

Krzysztof WOŹNIAK

Politechnika Łódzka

Katedra Geodezji, Kartografii Środowiska i Geometrii Wykreślnej

Al. Politechniki 6

90-924 Łódź

tel. 42 631 35 16,

e-mail: krzysztof.wozniak@p.lodz.pl

A TEMPLE IN HAJNÓWKA AS A CASE STUDY OF THE USE OF SURFACES IN GEOMETRICAL DESIGN OF CONTEMPORARY ORTHODOX CHURCHES

Most objects of expressive architectural form evoke associations with expensive works by acknowledged architects like Saha Hadid, Santiago Calatrava, Frank Owen Gehry, among others, most of whom work outside of Poland. Not many objects of that kind are to be found in our country. Nonetheless, one of them worth mentioning is the Orthodox Church of the Saint Trinity in Hajnówka (1973 - 1992), designed by Aleksander Grygorowicz. The form of this temple is based on a daring use of geometrical surfaces. This article indicates that creating forms allowing the designer to use technical possibilities of contemporary technologies is also feasible in Poland and it is not only a theoretical postulate.

In Poland, Orthodox traditions are mostly connected with Byzantine-old-Russian culture, where the cross-domed model of a temple is the basic pattern of construction. The elementary contents of this model include: crossed or rectangular plan, intersecting barrel vaults (cylinder-shaped), pendentives (spheric triangles), tambour (cylinder), dome (hemisphere) and an apse (hemicylinder and conch). Some creative modifications are acceptable within this culture, an example of them being the temple in Hajnówka. A geometrically complex shelled roofing of reinforced concrete covers the temple's nearly rectangular plan, giving the object a dynamic and expressive form. The shell-like construction includes parabolic cylinders (paraphrasing traditional vaults), a conical surface (tambour and dome) and paraboloid pendentives. These elements are connected to each other by pieces of geometrically irregular surfaces.

The presented temple is a physical evidence that designing dynamic forms is also feasible in Poland. Moreover, it illustrates that technological borders are shifting, enabling architectural forms to develop.