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Case studies of architecture in the Kraków-Częstochowa Upland

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Abstract: The Kraków-Częstochowa Jura is an area with unique natural and landscape values. The richness of locally occurring fauna and flora and the picturesque nature of the Jurassic landscape create favorable conditions for investments that can both use the potential of this ecosystem and serve in its protection. The author presents conceptual designs of two investments related to the tourist and recreational function as well as educational and research function. Despite the difference in uses, each of these objects promotes and protects the natural conditions of the Krakow-Czestochowa Upland.

Keywords: architecture, cultural space, critical regionalism

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Introduction

The studied area is located in the Municipality of Olsztyn in the Śląskie Voivodeship (10 km from Częstochowa). Due to the natural and landscape qualities of the area, the authorities of the Olsztyn community place increasing emphasis on using the touristic potential of their area. Currently, the largest tourist attraction in the area is the ruins of the castle. Its construction dates back to the beginning of the fourteenth century. Olsztyn is also a town with a preserved historical street layout within the market. Examples of historical wooden architecture have also been preserved. The community area is an important recreational base for the inhabitants of the neighboring city of Częstochowa. The possibility of practicing a variety of sports (including rock climbing, paragliding, speleology, hiking, horse riding, and cycling) increases the value of the natural and cultural environment of the municipality (Myczkowski, 1997).

The author presents conceptual designs of two investments related to the tourist and recreational function as well as educational and research function. Despite the different functions each of these objects have, they both promote and protect the natural conditions of the Kraków-Częstochowa Upland.

1. Hotel and geothermal springs

A hotel and conference complex with a restaurant, swimming pool and SPA is a possible way of extending the wide range of recreational activities in the Olsztyn community. The area for the implementation of this complex is the Lipówki Dolne mountain near Olsztyn. According to the research of the Institute of Mineral and Energy Economy Research Institute of the Polish Academy of Sciences, thermal water sources occur in this area. The community of Olsztyn owns this 5 ha area. The zoning scheme of the spatial plan for this area allows the implementation of recreational investments (areas of sport, recreation and health services, a complex of swimming pools and geothermal-spring supplied swimming pools) (www.olsztyn-jurajski.pl).



Fig. 1. The designed building has been divided into two parts. Hotel-conference and restaurant-cafe with pool and SPA (*author's own elaboration*)



Fig. 2. The whole complex emerging from the slope, functionally divided into individual buildings and fastened with an internal courtyard (*author's own elaboration*)

The main idea of the project was to create a building that is not spatially dominant. One that does not rise over the surrounding, but fits into the existing context of the environment (the slope of Lipówki Dolne mountain) complementing its sculpture and thus bringing new quality to the existing landscape of the Kraków-Częstochowa Upland (Frampton, 1983) (Fig. 1).

The designed building has been divided into two parts. Hotel-conference and restaurant-cafe with pool and SPA. The form of the object is simple despite the functional complexity of its individual elements. The diversity of functional and spatial solutions reflects the structure of the building complex.

The shape of the plot determined the layout of buildings partially submerged into the escarpment. The use of a gable roof organizes the form of the entire complex. The masonry walls of the ground floor are covered with limestone (local raw material). The wooden structure of the 1st floor uses larch wood.

The principles of energy efficiency are one of the design guidelines. The outer wall was designed as a three-layer construction with a thicker layer of thermal insulation. The arrangement of individual buildings in relation to each other and the arrangement of windows was supported by a shading analysis. The southern façade tectonics is the result of a winter shading analysis. The low angle of incidence of sunlight in the winter penetrates deeply into the conference room, swimming pool and restaurant interiors. The acquired solar heat is accumulated

indoors by the heat-absorbing floors. During the summer, horizontal window blinds and eaves protect the interior from excessive sunlight.

The gable roof refers to the archetype of buildings existing in these areas for generations. It also protects the walls from excessive sunlight and rain. The pedestal of the building covered with limestone also refers to the local tradition of limestone houses. The whole complex emerging from the slope, functionally divided into individual buildings and fastened with an internal courtyard does not overwhelm with its volume, blending into the context of the environment (Kos, 2017) (Fig. 2).

2. Chiropterological research and education station

The project concerns a chiropterological education and research station dealing with the study of bat species living in the Kraków-Częstochowa Upland.

The project aims to protect the value of the natural environment in this part of the Kraków-Częstochowa Upland. It includes elements of inanimate nature and a variety of biological life and rare plant species. Currently, in the Jurassic forests around the community of Olsztyn, you can meet such animals as martens, squirrels, weasels, forest mice, and dormice. Deer, foxes and wild boars live in larger forest clusters. The bat is a symbol of the local nature of the Jura and the area around Olsztyn. Due to local conditions (numerous caves) it is an area conducive to the occurrence of bats.

The research station project includes research and educational functions related to biological life in the Kraków-Częstochowa Upland. The compact cubature of the facility includes a chiroptorium (artificial bat cave) as well as conference and lecture rooms. The cuboid shape serves as a research complex with laboratories and living quarters.

The energy features of the building relate to the use of land as insulation - the chiroptorium building is partly recessed in a slope. The compact structure of the facility includes the chiroptorium (buried in the ground), conference rooms and observation rooms. Laboratories and hotel rooms are oriented on the east-west axis (Fig. 3).



Fig. 3. The chiroptorium building is partly recessed in a slope (*author's own elaboration*)

The building uses mechanical ventilation with heat recovery. Internal floors and stairs made of dark stone that accumulate heat. An internal heat-accumulating wall system was also used. The chiroptorium building is covered with a green roof.

Conclusions

The municipality of Olsztyn is a place with high pro-cultural and cultural values. Enriching this area through a diverse recreational and educational offer is the best way to consolidate the landscape of the Kraków-Częstochowa Jurassic in the minds of tourists and residents. There is then a chance to understand the climate of this place and protect preserved natural and cultural values. The unique landscape features of the northern part of the Kraków-Częstochowa Upland inspire people to take action in accordance with the context of the environment.

The proposed contemporary objects and their function belong to the local space and constitute its integral part. They fit into the character of the place by means of materials and shapes belonging to a given place. Activities undertaken in the field of education and recreation in the Kraków-Częstochowa Upland promote the region and its values and emphasize the unique identity of this place.

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Studia przypadków architektury na Wyżynie Krakowsko-Częstochowskiej

Streszczenie: Jura Krakowsko-Częstochowska to obszar o wyjątkowych walorach przyrodniczych i krajobrazowych. Bogactwo lokalnej fauny i flory oraz malownicza przyroda jurajskiego krajobrazu tworzą korzystne warunki dla inwestycji, które mogą zarówno wykorzystać potencjał tego ekosystemu, jak i służyć jego ochronie. Autor przedstawia projekty koncepcyjne dwóch inwestycji związanych z funkcją turystyczną i rekreacyjną oraz edukacyjną i badawczą. Mimo różnic w użytkowaniu każdy z tych obiektów sprzyja i chroni warunki naturalne Wyżyny Krakowsko-Częstochowskiej.

Słowa kluczowe: architektura, przestrzeń kulturowa, regionalizm krytyczny