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OPINION

REVOLUTION OR COUNTERREVOLUTION?
Nikos Salingaros' "Theory of Architecture"

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Abstract. The article is the translator's foreword to the Russian–language edition of Nikos Salingaros's book "A Theory of Architecture", which is currently being prepared for publication by the publishing house "Armchair Scientist" ("Кабинетный учёный", Moscow-Yekaterinburg). Since this book summarizes Salingaros' many years of scientific research, what is said here applies to all of his work. According to the translator, Salingaros' theory, which challenges established ideas today, can only be seen as revolutionary in the context of modern design approaches. However, if we consider that these approaches, at one time, (i.e., about a hundred years ago), revolutionized design by rejecting the centuries-old experience of traditional architecture, then Salingaros' proposals may seem rather conservative and counterrevolutionary. The uniqueness of the book "A Theory of Architecture" lies in its ability to identify, substantiate and summarize the thousand-year-old, unwritten fundamental rules based on the imitation of natural patterns, that have guided architects for centuries both by intuition and tradition. Thus, it links the idea of mimesis - the ancient principle of "imitating nature", offering architects a reliable tool for creating adaptive (i.e., corresponding to human nature) architecture, not related to a specific style or trend.

Keywords: *Nikos Salingaros, Christopher Alexander, adaptive architecture, mimesis.*

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1. Introduction

The title of this article implies that there is no single, definitive answer to the question it poses but, rather, aims to highlight the fact that both perspectives are valid. The theory of Nikos Salingaros is both revolutionary and counterrevolutionary, depending on how it is viewed. Before proceeding to substantiate this thesis, we would like to note that in our opinion it would be more appropriate to discuss the general architectural theory of Salingaros and Alexander. Although Christopher Alexander's name does not appear on the cover of the book currently being presented to Russian-speaking readers, Salingaros frequently refers to the ideas of his senior colleague, an architect and theorist who is the author of the well-known book "A Pattern Language"

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(Alexander *et al*., 2022) and the less well-known "The Nature of Order" (Alexander, 2004), which has still to be translated into Russian. Salingaros was in fact the primary editor of "The Nature of Order". Without belittling contributions of the other co-authors of the book "A Theory of Architecture", it is necessary to highlight the importance of the unique Alexander-Salingaros author duo, in which the practical architectural knowledge, creative intuition and philosophical mindset of Alexander are complemented by the rigorous scientific research of Salingaros.

2. The Conservative Revolution

The 180-degree turn in the way scientists approach modern architecture is truly revolutionary. By "modern architecture", Salingaros refers to modernism and its stylistic successors from the late 20th and early 21st centuries. With all the external differences between historical modernism of the twentieth century and the latest trends, these styles share a common rejection of centuries-old principles of historic, regional and vernacular architecture.

Salingaros describes modern architecture as ugly and inhuman and he does not see the need to make any concessions. Having become the norm in construction, this type of architecture has changed our environment and the appearance of the planet as a whole beyond recognition in just a few decades, an insignificant period on the historical scale. Though the fact this new environment is clearly uncomfortable and unharmonious, with the exception of a small number of elite buildings, the principles and approaches to architectural design do not actually change. The pioneers of modernism continue to stand on their pedestals as infallible prophets of "the architecture of the future". The newest architectural stars (starchitects) continue to form the main creative guidelines for students. However, there is a significant gap in the causal relationship between their declarations (from both century-old pioneers and contemporary starchitects) and actual practices.

There are many paradoxes in this situation. On the one hand, modern architecture, which has evolved from the avant-garde "alternative order" to the newest style of chaos, is extremely diverse in its own right. It is so diverse that it can lead a researcher to a dead end when attempting to identify it as a whole. Meanwhile, as Salingaros rightly points out, we intuitively feel a deep kinship of its styles and directions, which are fundamentally different from anything that was created before the twentieth century. To support our thesis about the revolutionary nature of her work it should be noted, that Salingaros not only criticizes modern architecture, but also relies on a coherent system of criteria that clearly brings all this diverse range of criteria under one umbrella. The yardstick for him is nature, which he sees as an extremely complex and harmonious whole and the actual criterion for judging architecture is its compliance with the great laws of natural order, which ensure its beauty. The key and most significant aspect of this approach is the idea that beauty is objective. This negates both the declarative attitudes of modernist architecture towards the "new" functional beauty and the claims of recent trends regarding the absolute value of the author's intuitions.

On the other hand, in their appeals to the natural (cosmic, divine) order, Salingaros and Alexander actually bridge the gap with the ancient concept of mimesis. This brings us to our second point - the counterrevolutionary nature of their theory. The principle of ancient and more broadly, traditional imitation of nature is based on the well-known axiom that the world is one, true, good and beautiful. Mimesis focuses not

so much on specific natural forms (the visible) as on the understanding of the "invisible", the ideal and the conceptual. Architecture, as the most abstract of the visual arts, relied on these natural laws of harmony until the formative crisis of the 19th century and the subsequent avant-garde "revolt".

If we consider the mimetic approach to be the norm, then all modern architecture can be considered revolutionary, including the latest bio-styles that imitate natural forms. In this sense, Salingaros' theory can be seen as counterrevolutionary, although, its meaning is not a contrast between the old and the new, but a search for the objective and the timeless.

3. Natural science prerequisites for adaptive architecture

Correlating these different approaches, we face another paradox: While the architect has forgotten how to observe, admire and learn from nature, becoming increasingly immersed in a virtual, artificial world, the physicist is rediscovering the intelligent beauty of nature. However, the word "again" deserves some reservations. The attitude of reverence for nature as a mysterious book of knowledge has permeated philosophical, religious and scientific thought for centuries. Even in the "rational" New Time, in an article from 1761 entitled *The Phenomenon of Venus in the Sun*, M.V. Lomonosov wrote:

> *"The Creator has given the human race two books. In one, He revealed His majesty; in the other, He revealed His will. The first is this visible world, created by Him so that a person, looking at its vastness, beauty and harmony, would recognize His omnipotence. The second is the Holy Scripture. This book shows His love and grace for us and our salvation. In this book, the prophets and apostles inspired by Him, the great teachers of the church interpret and explain His word. And in other book of the creation of the physical world the physicists, mathematicians and astronomers and other teaching interpreters such as the prophets, apostles and church teachers described in the book. A mathematician would be unwise if he wanted to measure the divine will with a compass. Similarly, a theology teacher would be mistaken if he thought that astronomy or chemistry could be learned from the Psalter"* (Lomonosov, 1765).

And although Lomonosov calls mathematics unwise, "if he wanted to measure the divine will with a compass", he explains below: "astronomers are uncovering a temple of divine power and splendor, finding paths to our temporary happiness, combined with reverence and gratitude for the Almighty". By astronomers, mathematicians, physicists and other explainers of divine actions manifested in nature, Lomonosov means all those who follow the path of rational knowledge.

The founder of quantum physics, Max Planck, speaks about the orderly nature of the world and the objectivity of its laws in his 1937 paper "Religion und Naturwissenschaft", referencing the work of his great predecessors - I. Kepler, I. Newton and G.W. Leibniz, among others. Discussing the physical causation principle of Leibniz and his follower, P.L. de Maupertuis, Planck noted: "These researchers believed that they had found in it a tangible sign of the manifestation of a Higher Mind, omnipotently dominating over nature" (Planck, 1990).

In these two initial positions, we have: 1) nature is beautiful and 2) its beauty is a visible expression of the reasonable laws that govern matter. Traditional (pre-modern)

architecture ran parallel to natural science, with the only difference being that artists (including architects) understood the laws of nature mostly intuitively through observation and special aesthetic sensitivity.

4. Modern mimesis

The uniqueness of Salingaros' approach is that, as a physicist and mathematician, he walks hand in hand with his friend and colleague, the architect Alexander, to scientifically substantiate the laws of construction of visible matter literally "measuring" them with a compass. He establishes the similarity of the natural systems organization principles, on the one hand and traditional architectural systems, on the other. Salingaros refers to structural order as the main common feature of both. According to Salingaros, complex organized hierarchical order is the basic principle of matter organization at all levels, from the overall structure of the universe to the smallest microscopic particles and from human physiology to thinking and sensory perception. This general principle was adopted by traditional architecture in all its historical, regional and stylistic diversity later being declaratively rejected by modern architecture. Alexander identifies 15 basic properties of natural order, including levels of universal scaling, symmetry, wide boundaries, contrast, rhythmic repetition among others. These are geometrical properties. Salingaros has summarized the most obvious aspects into "Three Laws of Structural Order", which have a number of consequences and explained in detail in his book.

Thereby he gives:

• To an architect - a universal practical shaping tool.

• To an architectural theorist or a teacher - solid and scientifically objective criteria for analysis.

Both of these tools seem to be essential, as in the absence of any clear system of criteria, today's "architecture without rules" is noticeably disoriented. Half a century ago, functionality was considered the most important aspect of architecture and its compliance/non–compliance with functional requirements was the main criterion. Today, however, freedom of expression is the only value that matters, which, in fact, deprives any analytical approach to architecture of a solid foundation. Nevertheless, when it comes to modern architecture, Salingaros sees the very word "functionalism" as nothing more than a propagandistic ploy (although a very successful one).

The value system in his theory is different and is based on a simple and strict logic. Here are the main principles of this approach:

• Mankind is meant to be happy.

• Beauty is a powerful factor in happiness.

• Nature is objectively beautiful.

• The goal of architecture is to understand the natural laws of shaping and to apply them.

Therefore, according to Salingaros, the value criterion is based on whether a building (complex, urban structure, etc.) complies with the structural order laws that he has discovered.

Like any laws, these involve restrictions on freedom, but at the same time, they are different from the "straitjacket" of modernism (according to Salingaros), since they are characterized by their infinite flexibility and adaptability. Specifically, the laws of structural order are not directly linked to issues of style, which eliminates the seemingly

futile confrontation between “modernism and classics” or more broadly, “modernity and historicism”. They touch only the basic, fundamental patterns, opening up a “third way” and here there is an analogy with the infinite products of natural diversity. The laws are the same, but nature is infinitely varied, as is traditional architecture. The design restrictions are only directed against arbitrariness and distortions of nature.

By “measuring harmony with algebra”, Salingaros actually restores the rights of the term “beauty”, which has been ridiculed and banished from the modern architectural lexicon. In fact, he scientifically reinvigorates Plato’s identity of beauty and truth (“Beauty is the splendor of truth”), which is why the “revolutionary conservatism” gave the title to our foreword. Just as the law of universal gravitation existed before Isaac Newton, the laws of structural order were embedded in the unwritten rules, traditions and canons of premodern architecture. “Do not think that I have come to abolish the Law or the Prophets; I have not come to abolish them but to fulfill them” - this evangelical parallel comes to mind. Working “by default”, these laws formed general, stable ideas about beauty, harmony and expediency and thereby got rid of unnecessary, petty legal regulations, which is the other side of the coin of modern creative arbitrariness.

5. Conclusions

Salingaros is optimistic about the future and believes in the potential for beautiful and harmonious modern architecture. His thesis, we emphasize, is not about the senseless worship of “architecture of the future”, which leads us away from pressing issues and towards empty mirages that forever loom on the horizon of progress. As Nikos Salingaros points out, “A Theory of Architecture” can be used as a textbook and has already become the basis for theoretical and practical programs in various architecture and construction universities worldwide. It seems that this book would be beneficial for our practicing architects, theorists, educators, students.

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