

HISTORICAL CONDITIONINGS FORMING/SHAPING BRIDGES

A. Leniak-Tomczyk¹, G. Łagoda²

¹DrogMost Lubelski Co., Lublin University of Technology, Faculty of Civil Engineering and Architecture, Lublin, Poland.

²Warsaw University of Technology, Armii Ludowej 16, 00-637 Warsaw, Poland.

e-mail: anna.lt@drogmost.pl, g.lagoda@il.pw.edu.pl

SUMMARY

History of bridges design demonstrates the achievements of engineering and human thinking; capabilities of construction and materials in successive epochs; styles in art and architecture and the changing attitude of man towards nature. The development of technology shows that the times are coming in which people in their striving for improvement will focus not only on precision but also on subtlety and beauty. In the process of creating transport routes we should aim at protection and sustainable use of natural resources while preserving the proportions of social and economic development, including infrastructure development. We should be looking for compromise to satisfy social interests and not hinder technical development yet at the lowest possible cost to the environment. We can venture a thesis that the world will achieve balance when the science and culture, the technological development and beauty of the forms around us will complement each other.

Keywords: *Bridge Engineering, Monuments of Culture, Cultural, Non-engineering Values.*

1. INTRODUCTION

Bridge has been, and still is, a crucial link between civilization and nature. Historical conditionings forming / shaping bridges is a very broad issue, starting from aesthetics as a branch of philosophy (widely understood study of beauty, goodness and harmony) through aesthetics as the relation between the recipient or recipients of the work, i.e. bridge structures (elements of philosophy, psychology, sociology, sociology of art and aesthetic education), up to the aesthetics understood as the study of art (bridge structures as works of art), related to defining its values and evaluation criteria, connected with the essence of creation, its relation to the reality and the methods of artistic expression.

2. HISTORY OF BRIDGE FORMING

2.1. Antiquity

Ancient aesthetics as a branch of philosophy, such a constitutes the foundation of the European aesthetics, is the period from the 6th century BC until the 3rd century AD [Tatarkiewicz, 1985]. The Hellenic period (from the 6th to the 3rd century BC), additionally divided into the subperiods: archaic (from the 6th until the beginning of the 5th century BC) and classic (from the end of the 5th until the end of the 4th century BC), is attributable to the Greeks only, while the Hellenistic period (from the 3rd century BC until the 3rd century AD) took place with the participation of other nations. A slightly different chronology is used by the architecture historians [Koch, 1982]. The styles in architecture may be analysed starting from the 10th century BC known as the Greek Dark Ages, protogeometric style (1100-900 BC), followed by geometric style (900-700 BC) to the archaic period (700-500 BC), classical period (500-300 BC) and Hellenistic period (300 BC until the end of the 1st century BC), then the art of Imperium Romanum with Hellenic influences (until the 2nd century AD) and early Christianity until the collapse of the Western Roman Empire in 476 AD. It is not possible to deny the existence of culture and, consequently, some aspects of aesthetics prior to the 10th century