

ODEONS IN BIAŁA PODLASKA AND WARSAW

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ABSTRACT

The thesis concerns the design of contemporary odeons in Poland. In recent years, there has been a noticeable increase in social demands on contemporary cultural facilities, one of the effects of which is the transformation of existing amphitheatres into odeons by roofing them [1]. Some of these projects are carried out and planned in an environment of high cultural value, hence conservation protection is often a prerequisite for their implementation. In this view, odeons are an element of a multi-layered composition that has been created and accumulated over the centuries [2][3].

The Odeon in Radziwiłłowski Park in Biała Podlaska, completed in 2019, and the unrealised project in the Łazienki Park in Warsaw, awarded in the SARP competition, served as case studies for the discussed topic.

These projects show the field of discourse as to the essence of the substance to be protected and the limits of its creative interpretation through contemporary architectural and urban forms and structures. The aim of the paper is to show the complex relations in design in areas under conservation protection and the impact of modern technologies on these solutions.

Odeon in Radziwiłłowski Park in Biała Podlaska

In the park created within the seventeenth-century fortifications around the remains of the magnate residence of the Radziwiłł family, on the basis of a competition design from 1993 by Kazimierz Butelski,

amphitheatre. In the assumptions of the competition, the main conservation guideline was not to exceed the height of the crown of the rampart of the fortifications above 3 m and to maintain their external outline. The revitalization of the park prompted the city authorities to transform the existing amphitheater into an odeon by roofing the auditorium. The main conservation guideline remained unchanged: the forms could not be higher than 3 m above the crown of the rampart. The author of the amphitheatre was asked to prepare 3 concepts of covering. The following concepts were prepared: concepts of stretched membranes, PVC or PTFE and the idea of pneumatic construction of the ETFE membrane [4]. The investor chose a PVC-based solution. The concept of building an architectural form is based on:

1. contrast between the minimal external form and the monumental internal
2. geometrical rules resulting from the relation to the historical geometry of the bastions.

The project was [4]:

1. Reinforcement of the existing roof structure above the stage and the light bridge
2. Construction of a new openwork steel support structure on the shaft crown
3. Covering the audience with a membrane stretched on steel cables with the use of two geometries in reference to the existing direction of the "light bridge"

The adopted solutions do not refer to historical forms, emphasizing contemporary forms made on the basis of 21st-century materials and technologies at the time of the odeon's creation. It is not possible to separate the architectural idea from the urban one, and the completed object is a development and interpretation of the seventeenth-century assumption in the field of geometry, while at the same time exchanging its function from military to cultural, adapted to the scale of the city of Biała Podlaska.

The openwork steel water outlet structure serves as a support for the membrane and water drainage and access to the auditorium at any point of the embankment crown. One of the main design challenges was to limit the substructure to the upper area of the shaft while ensuring its transparency. The spatial truss is connected to the embankment by a cap and micro piles, which, while maintaining minimal cross-sections, limited interference with the historical fabric of the earth bastion.

Modern parametric information technologies combined with structural analysis were used to model and define this form. This helped to optimize the architectural form of the final solution.



Fig. 1. A 3-step model of the conversion of an amphitheater at the Odeon. BP Project Kazimierz Butelski 2017 (Butelski K., Butelski S., Zapala M.), completed Odeon 2019. Fig. Stanisław Butelski

Odeon in Łazienki Park in Warsaw

In 1791, the first Polish amphitheatre was built in the Łazienki Park, designed by Jan Chrystian Kamsetzer. A characteristic feature of this romantic-classicist complex was the location of the stage on an island, thanks to which the water separated it from the audience and provided a background for the stage [3]. The amphitheatre is entered in the register of monuments. The conditions of the two-stage competition organized by the Association of Polish Architects (SARP) assumed the creation of a temporary, seasonal (April – October) roofing of the auditorium and the amphitheatre stage. After this period, they could be completely dismantled in such a way that no visible elements of the structure remained.

The award-winning concept of the BP Projekt Kazimierz Butelski team assumed that the roof structure would be based on two spatial columns with a fan-shaped roof structure supported by spatial beams. Both columns were placed outside the existing elements of the historic amphitheatre, without interfering with its structure.

The first of the pillars was located on the axis of the composition, on an empty square behind the auditorium, and the second asymmetrically on an island behind the stage. The main load-bearing elements in the form of rotating spatial trusses were placed on the columns. 5 trusses were designed above the auditorium and 4 trusses above the stage. It was assumed that the trusses would have a composite structure and would consist of two parts separated by the axis of rotation of the column.

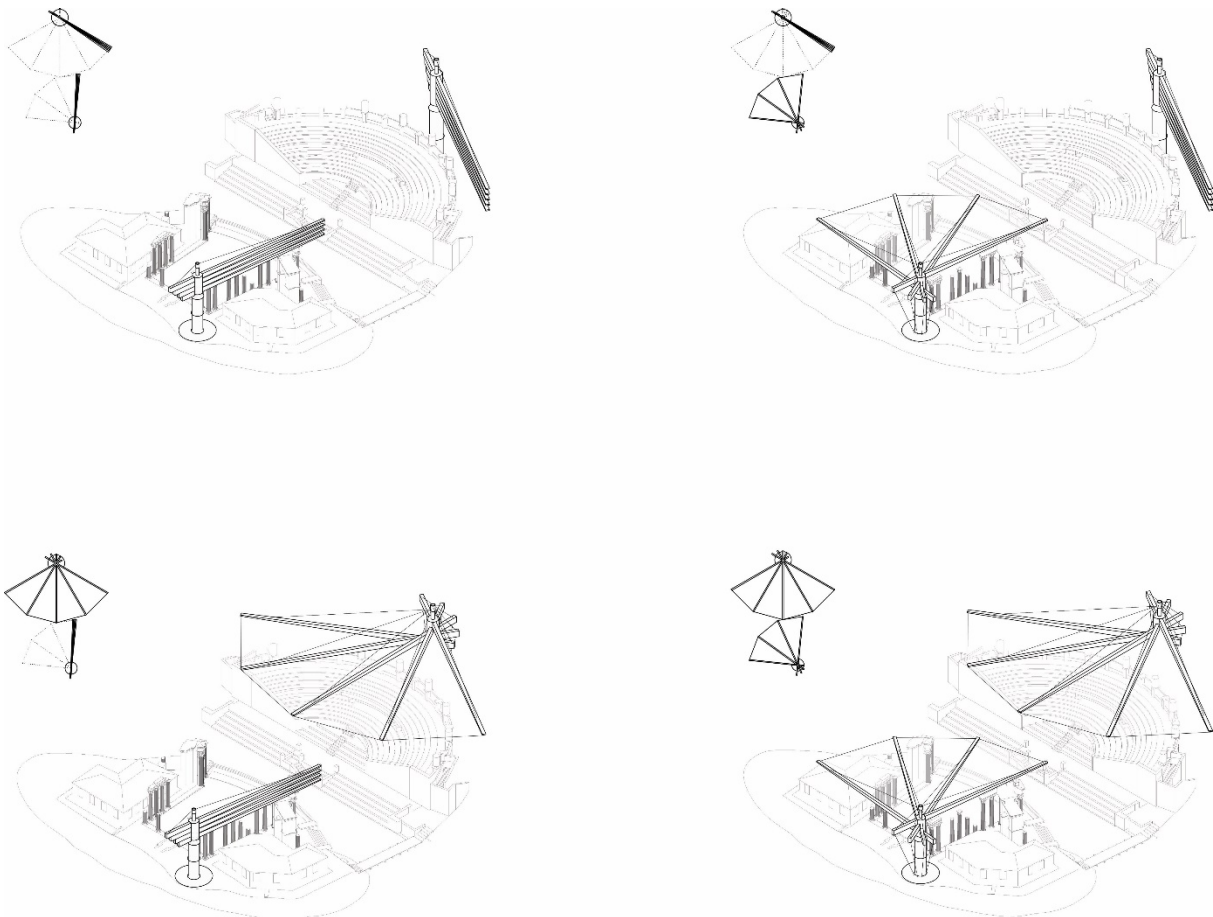


Fig.2. Mobile – kinetic roof and variants of the amphitheatre's transformation into an odeon in the Łazienki Park in Warsaw. Award-winning work of BP Projekt team: Kazimierz Butelski (Butelski K., Butelski S., Firek W.)

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