

OPINION

By Dr. architect Stephan Asparuhov, appointed as Ass. Prof.

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Concerning: Application of Art. 10, para. 1 of ZRASRB, art. 32, para. 1 of PPZRASRB in execution of Order № 429-RD / 30.07.2021. of the Director of the Institute of Art Studies - BAS under the procedure for awarding the educational and scientific degree "Doctor" to **arch. Nona T. Tsekova** for the dissertation: *Innovative Methods of Bionic and Biomimetic and their Transformations in Modern Architecture*, under the scientific guidance of Assoc. Prof. Dr. Arch. Stella Tasheva

General description of the dissertation

The work of arch. Nona Tsekova *Innovative Methods of Bionic and Biomimetic and their Transformations in Modern Architecture* contains: an introduction, which includes laying down the key points of the study; the relevant text, which is divided into three chapters; conclusion. The dissertation has a volume of 165 pages and three applications - bibliography, glossary and catalog of images. To achieve the goal of the dissertation arch. Tsekova skillfully used a wide range of significant and up-to-date literary sources - 11 titles bibliography in Cyrillic, 39 titles in Latin and 134 independent Internet sources.

Relevance of the dissertation

Scientific research can be assessed with a high degree of relevance through the prism of modern architectural theory and practice. It gives a new understanding of the state of innovative design and construction techniques and the potential for rethinking them through the principles of bionics - in historical, regional, socio-economic and technological contexts. The author's search for a criterion for determining the

symbiotic nature between building material, man and the ecosystem is at the heart of one of the most complex problems of our time, the answer to which still remains undiscovered - the problem of sustainable development and in particular the ecological effect of construction activity.

Dissertation structure

The work is appropriately structured according to its purpose and the applied research methodology. The author has skillfully managed to organize the chapters and group their sections in a logical sequence: theoretical, methodological and applied.

Contributions

The dissertation contains scientific results, which represent an original contribution, summarized as follows: 1) a four-level systematization of bionics in architecture; 2) for the application of the systematization a criterion for determining the symbiotic nature in architecture has been introduced; 3) concepts for bionic transformations are proposed in order to increase the sustainability of the architectural product. Thus arch. Tsekova has shown that she has in-depth theoretical knowledge in the scientific specialty and abilities for independent research.

Publications in connection with the dissertation and academic ethics

In the process of her training and research for the period 2016-2019. arch. Tsekova has presented three papers at three international scientific conferences (Barcelona, Sofia, Veliko Tarnovo) and has published six scientific publications, three of which in the journal *Architecture*, which fully covers the minimum requirements of PPZRASRB and the *Regulations on the terms and conditions for acquisition of scientific degrees and for holding academic positions at BAS*.

The inspection of the evaluated work did not reveal any plagiarism.

Recommendations

With a high degree of satisfaction from the presented scientific work, I allow myself the liberty to recommend to arch. Tsekova in her future research on the topic: 1) to boldly develop her working hypothesis and to create shorter concluding parts, which summarize the results; 2) to look for a way to enrich the so-called *categorization* by

introducing specific and clearly defined indicators and means of measurability on various grounds of the symbioticity criterion introduced by her.

The implementation of the second recommendation will confirm my conviction in the high potential for popularization of the topic and further development of the research in the form of a monographic work.

Conclusion

Pursuant to Art. 10, para. 1 of ZRASRB, pursuant to Order № 429-RD / 30.07.2021. of the Director of the Institute of Art Studies- BAS, I **give a positive assessment of the dissertation of arch. Nona T. Tsekova** and I propose that she be awarded the educational and scientific degree "Doctor" in the professional field 5.7. "Architecture, construction and geodesy", in the scientific specialty "Theory and history of architecture".

25.10.2021

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ASSOC. PROF. DR. ARCH. STEPHAN ASPARUHOV