and so on. Within the entire plan of the building development, the building is three-storey including the basement, with an internal staircase from the ground floor to the first floor and with access to the second floor from a staircase from the neighboring building. The roof of the building was made up of a steep wooden gable roof with dormer windows, covered by plain ceramic tiles. The load-bearing walls of the building were made of brick, mainly from lime mortar. The structural system of the floors are all different: WPS type (small prefabricated RC slabs on steel beams), Klein brick slabs, wooden floors, brick vaults, reinforced concrete slabs and serial brick slabs on steel beams. The foundations of the building are made from stone pebbles. The general view of the buildings front elevation is shown in Fig. 1.

The Oppersdorf Palace – a Historical Overview

In Rudolf Stein’s publication from 1926 about Wroclaw burgher apartment houses, the author wrote that the palace had probably been built in 1726 and the founder was Anna Maximiliana Louisa von
Oppersdorff. Stein also announced that the house had been used by the family von Lamberg up to 1790. The Oppersdorf Palace became the object of interest for architects and art historians relatively late. Hans Jung paid attention to it in his work published in 1930, discussing the development of Baroque Silesian elevations. On the basis of stylistic analysis and the analogy with confirmed work Jung attributed the authorship of the Palace to architect Christoph Hackner.

The Palace, together with the garden, stayed in the hands of the family von Lamberg until 1790. In 1806 the building was a seat of the Higher Mining Office that was probably situated in it from the late nineties of the XVIII century till 1816. The land Office of The Wrocław-Brzeg Principality was later located in the Palace. The Director of the Office and high-ranking officials were settled here. This institution used the building up to 1892. After the Land Office left the palace, the house together with another property belonging to it, were bought by E. Werle who installed there a publishing house that belonged to him together with the printing house of the newspaper Breslauer General-Anzeiger. On the first floor of the Palace a seat of the Masonic lodge Hermann zur Beständigkeit was situated and on the ground floor were separate shop halls and a cantor room. From 1906 the owner of the entire property was Breslauer General-Anzeiger which changed its name to Breslauer Neuste Nachrichten in 1919. It was the biggest and the most widely-read newspaper in the eastern part of Germany. The localization of the newspaper office, the publishing news house company and the printing house of the property made essential changes both in the building development area as well as modifications in the Palace.

Figure 1: View of the Oppersdorf Palace front façade – archival drawing (1921)

Figure 2: Archival drawing of reconstruction of the attic (1921)
In 1920 the Building Company Prinz & Kalusche converted the attic, inserting big dormer windows in the bottom part of the sloping roof (Fig. 2). A design was then made that standardized windows on the ground floor repeating their arrangement symmetrically on both sides of the main portal, in which new bas-relief plant decorations on the arch gate hole were made. Thomas Faulhaber was the author of these changes and the project was carried out in 1924. In the years 1924-1926 the ancient building of the Palace was subjected to an essential reconstruction according to the project of architect Konrad Helbig. The reconstructions aim was to give the building former palace characteristics, referring to its primary Baroque form and simultaneously adapting the function of the main office of the widely-read daily newspaper.

The present state of the Palace interior is a result of renovation executed in 1961 which had an aim to adapt the building to become the printing industry workers club. On the first floor only the main staircase and the inside vestibule were kept without great changes. The main stairs leading from the vestibule to the second floor were demolished, leaving only their lower part as compensatory stairs which led to the south outbuilding. The arrangement of rooms in the front track were changed by eliminating the walls between the ancient conference room and the reception room, creating a big room with five windows on the western wall. The wall between this room and the outermost southern room was also removed, as well as the wall between the ancient room of the director and the corridor. From the Baroque phase till our times only the main structure of the building survived except for the roof and the extended architectural dormer window, which was destroyed during the last war. From this period the main walls and vaults in the basement also survived as well as the vault in the northern batch of the ground floor, joined to the vault above the room of the ground floor in the northern outbuilding. Of the most important changes, probably made in the last decade of XIX century, the following things were completed: the construction of a break with the staircase, the arrangement of Klein serial brick floors on steel beams above part of the underground rooms, as well as the building of the wall closing the crossing gate from the south. Probably from this time there are also vaults in the northern part of the ground floor and on the ground floor in the northern outbuilding. In 1924 building restoration changes of the staircase, pseudo-baroque vaults above the crossing gate and the vestibule of the first floor were made. Also, the Neo-Baroque wooden interior accessories were implemented: paneling and doors and stairs together with balustrades. Changes were also made in the main portal, where arches were covered with bas-relief plant decoration with reference to the eighteenth-century decoration of pilasters. From this time there is also stone bordering of the gate of the entrance hall in the rear elevation.

Currently, the best preserved part is a façade, except for the ground floor, where on both sides of the portal were pierced openings for big windows, practically eliminating the original part of this elevation. The main sandstone portal shows considerable damage caused mainly by material corrosion. The wooden door wings, probably originating from the XVIII century, were preserved. The present form of the roof is a result of the post-war reconstruction, during which also a ceiling above the second floor was probably changed. At that time the Baroque gable-end was removed and a crowning cornice and a pediment of the central window in the second floor of the façade were changed.

General Description of Constructional and Adaptation Actions

The authors suggested that attention should be paid mainly to two aspects of adaptive problems. First is an architectural form and the second - function of the object. Historical value of the building extorts the necessity to hold and preserve elements of architecture which were regarded as historic ones. The Municipal conservator of monuments presented this in his conservator's instructions. In these instructions the below described elements were defined to be preserved.

The main structure of the building, without the roof structure, was under strict conservator’s protection in the area of present structure of the building. Reconstruction of the original mansard roof together with the architectural dormer window was a necessity. Original arrangement of windows on
the ground floor of the building together with rustication of walls based on the R. Stein’s reconstruction picture should be restored.

The existing vaults and arrangement of basement walls from the eighteenth-century period should be preserved (Fig. 3). The ground floor vaults situated in a northern part of building and the Neo-baroque vault above the entrance hall should remain unchanged (Fig. 4). The staircase should remain unchanged, subject only to essential conservator’s treatments (floor, railing, stairs) (Fig. 5).

The main staircase and the vestibule on the first floor should also remain unchanged (the woodwork of door openings, timber wainscot, stucco work of the vestibule’s vault) (Fig. 6). Other architectural and structural elements that do not constitute historical value could be changed freely. During the architectural survey of the Palace building a very interesting wooden floor with untypical structure was also uncovered in the ballroom (Fig. 7).

Because the Palace was situated in the biggest area of the whole new building development, its mass and functions should be to integrate it into the designed complex. The visualization presented in Fig. 8 demonstrates how the architects solved the problem of fitting the historic elevation to the new complex, which consists of luxury apartments, offices and a commercial mall. Attention should be paid to the roofs’ design of new adjacent buildings by competent applying of roof falls bonding together with the roof of the palace. In the architectural design the function of the Palace program was planned to be an exclusive business club.

**Figure 3: View of existing vaults over cellar**  **Figure 4: Cross vaults over ground floor**

**Figure 5: Original staircase**  **Figure 6: Original staircase**

**Structural Aspects of Reconstruction**

The structural aspect was the next task necessary to be taken into consideration. The essential constructional problem, which was a result of constructing new buildings near the old one, was to
preserve the stability of the existing building’s structure. The Palace has one underground level and the design of the gallery assumed three underground levels to be used for car parks.

The stabilization of the Palace foundations should be made in a way that does not cause the deterioration of foundation conditions. The engineers decided to use jet-grouting for foundation strengthening. Applying the jet-grouting technology relied on oblique drilling of the existing building’s foundations and the creation of cement-soil columns in the ground. This will be done by mixing up soil and stabilizing grout, which was grouted under high pressure. Columns executed in this way strengthen the subsoil and transfer loads from the Palace foundations directly to load-bearing layers of soil in the foundation level of new designed buildings. The making of the column starts from drilling holes to the depth required in the project by means of a drill rod. It is possible to use water or bentonite flushing which facilitate the drilling. Then a process of column forming starts – from rotational snouts located in the rod, cement grout is applied under high pressure. During the process of injection, soil is mixed up and cement is made. After this a matrix is created which after bonding gives strong and tight cement-soil structure. Due to the rotational way of raising the drill rod and simultaneous injection, cylindrical columns are created. In the project, columns with a diameter of 60 cm along all the contours of the buildings foundation are planned. For injection CEM 32.5 Portland cement was used.

Conclusions

Intervention on historical buildings has to be made very carefully, respecting the original conception and assuring current safety requirements. It is not easy to make a good judgment on transformations of buildings that happened in the past. A good example of interventions on representative historical buildings was the Baroque Oppersdorf Palace. The construction of this palace was carried out and maintained in different stages. The modification of this building was provoked by functional necessities and dominating new tendencies in the art of building. In the maintenance project the authors always kept in consideration the transformation of the palaces construction in correspondence with the new necessities and keeping the old constructional elements almost unchanged, therefore operating the minimum necessary changes and adding new units to the construction (Fig. 8).