

REVIEW

On a dissertation work for obtaining the educational and scientific degree „**doctor**“ in: field of higher education 5. Technical sciences, professional field 5.13. General engineering, scientific specialty „Ergonomics and industrial design“. Procedure code: **WWI – EdSc – 0422 – 38**.

Author of the dissertation: eng. Ralitsa Georgieva Stavreva-Pancheva, full-time doctoral student at the Department of Interior and Furniture Design at the Faculty of Forest Industry of the University of Forestry, Sofia.

Dissertation title: „Design and problems of small urban dwelling for one occupant“.

Scientific supervisor: Assoc. Prof. Dr. Arch. Stela Borisova Tasheva.

Member of the scientific jury: Prof. Dr. Arch. Orlin Slavchev Davchev, University of Architecture, Civil Engineering and Geodesy (UACEG), Sofia, field of higher education 5. Technical sciences, professional field 5.7. Architecture, Construction and Geodesy, scientific specialty „Synthesis of architecture with other arts, interior and architectural design“, appointed a member of the scientific jury by order **ZPS № 161/11.04.2022** by the Rector of University of Forestry and elected for reviewer of the dissertation at the first meeting of the scientific jury, held on 15-th April 2022.

1. Brief introduction of the candidate

Eng. Ralitsa Georgieva Stavreva-Pancheva graduated with a Master's degree in Engineering Design (Interior and Furniture Design) with a professional qualification of Master of Engineering in 2004 at the University of Forestry, Sofia, Faculty of Forest industry. Since 2003 she has acquired extensive professional experience in various furniture and construction companies in the preparation of interior projects and management of their implementation. In 2014 she founded „RS Interiors“ Ltd., where she is Chairman of the Management Board and project manager, whose main activity is interior design and execution, production and delivery of furniture. In 2019 eng. Ralitsa Stavreva-Pancheva is enrolled as a full-time doctoral student at University of Forestry, Faculty of Forest industry, Department of Interior and Furniture Design.

2. Relevance of the problem

The consideration of the contemporary housing forms as a part of overall life system of the rapidly changing world and the analysis of their development is a topic of utmost importance, especially in the perception of small dwellings in urban structures as a tool for dealing with major global changes, among which some demographic changes, economic preconditions and ecological problems, as the lack of generalizing work in relation to them and their impact on changes in the type and shape of housing structures, argue the need for this study. The need to develop the issue is determined also by the change in the demographic structure of the population, which involves analysis of the demographic image of society and identification of consumer groups corresponding to contemporary housing forms in the sense of the dissertation. Their analysis and systematization makes it possible to establish their current requirements for their living environment, thus giving the opportunity to derive

correct guidelines for furniture and interior design in the context of a small dwelling for one occupant in an urban environment in accordance to their specifics.

The development of the topic, especially for the Republic of Bulgaria, is of considerable relevance due to the lack of sufficient information on the issue here. Examining the small dwelling in an urban environment, its interior, furniture and revealing the trends related to them is especially actual because of the potential of the generated results, which can make a significant contribution to solving important social issues in terms of the dynamically changing demographic, economic and environmental picture. The research also focuses on conducting an author's research in order to study the attitudes of Bulgarians towards the contemporary form of the small dwelling, its interior and furniture. The necessity for the study is argued also by the lack of a systematic album with a typology of specific furniture and solutions designed to organise the interior environment of small living spaces.

3. Degree of knowledge of the state of the problem and creative interpretation of the literature review

The doctoral student makes a deep analysis of the state of the problem, studying both Bulgarian and foreign experience in the following directions: connection between home and man in emotional and psychological aspects, residential buildings and typology of housing units, available housing stock in Bulgaria and worldwide, interior living environment and design for furniture purposed for the small dwelling. This allows the author to conclude that in the field of interior design and furniture for the living environment have been worked a lot over the years. Systematized scientific literature and numerous works of a popular character are available. As far as the topic of the present study is concerned however rather illustrated albums, magazines and catalogues dominate while publications and materials related to in-depth research on specific issues are rather scarce. Therefore, the lack of actual issues in the field determines the innovative character of this study on „Design and problems of small urban dwelling for one occupant“.

4. Purpose, tasks, hypotheses and research methods. Correspondence of the chosen research methodology with the set goal and tasks of the dissertation work

The set in the dissertation work goal of research concerns the defining the place of the small urban dwelling in the contemporary housing paradigm in the context of demographic, economical and ecological prerequisites and factors influenced its evolution in order to reveal the trends in interior and furniture design and to develop guidelines for the environmental design corresponding to the needs of the identified user groups.

In order to achieve the formulated purpose a number of tasks are solved, each of them is revealed in its entirety.

Object of research is the contemporary small dwelling in an urban environment designed for one occupant. Subject of research is its architectural image and interior environment, trends and prospects of their sustainable development.

In the dissertation work general scientific research methods are used in combination of their three main groups: general-logical, theoretical and empirical. The chosen research methodology fully corresponds to the set goal and tasks of the dissertation work.

5. Visualisation and presentation of the obtained results

The set tasks in the dissertation work are fulfilled and the goal is achieved. The results and conclusions can be summarised as follows:

- Factors and preconditions that influenced the evolution of the small urban dwelling intended for one occupant have been studied and analysed. The interconnected, demographic, economic and ecological preconditions accompanying its development are systematized and summarized. Dependencies in connection with the demographic changes in the structure of the society and tendencies with significant influence for the formation of its contemporary appearance and future development are revealed. Its place and purpose in modern urban society are determined.

- Typologies and characteristics of the small dwelling depending on the studied region are revealed, as well as the significant benefits of modular high-rise buildings and their adjacent modular housing units compared to conventional construction methods, proving their potential for building a sustainable urban environment.

- A unified definition and classification of the contemporary small urban dwelling is composed.

- The attitudes of Bulgarians towards the small urban dwelling, its interior and furniture are empirically studied and subjected to a complex statistical analysis. Their interest in it is revealed and the motivating characteristics are outlined. Numerous connections and dependencies are established, for the understanding of which a comprehensive statistical analysis is made.

- The specific features of the established main consumer groups of the contemporary small urban dwelling have been studied and analysed.

- A comprehensive author's classification of guidelines for designing the living environment of the contemporary small urban dwelling has been compiled, paying attention to the needs of its occupants established in the present work and as a possible solution to deal with the identified problem related to its reduced space.

- Innovative solutions for designing the living environment of the small dwelling are analysed and systematized and the possibilities for creating an effective interior design are clarified. The contemporary view of transformable multifunctional furniture and systems is revealed, as well as the potential of innovative technologies for creating an optimal and sustainable living environment.

- An illustrated album of contemporary furniture solutions and systems is developed in the form of Annex „B“ – as an integral part of this dissertation work.

6. Discussion of the results and used literature

The results obtained by the doctoral student are presented correctly and fully correspond to the goals and objectives set in the study. Based on the significant volume of summarized, systematized and analysed Bulgarian and foreign literature and factual information, it is possible to trace the state of the problem on a large scale, which in turn allows to extract many dependencies and patterns. In this way, specific consumer groups are identified with regard to small dwelling in urban areas, which outlines the main research direction for discovering its possibilities both in terms of building a harmonious environment with attention to human well-being and as a tool for dealing the global demographic, economic and environmental problems identified in the study.

The set tasks are fulfilled and based on the achieved results of the research activity it is proved that the small urban dwelling for one occupant has the potential to provide a harmonious living environment with attention to human well-being regard-

less of its reduced area, and that it provides an opportunity to deal serious global demographic, economic and environmental problems, which in fact determines its undeniable present and future existence.

7. Contributions to the dissertation work

The present dissertation work owns its significance in terms of summarized and systematized information in the context of the rapid global changes and worrying trends that humanity has witnessed in recent decades and the established potential of small urban dwelling to deal with them. The scientific significance of the dissertation work and the tasks performed in it is fully revealed in the field of engineering and interior design. The work is also useful for researchers in the field of architecture and housing design, as well as for administrative bodies monitoring the current housing needs of society.

Scientific contributions

- The place of the small urban dwelling for one occupant, its architectural image and interior in the contemporary living environment is revealed. Factors and preconditions that influenced its evolution are examined, analysed and systematized. Dependencies in connection with the demographic changes in the structure of the society, economic and ecological tendencies with significant influence for the formation of its contemporary appearance are revealed. Prospects for its sustainable development are outlined. This subject and object of research has not been developed so far in our country, and in terms of world science, research in the field is rather incomplete and insufficient.

- The potential of contemporary small dwelling in urban areas as a tool to deal with identified in this study demographic, economic and environmental problems – part of global changes and worrying trends that humanity has witnessed in recent decades is proven.

- Two main consumer generation groups with regard to the contemporary small urban dwelling for one occupant are revealed and their specific features have been established. Clarifying the characteristics of the occupants of the small dwelling in an urban environment makes it possible to outline the specifics of their needs in connection with the organisation of its interior space, which will ensure their well-being to the highest degree.

- Complex information from many foreign resources, which are characterised as reliable sources has been studied, analysed and summarized. Based on this, a unified definition and classification of the contemporary small dwelling for one occupant in urban environment is created, which was currently missing, and the gap in the field on the territory of Republic of Bulgaria in the context of the compiled multicomponent database in Bulgarian language in the sense of the entire dissertation work is filled.

Scientific and applied contributions

- A strong connection is established between certain geographical areas and the identified demographic, economic and ecological factors underlying the concept of the development of the contemporary small dwelling for one occupant in an urban environment. Based on this huge information have been systematized and a complex factual analysis is performed. This makes it possible to clarify the characteristics of the small dwelling depending on the studied region and in the context of the identified consumer groups.

- Typologies of the contemporary small urban dwelling have been revealed and systematized, distinguishing two main forms of housing: an independent housing unit and a single room – both part of multi-storey housing structures.

- The typology of housing forms in the context on the topic of dissertation work is clarified which makes it possible to establish the advantages of modular built ones over conventionally built especially for the environment and for dealing with the local housing crisis.

- A methodology for conducting a pioneer empirical study has been developed as a result of which multi-component results have been obtained. Connections and dependencies, regularities and tendencies have been established, which could be useful both for the national furniture and construction industries as well as for the society as an information base for better regulation and management of social, demographic, economic and ecological processes, as well as for better construction of the living environment of small dwelling and contribution to the well-being of their occupants. The contribution of the empirical research also consists in outlining the direction for conducting further research at the national level, which will supplement the achieved results and affirm the place of the small dwelling in the cities of the Republic of Bulgaria.

- Innovative materials and technological furniture solutions have been revealed and systematized as a means of dealing with the identified in the work problem in connection with interior environment on small dwelling – its reduced living space. The possibilities for creating an effective interior design have been clarified. The contemporary character in the context of „space saving“ of transformable multifunctional furniture and systems is discovered, as well as the potential of innovative technologies for creating an optimal and sustainable living environment.

- Complex guidelines for the design of the living environment of the small urban dwelling are developed in accordance with the established specifics of the needs of its identified in this study consumer groups – occupants.

Applied contributions

- An album of contemporary examples of furniture solutions and systems visualised with illustrative material which would be useful for updating and enriching the training in Engineering Design at the University of Forestry, Sofia and other interested parties in the field of interior and furniture design is developed.

- A structured questionnaire has been developed as a key tool for gathering empirical information which would be useful for further researches.

- A comprehensive statistical analysis of the data from the conducted empirical research was performed which can be interpreted in a wide range of fields.

8. Assessment of the degree of personal participation of the doctoral student in the contributions

From the submitted review materials I can conclude that the dissertation on the topic: „Design and problems of small urban dwelling for one occupant“ for the award of educational and scientific degree „Doctor“, is an original work and contains original results obtained in research conducted by the author with the support and assistance of the scientific supervisor. The results obtained, described and published by other scholars are duly and in detail cited in the text and bibliography – an integral part of present dissertation.

9. Critical remarks and questions

The dissertation work is a widely, significantly in volume and well-structured study. A very current topic with interdisciplinary focus on various areas of practice – architecture, construction, interior and design, ecology, economics, statistics and demography are concerned. All the tasks set by the doctoral student have been fulfilled by applying a thorough, diligent and precise scientific approach. Extremely precise and responsible work has been done, and the author has done it at an enviably high level. I do consider the dissertation work to be totally completed, and fully supporting and accepting the author's contributions to it.

10. Published articles and quotations

Eng. Ralitsa Stavreva-Pancheva presents scientific production for the period from 2020 to 2022. The presented scientific publications correspond to the profile of the author's research and are related to the professional field and the scientific specialty. The published articles present the author as an active researcher and are evidence of knowledge of theory and practice in the field. In them she shows the ability to analyse problems, to make summaries and conclusions with „scientific and applied“ and „applied“ contributions, which can be used in teaching and creative activities of the author, as well as other practitioners.

11. Evaluation of the dissertation work publications: number, nature of the publications in which they are published. Reflections in science – use and citation by other authors

In connection with her dissertation work on topic „Design and problems of small urban dwelling for one occupant“, the author eng. Ralitsa Stavreva-Pancheva has one (1) publication in a contemporary Bulgarian scientific edition, referenced and indexed in world-famous databases with scientific information and seven (7) publications in contemporary Bulgarian scientific editions with scientific review. The presented abstract reflects correctly and objectively the structure and content of the dissertation work.

CONCLUSION:

Based on the different research methods presented by the doctoral student, the summaries, conclusions and contributions done, I do consider that the presented dissertation work meets the requirements of the Act on Development of the Academic Staff in the Republic of Bulgaria and the Rules of the University of Forestry for its application which gives me reason to evaluate it **POSITIVELY**.

I do allow myself to suggest to the honoured Scientific Jury also to vote positively and to award to **eng. Ralitsa Georgieva Stavreva-Pancheva**, the educational and scientific degree „**Doctor**“ in the scientific specialty „Ergonomics and Industrial Design“.

Sofia, 29-th May 2022

REVIEWER:
Prof. Dr. Arch. Orlin Slavchev Davchev