


Review

by

Assoc. Prof. Dr. Arch. Borislava  Mancheva – Velkova

from VSU "Lyuben Karavelov" - Sofia

Subject: dissertation for the award of educational and scientific degree "Doctor" in the scientific specialty "Architecture of buildings, facilities, constructions and details".

Author of the dissertation: architect Kliment  Radoev, doctoral student at the Department of Urban Planning, Theory and History of Architecture, VSU "Lyuben Karavelov" – Sofia.

Topic of the dissertation: "Methodology for research and study of traditional residential architecture around the world",

Consultant: Prof. D.Sc. arch. Borislav Borisov from VSU "Lyuben Karavelov" - Sofia.

Grounds for writing the standpoint: Order № RD -00011 / 07.01.2022. of VSU "Lyuben Karavelov" - Sofia for appointment of a jury and decision of a meeting of the scientific jury (Record of proceedings №1 of 18.01.2022)

Information about the doctoral student

Arch. Kliment Radoev graduated in UACG in Sofia (2002) with a degree in architecture. His sphere of work is designing and teaching. There are a number of realized projects such as: Structure of Bulgarian-Turkish border checkpoint and customs - "Captain Andreevo" Captain Andreevo, Bulgaria, (urban design project working together with architect Georgi Bakalov, architect Nikolay Damov, eng. Vladimir Rusev, etc.) - 2006.; Ethno-village "Garden" Shabla, Bulgaria, (team leader; partnership on the project with architect Georgi Bakalov, eng. Vladimir Rusev) - 2007; Fly City Center Office Building Sofia Airport, Bulgaria (team leader in partnership with architect Kalin Tsachev, architect Shafik Alsbey) - 2007; Roman Bath Spa Complex Banya, Sliven, Bulgaria, (team leader; architectural project together with architect Georgi Bakalov, eng. Vladimir Rusev) - 2008; Kindergarten and Social Center Sevlievo, Bulgaria, (Project management and team leader; architectural project in collaboration with architect Georgi Bakalov, eng. Vladimir Rusev) - 2009; Medical Clinic, Yoskemen Ust Kamenogorsk, Kazakhstan, (project management and partnership with architect Vessela Hadzhistoyanova, architect Branimir Brozig, architect Martina Radeva) - 2012; Private Residence "Josi" Sofia, Bulgaria, (collaboration with architect Kalin Tsachev, architect Milena Paunova, architect Elena Terzieva) - 2015; Private residence Kresna, Bulgaria, (team leader) - 2016; Industrial and warehouse building for the production of vine cuttings and grafts Karabunar, Bulgaria, (team leader) - 2017; Residential building

Simeonovo, Bulgaria, (project management and team leader) - 2017 and Upgrading with a floor of a residential building at 103 Tsar Samuil Str., Sofia, Bulgaria - 2021.

For his projects arch. Kliment Radoev received a number of awards: First Prize and Certificate of Recognition, Competition for Communication Center of the Bulgarian mobile operator M-Tel; Sofia, Bulgaria - 2000; First prize and assignment, competition for "St. Catherine's University Hospital" - (blocks A, A1, A2); Sofia - 2001; Honorary award, competition for business center on T. Alexandrov Blvd. Sofia - 2002; First prize, Competition for a summer holiday village on "Nos Humata"; Arkutino, Bulgaria - 2005; First prize and assignment, Competition for design of UMHAT St. Ekaterina - (block B); Sofia - 2005; Third Prize for Green Architecture, "Design vs. Natural Forces" - International Architectural Competition; Manila, Philippines - 2010

Necessary documents

The following documents are available for writing the dissertation opinion: dissertation, abstract, publications - 5 pcs. in International Scientific Conferences and the Yearbook of UACG, Order for enrollment in doctoral studies in self-study №173 / 11.03.2019, Certificate for passing doctoral exams, Order for expulsion from doctoral studies (with the right to defense) №58 / 30.01.2020 ., Minutes of the preliminary discussion of the dissertation of the Extended Department Council of the primary scientific unit, consisted on 09.11.2021, according to the order of the Rector of VSU "Lyuben Karavelov" - Sofia № 685 / 02.11.2021, Order for appointment of the jury № RD - 00011 / 07.01.2022, record of proceedings №1 / 18.01.2022, copy of master's degree and professional CV.

The received documents are sufficient for writing an stand point, according to the Law on the Development of the Academic Staff of the Republic of Bulgaria, the Law on the Development of the Academic Staff of the Republic of Bulgaria and the Regulations for the Development of the Academic Staff at VSU Lyuben Karavelov “.

Compliance with the minimum national requirements according to the LDAS

With the required minimum number of 80 points on 4 groups of indicators, the candidate Kliment Radoev presents research and design products that exceed the minimum national requirements.

Production is distributed as follows:

Indicator A: Dissertation for the award of educational and scientific degree "Doctor" (defense) - **50 points (required - 50 points)**;

Indicator D: Scientific publications in unrefereed journals with scientific review - **80 points (required - 30 points)**:

1. Radoev K. and Deng W., (2021) A Method of Creating Vernacular Houses' Pictograms Based on "Climate – Form" Impact and Relationship: Houses' Pictograms; Part 2, Submitted to Vernacular Architecture – **10 p.**;

2. Radoev K., Application in the environment of traditional structures, XX International Conference on Construction and Architecture VFU`2020, 17 - 19.10.2020, VFU "L. Karavelov ", Sofia - **20 points**;
3. Radoev K. and Deng W., (2020) A Method of Creating Vernacular Houses' Pictograms Based on "Climate – Form" Impact and Relationship: Houses' Pictograms; Part 1, UNNC Nottingham e-Prin – **10p.**;
4. Radoev, K., Theoretical Methodology for Classification, Systematization and Research of Architectural Structures, IX International Scientific Conference ArCive 2019, Varna, Bulgaria - **20 points**;
5. Radoev K., (2019) Classification system for integrated research of architectural structures and elements of the building, XIX International Conference on Construction and Architecture, VFU`2019, VFU „L. Karavelov ", 17 - 19.10.2019, VFU“ L. Karavelov ", Sofia - **20 points**..

The total number of points received with the applied production is 130 points, which fulfills the minimum national requirements of (80 points) for obtaining a scientific-educational degree "Doctor" in the scientific specialty: "Architecture of buildings, structures, facilities and details". Professional field: 5.7. "Architecture, Construction and Geodesy", field: Technical Sciences.

Evaluation of the structure and volume of the dissertation

The dissertation contains three chapters: I. Theoretical basis of the research, II. Developed and studied examples, III. Theoretical analysis. Examination of examples, Appendix 1 - maps and Appendix 2 - glossary. The text together with the figures and tables is 305 pages, including: 123 figures, 11 tables and 39 tables in matrix form with presented data. 308 literature sources, 128 Web sources and 81 figures figures were cited.

The introductory part of the labor indicates the topic of the research, the current state of the problem, goals and objectives of the work. The author views architecture as a "natural evolutionary process." The opinion was expressed about the danger of losing architectural knowledge for the construction of traditional houses. The topic of the labor study is the methodology and classification of traditional houses around the world. The author pays attention to the construction and technological process of building traditional houses. The tasks of the research are to create a matrix template, to consider general architectural characteristics, to determine types and kinds of houses according to certain features and to create a nomenclature (naming) of traditional houses. The goals of the methodology are to outline the area of distribution of a certain type of traditional house, create maps and software with opportunities for information collection and analysis.

Chapter two contains an analytical part of the problem. The research is done according to a pre-created template of parameters for each example. The accumulation of this information is called the null hypothesis. According to the created template, 94 examples of traditional houses around the world were studied. Of these, 30 are

described in detail, which are grouped into 13 matrices. A description is made, including the device, space and composition, functional features, construction and technology. Photos, plans, sections and facades of the studied houses are shown. The used literature sources for each of the examples are indicated. After a detailed analysis, a summary is made that the following impacts can be identified: climatic, certain traditions in life, resources in the area, altitude and others. As a result of the collected information, the paramount importance of the prerequisites: climate, resources and anthropogenic.

In chapter three a theoretical analysis is made. It is argued that the null hypothesis can be expressed in the following: "every type of traditional house was formed freely under the influence of forming preconditions." They arise from the needs of man and the community. The author makes an algorithm for proving the hypothesis, including the factors and prerequisites. An author's scheme with the factors and their elements is presented. An analysis of the factors and their influence on traditional houses has been made. The resources are presented in tabular form, which are presented as a prerequisite or are defined as those with insignificant impact. The author divides the preconditions into two groups, originating from nature and from man. They affect the characteristics of the house in two ways: from the inside out and from the outside in. The types of prerequisites are presented in the author's scheme.

In point 2. Characteristics of the traditional house is given the first hypothesis: "each type of traditional house is a set of characteristics that are a consequence of proven prerequisites." The author draws a diagram of the characteristics (natural and anthropogenic) of the traditional house. The formula for form, which contains space and construction, is indicated. The construction product is considered as a collective characteristic, which contains construction, technology and material. The architectural work is accepted as a collection of architectural form and construction product. The author makes three figures (schemes), including: content of the characteristics, architectural work and alternative schemes for presenting the system.

In the third chapter, point 3, hypothesis two is given: "the traditional house is a product of natural evolution and it is possible to create a taxonomic classification system. Architectural features are used to derive taxonomy. At this point, a comparison is made between the biological features and architectural characteristics of the building. Here the author introduces the concepts of category and rank of the traditional house. An association has been made between biological features and architectural criteria. The author introduces three ranks: architectural type, architectural type and architectural family. Definitions of uniformity, similarity and rank difference of the traditional house are given. Seven schemes of families with different utilitarian structures and architectural composition are presented, which summarize the most typical examples. Examples of families of houses according to their utilitarian structure, houses of one family and houses of one type are shown.

The volume of 305 pages for the development of the dissertation topic is many times higher than the required volume. The structure speaks of a good division and interdependence of the parts of a dissertation related to the topic who is being developed.

Assessment of topicality of the problem

The work has achieved its goal by creating a methodology for collecting, comparing and analyzing information about traditional houses around the world. Figures, tables and diagrams were used to illustrate the material. To prove the author's thesis, a scheme was made - "Evolutionary tree of traditional houses". The developed methodology provides an opportunity to study, systematize and classify traditional houses around the world. The ultimate goal of this work is relevant - the creation of an "Online Encyclopedia of Traditional Houses", which can be supplemented and updated.

Assessment of the main contributions of the doctoral student

The main contribution of the dissertation is the creation of a methodology for data collection and classification in a matrix. An opportunity for systematic analysis and research approach has been created. A world map with zoning and origin of traditional houses has been made.

Assessing the main contributions of the doctoral student, it can be said that the dissertation can be used by designers to get acquainted with the technical features and properties of traditional houses for the practical application of knowledge.

Critical notes and recommendations to the doctoral student

In formulating contributions, they can be divided into scientific and applied. The attached maps are illegible and it is not clear what conclusions are reached. I recommend the colleague to continue his teaching activity and to apply the accumulated research experience in his future work

Conclusion

Architect Kliment Radoev with this dissertation goes into detail in the problems of traditional residential architecture around the world. Having in mind everything said in the consistent evaluations, critical remarks and recommendations to the doctoral student, I accept that the dissertation meets the content and form of the requirements for the dissertation. I give my **positive assessment** and recommend to the members of the jury to award the architect Kliment Radoev the degree of "Doctor" in the scientific specialty "Architecture of buildings, facilities, structures and details", professional field 5.7. Architecture, Construction and Geodesy.

Reviewer:

02.02.2022 г.
Sofia

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(Assoc. Prof. Dr. Arch. B. Mancheva)