


## REPORT

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### ABOUT:

Dissertation for obtaining the educational and scientific degree "Doctor" in the professional field 5.7. Architecture, construction and geodesy, scientific specialty (doctoral program) "Architecture of buildings, facilities, structures and details" with the author - Ph.D. student arch. Kliment  Radoev, a Ph.D. student at the Department of Urban Planning, Theory and History of Architecture, VFU "Lyuben Karavelov" - Sofia.

The proposed Report was developed in my capacity as a member of the Scientific Jury for the defense of the dissertation of Kliment Stefanov Radoev, architect, appointed by Order No. RD-00011 / 17.01.2022. of the Rector of the Lyuben Karavelov Higher School of Civil Engineering, Sofia.

The dissertation is on the topic: "Method for Studying of Vernacular Housing Structures and Technologies Worldwide."

The dissertation contains 332 pages and consists of three chapters, References, a List of publications and reports of the author, and 2 Appendices. Contains 123 figures and 11 tables developed by the author.

The used literature contains 356 sources, including monographs, conference reports, articles and publications in print and electronic media.

The order for enrollment in doctoral studies in self-study is №173 / 11.03.2019. The order for enrollment is №58 / 30.01.2020. The Extended Department Council was held on 09.11.2021, according to the Order of the Rector of VFU "L. Karavelov" - Sofia №685 / 02.11.2021.

**The research topic** is the creation of a methodology for research and classification of vernacular houses worldwide, a unified system that will enable researchers and professionals to work and add new information to the database in an open-source format. It enriches the information with data from the object's location selected for research. According to the author, such a single system is an imperative condition for storing and using data on vernacular houses around the world.

**The relevance** of the dissertation is due to several main reasons. One of them is the mentioned great variety of research concerning mainly the architectural image of the houses, the way of life, the traditions and customs of the people who have inhabited them or are currently living, the materials from which they are built. Another important conclusion from the research of arch. Radoev is that although composed by professionals, the texts describing various vernacular houses remain popular and intended for the public. The author notes significant works by authorities such as Roderick J. Lawrence, Paul Oliver, Jonatan Van Lengen and others, which have served mainly as the basis for many studies, including those discussed here. Arch. Radoev emphasizes his desire to present a balanced analysis, uniting both the broad scale of the study (all houses in the world) on one hand and on the other - the architectural properties of buildings, including from a structural and technological point of view.



**The research aims** to create a theoretical form of a unified system/taxonomy/, including the classification and nomenclature of vernacular houses worldwide.

**The subject of the research** is the creation of the method. This method gives the base and structure the vernacular house's information around the world is accumulated, researched and systematized.

The research sets the following tasks:

- Gathering complex (balanced) information about the architecture of vernacular houses.
- Defining common premises led to the existence of a type of vernacular house.
- Determining common architectural features representing the essence of a vernacular house type.
- Study of the significant relationships between premises and properties. Their degree of importance. Their gradation in taxonomic systems.
- Arranging the studied categories in a system representing a theoretical model of the methodology for research of vernacular houses.
- Creating and improving a matrix template through which vernacular houses are explored.
- Creating a matrix through which the knowledge of vernacular houses is systematized.
- Determining types and kinds of houses to them according to specific properties. Naming. Defining rules for creating a nomenclature of vernacular houses.

**The object of the dissertation** is the vernacular houses around the world

**The dissertation's methodology** includes in its completed form whole groups of developed examples (real object of research) to be used for research, analysis and conclusions. Such a system will allow for adjustments and additions. The methodology is oriented towards vernacular houses around the world without geographical restrictions.

- Establishing the properties and connections between them qualifying vernacular houses;
- Establishing the interaction of the premises and properties of the house
- System (taxonomy) for establishing the type, type and family of a vernacular house, which are determined by specific properties;
- Nomenclature (naming) of buildings.
- Area of the house. Outlining the area of distribution of a particular species, family type vernacular house;
- Creating maps.
- Creating software for collecting information and analysis of houses and groups with different parameters to achieve specific results;
- Author's analysis. Reaching conclusions that acquaint with the course of various processes over time: the formation of the house, the establishment of construction and construction technology. Introducing the idea of the evolution of the vernacular house;

### **General analytical characteristics of the dissertation**

The research is systematized in the following main chapters:

Chapter I: "Theoretical basis of the research"

Chapter II: "Developed and studied examples"

Chapter III: "Theoretical analysis"



Annex 1 - Maps  
Annex 2 - Glossary

In the **first chapter** of the dissertation, the author determines the topic, relevance, purpose, subject, scope, and methodology of the proposed research described above.

**In Chapter Two**, the author presents the examples developed and studied by him, creating his template in which he enters the vital information collected by him, namely - name, continent, region, ethnic group/language group, society, construction resources, climate/environment, habitat, area, scheme, materials, tools, production time, requirements, device, space and composition, functional features, construction, technology and material.

In the process of work, the parameters in the template are modeled, and as a final result, the author has a complete template called a "matrix".

Ninety-four examples were studied, of which 30 were developed in detail, which is evidence of the high professionalism of the study.

**In Chapter Three**, the Ph.D. student performs a theoretical analysis by raising three hypotheses (zero, first and second). Examining each of them, relying on his system for classifying vernacular houses through tabular data presented and collected by him, the author confirms the correctness of his hypotheses and states them as such. The last "second" hypothesis in which architect Radoev states that the vernacular house is a product of natural evolution and can create a taxonomic classification system is of particular interest. After studying four types of taxonomic systems, the author chooses to use "hierarchical discrete taxonomy". The reflections of Radoev follow the following categories - family, type, kind and sub-kind. Considering the building as a subject and not an object, as usual, should be provided with a particular attention. This paradigm shift is also exciting in terms of man's role as a tool. Essential conclusions about the vernacular house as a source of knowledge follow from here. One more statement informs that sustainable development is possible within their silver line. The author emphasizes that these traditions should not be blindly imitated but rather serve as inspiration for a more in-depth approach by designers.

**The contributions of this study**, according to the Ph.D. student, are:

**The main contribution** is the creation of a methodology for data collection and classification in a matrix, thanks to which they can:

- To be systematically analyzed
- Creating a taxonomy and creating a world map with vernacular houses around the world, their zoning and origin;
- Complex, complete and balanced approach to research;
- The possibility for in-depth study of their premises, properties, taxonomy, history and origin in order to form theoretical concepts and perspectives;
- Research of the technical features and properties of vernacular houses for the practical application of knowledge.

The creation of a collection that collects in one place data about vernacular houses, the premises that created them and their properties is another contribution.

The taxonomy and naming system created by the author is an important contribution

### **Evaluation of dissertation publications.**

Scientific publications in not-referred journals with scientific review:


- 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;
- Radoev K., (2020) Application in the environment of vernacular structures, XX International Conference on
- 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-Print
- Radoev, K. (2019) Theoretical Methodology for Classification, Systematization and Research of Architectural Structures, IX International Scientific Conference ArCive 2019, Varna, Bulgaria.
- Radoev K., (2019) Classification system for integrated research of architectural structures and elements of the building, XIX International Conference on Construction and Architecture, VFU "L. Karavelov", Sofia, 17 - 19.10.2019

### **Recommendations.**

I recommend that the dissertation be published as a separate monograph.

### **CONCLUSION**

The conclusion is indisputable that a qualitative and valuable dissertation for theory and practice has been developed. The author shows with this work that he can analyze, summarize and synthesize the problems, formulating proposals and conclusions for the theory and practice in the field.

All the above gives me grounds to accept the dissertation of Kliment  Radoev as completed, according to the requirements of the Law on the Development of Academic Staff in the Republic of Bulgaria (SG, issue 38 of 21.05.2010, with subsequent amendments), the Regulations to him and the normative documents of VFU "Lyuben Karavelov", Sofia

As a member of the Scientific Jury, I give my positive vote "YES" awarding the educational and scientific degree "DOCTOR" to Kliment Stefanov Radoev



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Assoc. Prof. Arch. Plamen Petrov, PhD

Varna, 17th February, 2022