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The Museum of Johannes Hevelius and Gdańsk Science in the attics of St. Catherine's Church in Gdańsk – the Johannes Hevelius Year celebration

Introduction

The problem of preservation of the European ecclesiastical heritage in the light of social and cultural changes

The secularization of social life in Europe results in a lower number of priestly vocations and fewer people actively participating in the church life. At the same time, the reality of market economy reduces the possibility of preserving and maintaining all original church buildings in proper condition. There has appeared the phenomenon of “empty churches”, buildings of significant cultural, historical, and artistic value which have lost their ecclesiastical function. Their preservation requires a new use. Furthermore, the necessity of maintaining church buildings, with decreasing income from parishes, subsidies from the state or foundations, is the reason why the church space is more and more frequently used for commercial purposes.

The problem of preserving the cultural heritage of the European “empty churches”

The new use of church buildings usually includes introducing alternative cultural or exhibition functions inside churches. In Gdańsk, St. John's Church, destroyed during WWII in 1945, which is under restoration, St. John's Center with a hall for performances, concerts, and exposition of contemporary art has been under construction since 2007 (completion due in 2013) [7]. In Brussels, in the extended Baroque church, which from 1667 for about 400 years served ecclesiastical purposes, a Contemporary Art Center was opened in 2007 with a hall for theatrical performances with 100 seats, with rooms for musicians and dancers, a

restaurant, offices, and technical rooms (Fig. 1). The conversion was designed by arch. Andrea Bruno [2].

The space of “empty churches” is used equally for cultural and commercial purposes. Boekhandel Selexyz Dominicanen bookstore [1] designed by Dutch Merckx + Girod (Fig. 1) was opened on a few floors in the 13th-century Gothic interiors of the Dominican church in Maastricht, Holland after its renovation, in the place of earlier bicycle parking space; Tesco Express supermarket has been in operation since September 2010 in former Methodist church Westbourne. In 2005, a 15th-century Gothic church with monastery, which for about 200 years didn't serve ecclesiastical functions, was converted to serve the hotel purposes of Kruissherenhotel in Maastricht. The hotel reception, foyer, lobby, library, conference rooms and a restaurant were designed inside the church. The hotel rooms are in the monastic buildings (Fig. 1). The conversion was designed by SATIJNplus Architecten in cooperation with Henk Vos and Ingo Maurer [5].

Smaller church buildings are converted to e.g. artistic studios and apartments. Good examples include a private apartment in St. James' Church in Utrecht, Holland designed by Zecc Architecten in the church which still in 1991 was used for church purposes [2] or Chapel House apartment in Belgium designed by Natascha Coolsaet [2].

All those examples of new use regard buildings which haven't served ecclesiastical functions for a few hundred, a few dozen or even a few years although they were originally designed for such purposes. Most conversions are based on a reliable reconstruction of the body of the church, including sometimes also its interior with original furnishings. The scope of architectural intervention in the

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Fig. 1. From left: Briggittines Chapel in Brussels (source: [9]), Boekhandel Selexyz Dominicanen in Maastricht (source: [8]), Kruisherhotel (source: [10])

Il. 1. Od lewej: Briggittines Chapel w Brukseli (źródło: [9]), Boekhandel Selexyz Dominicanen w Maastricht (źródło: [8]), Kruisherhotel (źródło: [10])

church space is very broad – ranging from divisions into smaller rooms to additional floors in the main body of the

church. All of these changes result from the functional requirements of the new use [6].

St. Catherine's Church in Gdańsk

The program of commemoration of Johannes Hevelius and Gdańsk Science. The idea of using the church space for commercial purposes

The parish St. Catherine's Church in the Old Town of Gdańsk, owned at present by the Carmelite Order, which dates back to the 12th/13th century, is considered the oldest functioning church in Gdańsk. Its present form comes from the turn of the 14th and 15th centuries. On May 22, 2006, as a result of fire, the roofs of St. Catherine's Church burned down. Its brick tower, gable walls, and vaults survived but required repairing. Unfortunately, the whole structure of the church roofs, their wood construction, and their space form was completely destroyed by fire. In that tragic situation, the President of the City of Gdańsk, the Carmelites, the Gdańsk History Museum and Gdańsk University of Technology put forward a proposal to open the Museum of Johannes Hevelius and Gdańsk Science in the reconstructed attics of the church.

Johannes Hevelius had his observatory in Gdańsk, in the Old Town, near the oldest Gdańsk St. Catherine's Church and the Main Town Hall on the highest floors of the townhouses at Korzenna Street 53, 54, 55, where the astronomer also lived [3, p. 100]. He would make his observations of the sky also from the platform on the nearby

church tower. The astronomer's tomb is in St. Catherine's Church. In March 1945, after war damage, the authorities decided to reconstruct in its historical layout only the Main City of Gdańsk, so the townhouses at Korzenna Street 53, 54, 55 which belonged to the astronomer were not rebuilt. The walls of the townhouses were demolished in 1956 and the residential buildings with commercial space on the ground floor were constructed in their place.

At present, the city intends to dedicate the public space between the side wall of Wielki Młyn, the front façade of the Main Town Hall at Korzenna Street and the entrance west façade of St. Catherine's Church and the walls of the monastery to the Gdańsk astronomer and it shall be one of the stops on the education and tourist footpath, promoting the traditions of Gdańsk science. The footpath would go along St. Catherine's Church and the museum with its seminary section to be located in the reconstructed attics of the church

The exhibition potential of the attics of St. Catherine's Church

After war damage in 1945, the walls of the church were covered with a roof made of wood supported on a steel-reinforced concrete frame structure. The idea of the recon-



Fig. 2. Church before 1905 (source: Archiwum Państwowe w Gdańsku) and after the fire in 2006 (source: [11])

Il. 2. Kościół przed 1905 rokiem (źródło: Archiwum Państwowe w Gdańsku) i po pożarze w 2006 roku (źródło: [11])

struction of the attics after the fire in 2006 was to restore the full space of the roof from before the fire in 1905 with a dormer and a ridge turret [3, p. 104] (Fig. 2). The design of the reconstruction was developed on the basis of old photographs illustrating the roof from before 1905. Various construction solutions were applied. The roof above the presbytery has no hatchways or windows and it is made of steel trusses supported on original columns and walls, whereas the roof above the nave and side chapels is made of glued laminated wood.

The reconstructed attics provide space sections, which are not uniform, separated by brick gable walls:

- space above the presbytery is divided into three rooms by the roof valleys with original window opening with wooden louvers in the east gable walls which provides little natural light. The level of that part of the attics is higher than the level of the attics above the nave and it is accessible from the level of the south part of the church nave by the existing, original, circular, stone stairs and from the level of the attics above the nave by a newly designed staircase;

- space above the nave and side chapels. It is a single-space room of monumental proportions, 25.04×23.50 meters and 18.64 meters tall under the roof ridge enclosed by original brick gable walls, with a new roof made of wood and discrete natural lighting allowed through the windows in the gable walls adjacent to the nave side chapels, accessible from the level of the tower rooms;

- tower rooms, south and north, which provide separate cozy exposition spaces at present partly used by the Museum of Tower Clocks (Fig. 3).

The various space potential of individual sections of the attics was reflected in the exposition program of the planned museum.

The section of the attics above the presbytery, with naturally shaped three rooms, was offered to hold small audience temporary thematic exhibitions and rooms for open lectures on scientific and popular topics. Apart from the exposition program of the museum, the original cornice

with some fragment of the original vault will be exposed in the south section of west gable wall of the presbytery as well as the original west brick gable walls of the attics illustrating the history of the place.

A “museum of one exhibit” is planned in the section of the attics above the nave, in the room increasing the element of surprise and admiration for its monumentality, in order to make the most of the uniqueness of the place, with the restored astronomical instrument used by Johannes Hevelius as the central point of the interior composition suspended in the air and connected with the spherical projection of the sky map and the “exhibition of contemporary achievements of Gdańsk science”. The original vaults of the chapels, the original brick gable walls as well as the new wooden roof truss, providing the interior with a unique character and rhythmic order of the division of the roof planes, are worth exhibiting in the south section of the attics. The tower rooms still hold the exposition of tower clocks.

The surrounding of St. Catherine's Church

– the problem of accessibility of the museum space

St. Catherine's Church is on the plot owned by the monastery of the Carmelites located between Wielkie Młyny, Katarzynki and Profesorska Streets, St. Bridget's Church and the Radunia River canal. The buildings around the church include listed buildings – Wielki Młyn (*Big Mill*) and Mały Młyn (*Small Mill*) as well as historicizing postwar houses. Apart from the church the plot is at the moment occupied by a five-storied monastic building with a storage annex constructed after World War II located directly by the shore of the Radunia River canal, with its roof ridge parallel to its axis (Fig. 4). Originally – according to the plan by Buhse – there were no buildings on the church plot (Fig. 4). On the other side of the Radunia River canal, there are historicizing postwar buildings. The very monastic area is accessible from Wielkie Młyny Street and from Profesorska Street, and there are two entrances to the church (main and side ones) from Wielkie Młyny

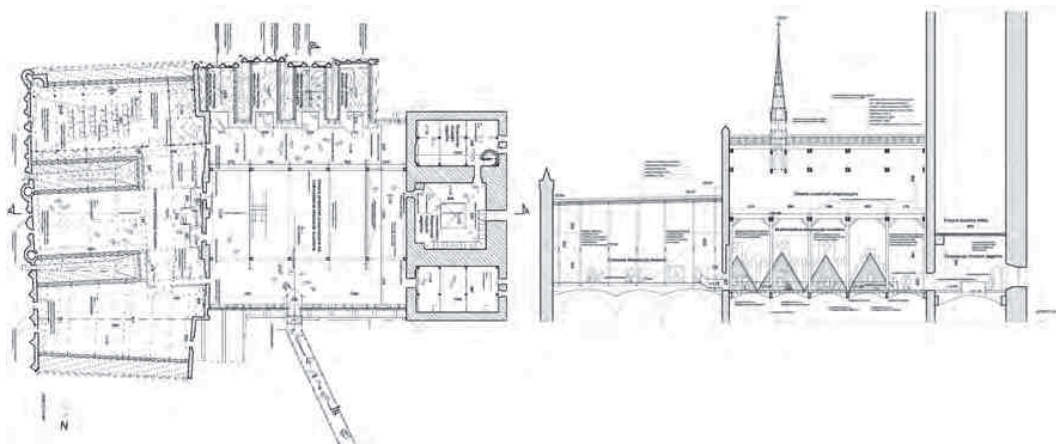


Fig. 3. Plan and longitudinal section of the reconstructed attics – museum, project of conversion of the attics of St. Catherine's Church in Gdańsk into the Museum of Hevelius (developed by E. Ratajczyk-Piątkowska, K. Piątkowska, 2008)

Il.3. Rzut i przekrój podłużny odbudowanych poddaszy – muzeum, projekt koncepcyjny adaptacji poddaszy kościoła św. Katarzyny w Gdańsku na Muzeum Heweliusza (oprac. E. Ratajczyk-Piątkowska, K. Piątkowska, 2008)

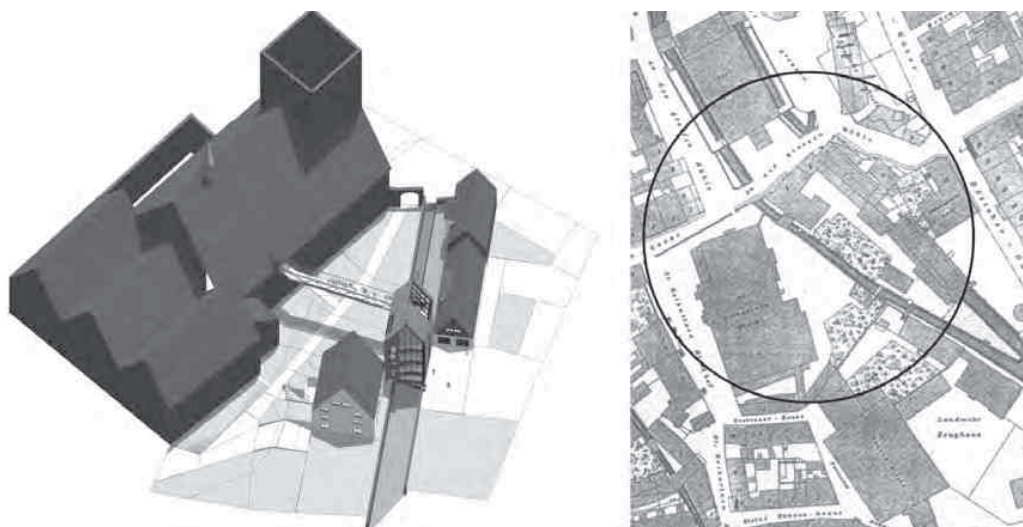


Fig. 4. Present situation, project of conversion of the attics of St. Catherine's Church in Gdańsk into the Museum of Hevelius (developed by E. Ratajczyk-Piątkowska, K. Piątkowska, 2008) and Plan by Buhse from 1866–1869 (source: Archiwum Państwowe w Gdańsku)

Il. 4. Sytuacja współcześnie, projekt koncepcyjny adaptacji poddaszy kościoła św. Katarzyny w Gdańsku na Muzeum Heweliusza (oprac. E. Ratajczyk-Piątkowska, K. Piątkowska, 2008) oraz plan Buhsego z lat 1866–1869 (źródło: Archiwum Państwowe w Gdańsku)

Street: public from Katarzynki Street and private from the monastic court. The longitudinal axis of the church nave is parallel to the axis of Katarzynki Street, and there is a row of side chapels incorporated into the church between Katarzynki Street and the nave.

The conversion of the church attics into the museum resulted in the necessary design of the entrance from the ground level to the level of the attics which would not disturb the church function. The existing stairwells of the church do not meet the basic safety requirements. Public buildings – in this case a museum – are required to provide safety, emergency exits, and accessibility of the museum rooms for the disabled by designing evacuation staircases with appropriate parameters and elevators. A number of variants of the connection between the reconstructed attics and the existing ground level around the church have been analyzed. As it was required to maintain the privacy of the monastic space and the structure of the church interior, the entrance to the museum could be located only from Katarzynki Street. The possibility of building an emergency, glazed staircase adjacent to the wall of the church from Katarzynki Street in the place of the historical but not existing any more extension has also been analyzed. That staircase would lead to the tower rooms. An alternative possibility of building an emergency staircase with an elevator shaft in individual chapels from Katarzynki Street has also been considered. All of these variants of the entrance from Katarzynki Street would significantly disturb the building structure or its use as a church, so they could not be subject of further designing work. The museum in the church attics required the layout of the rooms with full hygiene facilities for the visitors which in the opinion of the Carmelites would disturb the church function of the building. It was agreed then that the location and the historical structure of the building generate such a big distur-

bance of its church function that it is practically impossible to convert the reconstructed attics for the purposes of public use.

The analysis of urban and historical context of the surrounding of St. Catherine's Church – problem of accessibility of the museum space

The assumptions of the accessibility of the museum space from Katarzynki Street and the execution of the full interior space program of the museum within the body of the church prove unreal, however, the space and exposition potential of the reconstructed attics required some new use. The wide urban and historical context of Gdańsk buildings as well as the maintaining of the views and historical exposure of the original body of the church have been analyzed. The analysis covered the area of 50 and 75 meter radius, including both shores of the Radunia River canal. The existing spatial structure around the church and the monastery has been analyzed too; such characteristic dimensional parameters and features as the direction of roof ridges and the relations between the buildings and the Radunia River canal have been identified. The observations indicated that the north church façade adjacent to the monastic space is exposed only from the perspective of Wielkie Młyny Street because there is only a few meter wide clearance reducing the view between the existing buildings of the opposite shore of the canal and the monastic building (Fig. 5). Furthermore, the layout of the historical buildings in that area was also thoroughly verified on the basis of original photographs and the Plan by Buhse from 1866–1869. The research indicated that there were buildings on the Radunia River canal on the area in question. There is a photograph in the Regional Center for Research and Documentation of Historical Buildings in Gdańsk presenting the "House by the Radunia River Canal".

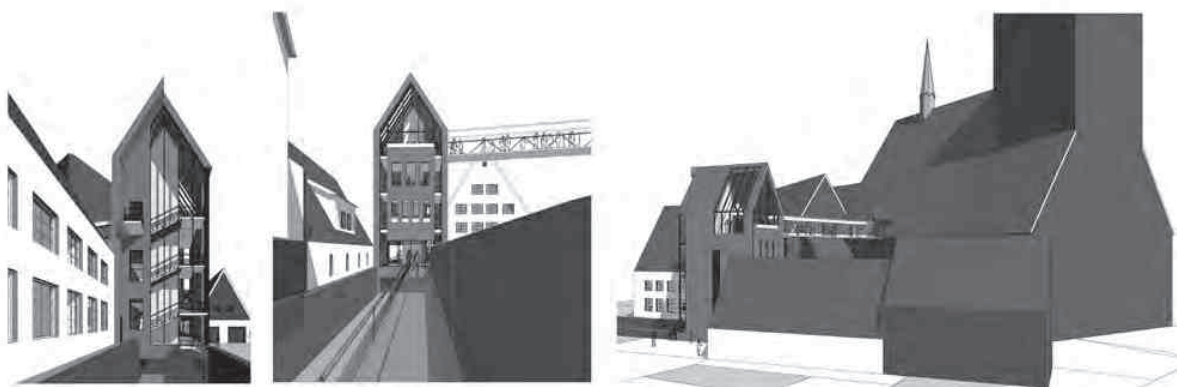


Fig. 5. Visualizations, project of conversion of the attics of St. Catherine's Church in Gdańsk into the Museum of Hevelius (developed by E. Ratajczyk-Piątkowska, K. Piątkowska, 2008)

Il. 5. Wizualizacje, projekt koncepcyjny adaptacji poddaszy kościoła św. Katarzyny w Gdańsku na Muzeum Heweliusza (oprac. E. Ratajczyk-Piątkowska, K. Piątkowska, 2008).

The research results were the basis of the development of the architectural concept drawings of the new entrance to the museum building on the river canal, within the space between the existing monastic buildings and the buildings on the opposite shore of the canal (at present the headquarters of the Polish Fishing Union (PSW)). The entrance to the designed building from Wielkie Młyny Street was provided by a footbridge suspended above water along the canal wall (Fig. 5). The delivery driveway was designed from the PZW parking lot located on the canal shore opposite the monastery. All functions of the museum that might disturb the sacredness of the church were located in the new building. The form of the entrance building was fused directly to the attics of the church with a horizontal link

suspended above the area of the monastery (Fig. 5). The spatial and material solutions of the link guaranteed the maintaining of the privacy of the existing monastic space. The designed link is connected directly with the reconstructed dormer in north plane of the church roof without disturbing its reconstructed form. The reconstructed attics will provide some museum space for expositions and seminars, making the most of the interior space. The solutions applied in the design eliminated the disturbance between the new use of the attics and the sacredness of the church, and the link going through the reconstructed dormer guaranteed the maintaining of the full historical character of St. Catherine's Church in the scope of space, materials, and exposure in the urban fabric.

Summary

The conversions of "empty churches", the buildings of considerable cultural, historical, and artistic value do not regard only the conservation issues of maintaining that value. In the opinion of the public the new use should respect the ecclesiastical history of the buildings. The functions of high prestige – culture-producing, museum or exhibition – are accepted. The commercial functions of low social esteem such as supermarkets are rarely approved in church interiors.

A different issue regards the permanent or temporary use of the church space for other than church functions,

caused by the reality of operating in market economy. In this case, apart from the conservation problems connected with the maintaining of the historical value of the buildings, there is a conflict between sacredness of the church and the requirements imposed by the character of the new use, between the sacred and the profane. Sometimes these antinomies exclude the possibility of the commercial use of the attractive church space.

Translated by
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***Muzeum Jana Heweliusza oraz Nauki Gdańskiej w poddaszach kościoła św. Katarzyny
w Gdańsku – obchody roku Heweliusza***

Rok 2011 został ogłoszony Rokiem Heweliuszowskim. W Gdańsku, na Starym Mieście, nieopodal najstarszego Gdańskiego kościoła św. Katarzyny i Ratusza Staromiejskiego, w kamienicach przy ul. Korzennej mieściło się obserwatorium Jana Heweliusza. Do dziś w kościele św. Katarzyny znajduje się grobowiec astronoma. W maju 2006 roku, w wyniku nagłego pożaru, spłonęły dachy kościoła. Ceglana wieża, szczyty dachów i sklepienia zachowały swoją formę, lecz wymagały remontu. Niestety cała struktura dachów kościoła, drewniana konstrukcja i ich forma przestrzenna zostały całkowicie strawione przez pożar. W tej tragicznej sytuacji podjęto decyzję o rekonstrukcji dachów kościoła zgodnej z zachowanymi fotografiami, przedstawiającymi dachy z sygnaturką i lukarną, z okresu przed wcześniejszym pożarem w 1905 roku. W projekcie odbudowy przyjęto nowoczesną konstrukcję dachów – stalową nad prezbiterium i drewnianą z drewna klejonego nad nawą główną i nad kaplicami kościoła. W nowo powstałym przestronnym wnętrzu poddasza postanowiono utworzyć Muzeum Heweliusza i Nauki Gdańskiej, zachowując jednocześnie niezmiennie funkcję sakralną kościoła. Dwoma

głównymi problemami, z jakimi należało się zmierzyć przy wykonywaniu projektu Muzeum, były kontrowersje związane z faktem łączenia dotychczasowej funkcji sakralnej kościoła z funkcją świecką – muzealną oraz brak dostępności poddasza dla potencjalnych zwiedzających. Zabytkowy kościół zlokalizowany jest w bezpośrednim sąsiedztwie rzeki Raduni i zabudowań klasztornych, między ul. Katarzynki i Profesorską. Aby umożliwić zwiedzającym wygodny i bezpieczny dostęp do muzeum zaproponowano budowę nowego, niezależnego budynku wejściowego stojącego na kanale rzeki w oddaleniu od kościoła. Budynek wejściowy połączono z kościołem łącznikiem zawieszonym na poziomie poddasza trafiającym w zrekonstruowaną lukarnę dachu. Rozwiązanie to pozwoliło zachować zabytkowość otoczenia i nie zakłóciło pola ekspozycji historycznej bryły obiektu. Ponieważ do dzisiaj zachowało się niewiele przedmiotów z wyposażenia pracowni gdańskich uczonych, Muzeum Heweliusza i Nauki Gdańskiej będzie miało charakter ekspozycji interaktywnej. Główną atrakcją ekspozycji będą zachowane: malarstwo elewacyjne kościoła oraz odkryta konstrukcja średniowiecznych sklepień.

Key words: museum, St. Catherine, “empty churches”

Słowa kluczowe: muzeum, św. Katarzyna, „puste kościoły”