

JAN SŁYK

ORCID: 0000-0001-7022-9423

Warsaw University of Technology, Poland

THE EVOLUTION OF MYTH. SOURCES OF ARCHETYPES THAT INSPIRE ARCHITECTURE

EWOLUCJA MITU. ŹRÓDŁA ARCHETYPÓW INSPIRUJĄCYCH ARCHITEKTURĘ.

Abstract

Apart from meeting functional and technical needs, architecture serves the community by creating a space to express feelings and emotions. In this sphere, it functions similarly to language, encoding meanings and allowing the hidden content to be read. On the grammatical and syntactic levels, the language of architecture can be seen as a separate phenomenon. It contains patterns of geometric, tectonic and compositional origin. In semantic analysis, other objects that are common to the whole culture come to the fore. Thoughts, associations, mappings and metaphors, which in successive epochs permeate the human understanding of the world, build universal myths, the foundation of the imaginative sphere of art. This article will provide a brief interpretation of the myth in a structuralist sense. Against this background, the characteristic stages of the development of universal thought in Western culture, the strongest archetypes permeating science and art, and the resulting architectural phenomena will be shown.

Keywords: myth, archetype, message, meaning, model

Streszczenie

Poza realizacją potrzeb użytkowych i technicznych architektura służy społeczności, tworząc przestrzeń do wyrażania uczuć i emocji. W sferze tej funkcjonuje podobnie do języka, kodując znaczenia i pozwalając odczytywać ukrytą treść. Na poziomie gramatycznym i syntaktycznym język architektury można postrzegać jako odrębne zjawisko. Są w nim zawarte wzory o rodowodzie geometrycznym, tektonicznym, kompozycyjnym. W analizie semantycznej na pierwszy plan wysuwają się inne, wspólne dla całej kultury obiekty. Myśli, skojarzenia, odwzorowania i metafory, które w kolejnych epokach przenikają ludzkie rozumienie świata, budują uniwersalne mity, fundament wyobraźniowej sfery sztuki.

W tym artykule przedstawiona zostanie krótka interpretacja mitu w rozumieniu strukturalistycznym. Na tym tle ukazane będą charakterystyczne etapy rozwoju myśli uniwersalnej w kulturze zachodu, najsilniejsze archetypy przenikające naukę i sztukę oraz wynikające z nich zjawiska architektoniczne.

Słowa kluczowe: mit, archetyp, przekaz, znaczenie, model

1. STRUCTURAL MYTH AND ITS INFLUENCE IN ART

The following considerations depart from the literary interpretation of the myths. This does not mean that the message of the Greek narrative has no impact on architecture. On the

contrary, the literary threads of the stories about gods and heroes shaped the mood and form of works of art in the following centuries. It was a dominant influence at least until the baroque period. Building structures, their aesthetics and spatial form also referred directly to the foundation of Western culture: mythology and the Bible.

Leaving this area broadly discussed, the article will refer to the structuralist and archetypal understanding of myth. It does not contradict the colloquial interpretation, but it focuses on the universal, transcultural and sometimes even abstract meaning of the myth. In this sense, it allows to better describe architectural phenomena and to follow the links between architecture and the civilization background.

A myth, as understood by Claude Lévi-Strauss, is a tool that orders human consciousness. It allows you to cope with the description of phenomena that exceed human cognitive abilities, to make comparisons and logically justify in the entire cognitive space.¹ Myths create an interpretive model environment. Moreover, they are easy to understand regardless of the language, as they are based on common cultural thought patterns.

In structural terms, the matter of myth takes a hierarchical form. It is based on mythemes, i.e. the smallest building blocks, arranged sequentially and dispersed. Compositions of myths evolve throughout history. New patterns are attached. Their specific configurations, best suited to the spirit of the era, create models closely related to the dominant style of expression. Christian Norberg-Schulz² describes the most primitive patterns that allow architecture to distinguish the sphere of spatial creation from the natural formations of the environment. Although the word myth does not appear in the text, it is easy to associate Schulz's concept with Lévi-Strauss's structuralism. We started with recognizing the distinguished place by applying a specific compositional scheme (central, with a dominant point). The abstract pattern separated the sphere of the interior from the continuum of nature, which became the domain of the architect's activities. The pattern is common to many cultures, does not require additional translation, provides similar associations and similar modes of use.

The structure of the architectural myth has evolved in terms of both the component elements (mythemes) and the general configuration of archetypes. The preferred schemas referred to the interpretation of the world, and at the same time emphasized the difference from natural forms. A common feature of most architectural myths was their association with a mentally processed, formalized version of environmental patterns.

2. PERCEPTION, INTERPRETATION, AND FORMALIZATION OF THE ENVIRONMENT AS A SOURCE OF ARCHITECTURAL MYTHS

The architectural myth is verbalized in the sphere of spatial implementation. Before that, it crystallizes on an intellectual level. Only when the creator becomes sure what pattern is understood in the community, can he use it in his expression. The feeling of grounding the archetype can be explained from various philosophical positions. The assumptions outlined at the beginning locate our argument in the sphere of rational justifications and formal logic. For this reason, the view of Oswald Spengler will be used to explain the genesis of the myth. According to his vision, the interpretation of the world was always associated with the mathematical concept

¹ C. Lévi-Strauss, *Antropologia strukturalna*, Państwowy Instytut Wydawniczy, Warszawa 1970.

² C. Norberg-Schulz, *Bycie, przestrzeń i architektura*, Wydawnictwo Murator, Warszawa 2001.

of the era.³ The language of mathematics, as the only one in the achievements of the West, is at the same time logically exact, open and applicable in the description of perception. Moreover, it creates an unlimited number of possible formalizations based on separate axiomatic systems. The motivation behind mathematical considerations is not to describe the world, yet mathematics turns out to be the most universal interpretive language. Based on anthropological assumptions, it can be stated that, as a product of the human mind, it fits the processes that this mind performs every day in contact with the environment.

There is a close relationship between the mathematical view of the world and the structuralist concept of an architectural myth. Creating archetypes means constant optimization and reduction of available threads to those that most effectively and understandably convey universal content. The mathematical method of reaching certainty is associated with prove, and in common understanding – with a sense of certain, logical verifiability. In order to prove, we need unquestionable axioms and theories consistent with perception. Both of these elements have changed throughout history, which means that architectural myths have taken different forms.

It is no accident that the genesis of Greek myths in their literary form is associated with the beginning of modern mathematics. At that moment, in the environment of the Pythagorean school, axiomatic foundations, theories and methods of proof were formed, affecting civilization up to modern times, and even dominant until the Baroque.

Numbers and geometric figures were the key elements in the Greek catalog of mathematical universals. Operations performed on them allowed for examining dependencies, searching for rules, formulating theorems and then performing proofs. In the world of ancient thought, a mathematical (or logical) proof was a guarantee of general truth, and thus it gave a ticket to the realm of myth.

The coherence of Greek science and art stimulated the flow of thoughts between all areas of life. It increased the power of thematic relationships and the power of the myth's influence. Ancient poetry and music were subordinated to rhythm and proportions understood strictly mathematically. Musical scales, which are the source of medieval melody and harmony, were created by generating connoted chords with the division of vibrating strings into sections. The canon in sculpture created by Polykleitos and Lysippos is based on analogous considerations, this time related to the proportions of the human body. The whole argument of Vitruvius is saturated with thinking based on fractional proportionality. It influences both the creation of tectonic elements and the overall composition of an architectural work. This is how, based on arithmetic operations on primary and secondary units, the myth of consonance and dissonance was created. Good-sounding, consonant art had to use selected relations of commensurate proportion. The field of influence of these relations could be different: from the rhythm of the poem to the proportions of the temple.

In addition to arithmetic considerations, the Greeks also conducted geometric studies. These are especially valuable for the development of the myth of the visual arts. Moreover, they extend the spectrum of considerations beyond the range available in the space of rational numbers. The myth of the perfection of form was shaped on the basis of geometry, first of all, due to the observation of specific dependencies characterizing selected figures. The regular dodecahedron, considered by the Pythagoreans as a symbol of the universe, has no simple equivalents in the world of forms created by nature. It is difficult to construct using descriptive techniques. It prompts us to consider the length relations of characteristic sections, which

³ O. Spengler, *Zmierzch Zachodu*, Wydawnictwo KR, Warszawa 2001.

cannot be expressed fractionally. You can look at the pentagram inscribed on the side of the dodecahedron in a similar way. By recognizing “elusive” disproportionate proportions, the ancients initiated the myth of the ideal form, which was later used, inter alia, for the study of the golden proportion or in the modernist concept of Modulor.

One more architectural myth rooted in the ancient tradition needs to be noticed here. The Pythagoreans performed transformations on figures, looking for rules not only in static formations, but also in geometric processes. This is how the study of scaling gave rise to the theorem about similar triangles. It gave rise to modern engineering based on scale documentation. It also allowed the myth about the commonality of features of scaled objects to solidify.

It is impossible to capture the entire complexity of the evolution of the structural myths of architecture in a short text. Making a choice due to the importance of transformations in perception, the author decided to focus on the point indicated by the previously mentioned Oswald Spengler. In the eyes of the philosopher, the second most important change in the concept of describing the world was the Baroque evolution of mathematics. The modern formalization of mathematical cognition, initiated by Descartes and developed in the works of Leibniz and Newton, focused on relations. A function has taken the place of a static ancient number, constituting a method of preserving not the state of the environment, but rather the way it functions. Reasoning in terms of studying the course of variability was an obvious strengthening of the apparatus of physics and the emerging natural sciences. In the field of art, it influenced both the catalog of forms and the scenarios of interaction with a creative work. Manifestations of searching for rules in variability are in the achievements of the Bach era and in many others. We will notice them in advanced polyphonic works. The sense of a simple consonance achieved thanks to the appropriate harmony is lost here. The harmony of the musical course, understood as an acceptable sequence of chords, begins to dominate over vertical harmony. As a result, the sphere of listeners' sensitivity significantly widens, and the achieved sound and structural effects serve as the starting material for musical works of several successive eras. Static perspective painting of the Renaissance is being replaced by art that seeks dynamics in the sphere of composition, lighting, and even stage movement. The myth of harmonic variation or the myth of the “beautiful curve” is referenced in the content of Gilles Deleuze's work.⁴ However, you can look at it more directly. The Turin realizations by Guarino Guarini, especially the Chapel of the Holy Shroud is based on tools rooted in the methodology of testing variability. We can see the general cultural context of this architectural myth by comparing Guarini's sections with the drawings of the trajectories of planets in Newton's work.⁵

3. THE MYTH OF THE DIGITAL AGE

The lack of distance requires careful formulation of theses relating to the genesis of contemporary architectural myths. However, the author was encouraged to write the following sentences by the analogy of the mechanisms observed by Spengler in history and the phenomena that are today associated with the information revolution. Spengler argued that the new math changes perception across the community. Therefore, transcultural connections and structural myths arise,

⁴ G. Deleuze, *Falda. Leibniz a barok*, Wydawnictwo Naukowe PWN, Warszawa 2014.

⁵ J. Słyk, *Źródła architektury informacyjnej*, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2012.

built on the basis of the formalization of phenomena, identified at the moment with the truth of cognition. Today's mathematics is focused on computer science. As in the era of ancient Babylon, it relinquished the rigorous approach to statistical truth, optimization, heuristic considerations.⁶

The first effects of creating a new myth were already visible in the art of the beginning of the 20th century. Aleatoric musical composition gave up on predefining the content. Responsibility for the artistic result was first transferred to the performer and later also to the audience. Fragmented narration can be seen already in *Ulysses* by Joyce, and *Rayuela* by Cortazar includes complete instructions for aleatoric reading scenarios. Numerous works of fine arts, theater, and performing arts recognize today the co-created works as a legitimate form of expression. With the advent of computers in widespread use, theoretical models of probabilistic, permutational and parametric art began to be implemented and introduced to the public. Computers were used primarily as the engine of a new medium: pseudorandom generator, controller, calculator, etc. In this way, the myth of digital variation and creative partnership between man and machine was born.

We can also see all the phenomena described above in architecture. Aleatorism appears here rather in a controlled form, which is understandable in the context of safety and durability requirements. On the other hand, the area of generative and parametric creativity is explored very intensively. The functioning of the myth of variation is clearly visible in the development of workshop techniques. Digital drawing tools are designed with the intention of providing the architect with a solution engine rather than a precise drawing board. In the form-making processes, algorithms linking physical parameters with geometric definitions are used. Finally, attempts are made to include the computer in the creative process also as an autonomous partner.

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Author's Note:

Prof. Jan Słyk, PhD, DSc, Arch.

Born in Warsaw. Dean of the Faculty of Architecture of the Warsaw University of Technology (WUoT) in the 2016–2020 term and Vice-Rector for Studies at WUoT in the 2020–2024 term. Author of 2 books, and over 40 scientific papers, editor of 3 monographs. His research and didactic activity is focused on methodology of design and IT implementation in architecture. Active, practicing architect, holds full design license since 2000. Author of over 70 design projects: housing, commercial, public buildings, mainly in Warsaw.
jan.slyk@pw.edu.pl

⁶ M. Kordos, *Wykłady z historii matematyki*, SCRIPT, Warszawa 2010.