IDENTITY OF 20TH CENTURY ARCHITECTURE IN YUGOSLAVIA: 
THE CONTRIBUTION OF MILAN ZLOKOVIĆ

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Abstract: This paper addresses the question of developing the Yugoslav identity through the work of Milan Zloković, who significantly marked modern architecture in Yugoslavia. According to Ignjatović (2007), there are three main paradigms concerning the development of Yugoslav identity in architecture: primordial, syncretic and universal. In this paper, we argue that Zloković's opus belongs to the primordial as well as the universal system of knowledge. He was devoted to modern ideas correspondent to Yugoslav political vision of the time. The contribution of Milan Zloković to shaping the Yugoslav identity in architecture has been researched through his main fields of interest in architectural theory – (1) traditional architectural values of Balkans and (2) proportional systems and modular coordination – and its complex expression in his (3) architectural practice of public buildings. Zloković has never divied his theoretical standings from his endeavours to apply them in his practical work.

Keywords: Milan Zloković, identity of architecture, Balkan patrimony, Yugoslavia, contemporary architecture

I. INTRODUCTION

"His [Milan Zloković's] work is the very substance of Serbian modernism, and his buildings form the most coherent testimony to the ethos of the epoch." (Blagojević, 2003: 191)

Milan Zloković was born in Triest in 1898, where he also finished the elementary school and Realschule in German language. Since the war interrupted his education at the Technical College in Graz in 1915, he gained the diploma of the Technical faculty in Belgrade. Due to the after WWI endeavours to affirmate the Yugoslav youth in the Educational sector, Zloković had studied one year at l'École Nationale Supérieure des Beaux-Arts in Paris on a grant from French government. Next year he was bursar of the Ministry of Education of the Kingdom of Serbs, Croats and Slovenes. He attended lectures in Bysantine and Serbian medieval art and courses in drawing in France. He became a staff member on the Technical faculty in Belgrade [1] in 1923, where he lectured until his death in 1965 (Blagojević, 2003: 226). In 1928 Zloković
cofounded the Group of Architects of the Modern Movement, with the overall goal to promote the modern architecture in Serbia. In 1934 the group was dismissed with an explanation that it had achieved its goal.

Zloković gained numerous awards on the architectural competitions. Forty of his projects were realized - from apartment house to public buildings. During the WWII occupation, he had fewer chances to realize his projects. Although he never neglected his building practice, in this period he was more committed to the theoretical work. He kept track of the architectural development all over the world and considered himself the true follower of Le Corbusier, but also interested in Italian rationalism and Russian constructivism. Thus, after the war he published a significant number of scientific articles.

This paper addresses the contribution of Milan Zloković to issues related to architecture, as one of the constitutive elements of Yugoslav identity (Ignjatović, 2007: 13). According to Ignjatović (2007), Yugoslav identity in architecture was shaped in frameworks of the three paradigms – primordial, syncretical and universal. We argue that Zloković developed his thoughts about future development of architecture as a part of not strictly one paradigm. Therefore, we considered the work of Milan Zloković through three main thematic areas he worked on: (1) a theoretical research and application of the elements of traditional architecture in Balkans, (2) proportional systems in theory and practice and (3) design and realizations of the public buildings. His theoretical standings and professional practice were always interlaced, as well as the paradigms in which the Yugoslav identity in architecture was developed.

II. YUGOSLAVIAN IDENTITY IN ARCHITECTURE

Culture is the key determinant of each social identity, because it presents the conceptual machine in the process of its construction. The architecture, as an important part of culture, participates in establishing of collective identities. As a system of knowledge and the ideological structure, Yugoslavism was built in culture, science, politics, but also in a domain of architecture which constructed in legitimized each social reality and each ideology. The identity of Yugoslavism was systematically constructed by the correspondent ideologies of Yugoslavism – the complex and structured systems of knowledge (Ignjatović, 2007: 13-33).
During the development of ideologies of Southslavic nationalisms – from the middle 19th century to the beginning of WWI – there was no consensus on criteria for the selection of architectural features of national identity. Nevertheless, there were several attempts to include architecture in this process (Ignjatović 2007: 317). Palavestra described after WWI Belgrade as a city with a strange social image, "Balkan nightmare", in which coexisted enlightened strata of society and the prevailing authentic folk populations, with different standards and the spiritual, intellectual and artistic demands and needs (Palavestra 1994 cited in Perović 2003: 75-76).

Therefore, Yugoslavism ideologies were simultaneously present, mutually intertwined and occasionally opposed and architectural policy was not consistent until the beginning of WWII (Ignjatović, 2007: 455).

Ignjatović has researched systems of constructing and representing the knowledge on Yugoslavism in architecture. His research question was why and how certain cultural elements of different historical epochs became suitable forms of Yugoslav, ethnic, racial and cultural identity (Ignjatović, 2007: 60). He argued that the construction of Yugoslav identity in the discourse of architecture stabilized through three dominant paradigmata: Primordial, Syncretic and Universal. Each architectural text of the period could belong to more than one paradigmatic frameworks, which make it subjected to various interpretations.

Primordial paradigm of Yugoslav identity developed by the widest range of its representative architectural forms. Primordial focus on the knowledge of Yugoslavism included the highest number of identical types – racial, ethnical, national and cultural. Thus, only premordialism (not syncreticism nor universalism) was suitable for the “forced expression of the fiction of Yugoslavism as an autonomous cultural phenomenon” (Ignjatović, 2007: 456).

In order to form the new “autonomous Yugoslav civilization” (Cvijić, 1965: 251) the authenticity was searched for in vernacular mobilization of folklore ornaments (Cvijić, 1965: 121-22) in the time “when all of us [Croats, Serbs and Slovenians] were pagans and had our old Slavic blood” (Savić 1922: 100). After the WWI the Yugoslavisation of architecture of modernism started in order to solve the identity crises that appeared after the foundational reconstruction of European geo-political system (Ignjatović, 2007: 232). The rapid breakthrough of modern architecture in a conservative environment such as Serbia, was possible due to series of circumstances. The crucial point was the introduction of 6 January dictatorship of King Alexander I Karadjordjevic, which supported the legalization of the break with the past (Ignjatović, 2007: 233). That way, the modernism breakthrough was a constitutive discourse of the ideology and political course change in the Monarchy.

The rapid population growth and the development of Belgrade in third decade of 20th century, divided the architects on the further urban strategies. National style and academism were propagated, as well as the modern architecture. Four young architects - Kojić, Zloković, Dubovy and Babić – founded the Group of Architects of the Modern Movement in 1928, with the overall goal to promote modern architecture in Serbia. Their demands were formulated in a pragmatic and non-political speech about the need to find an authentic “national” style: “As the pressing need for better architecture in Belgrade, it is necessary to create our style. (...) Belgrade has to seek self-expression in a free work and unbounded creation.” (Kojić 1929). Belgrade modernist advocated the architecture as
the expression of “cultural level of a nation” that propagates the general and “social equality” (Zloković, 1933 cited in Ignjatović, 2007: 275). In the first decades of architectural modernism development in European culture functionalism, abstraction and social programs were questioned. Since “the foundation of social program is the understanding of architecture as a tool for social reform”, Perović pointed out that the development of modernism can be considered from the visual and ideological point of view (Perović, 2003: 74).

Modernism in Yugoslavia had its non-historicists metamorphosis through the binding to the omnipresent vernacular building. The relation of the principals and elements of modern architecture with the local, Balkan, profane building (that already passed through the process of “Yugoslavisation”) created the idea of belonging of Yugoslav culture to the universal system of values of contemporary Western civilization (Ignjatović, 2007: 243). Until the WWII, it has being searched for the authentic elements of architecture under the cultural deposits of East, West, Byzantium and Ottoman Empire. After 1941, the ideology that strived to remove the boundaries of ethnic and cultural dichotomy among Serbs, Croats and Slovenians, definitely burned out and primordial focus was suppressed.

Syncretic paradigm implied the concept of knowledge as the synthesis of diversity. The model of Yugoslavian identity, as a “unity in diversity” of races and ethnicities, was a necessary condition to maintain the particular regional identities. The epistemological framework of syncretic paradigm is summarized in a formula: the external unity versus the internal synthesis of diversity (Ignjatović, 2007: 369-71). Since identity never manifests isolated but through the interaction with other identities, the image of Yugoslavism was built in relation to the particular identities (Ignjatović, 2007: 350).

Universal paradigm was a common manifestation of culture in almost every European nationalism. Concerning the building of the Yugoslav identity, universal paradigm implied the step forward from the traditional local values and provincial character in order to provide Yugoslav culture to stand side by side with developed, civilized and progressive cultures, stated and nations of European West (Ignjatović, 2007: 428). This need for emphasizing the deep connection with the cultural and political heritage of West, so Yugoslavia could join the European society of “civilized”, was also confirmed with the Vidovdan Constitutions (1921) and Octroyed Contitution (1931), as well as in the historicist architecture of state palaces built in Belgrade between two World Wars.

III. MILAN ZLOKOVIĆ: ORIGINAL CONTRIBUTION TO BUILDING THE YUGOSLAVIAN IDENTITY IN ARCHITECTURE

“The key to Zloković's game is in his work, in which the practices of modernity and tradition, and of design and theory, are interrelated, without either claiming precedence over the other” (Blagojević, 2003: 197).

Remarkable influence of geometry was built in the strong architectural identity of Adriatic coast, where Zloković grew up admiring harmony and poetry of numbers and developing mathematical approach. His early studies of traditional architecture and experiments with its elements in his own designs were a necessary step so, later on, he could claim his preference in favour of Modern Movement’s expression. The studies assured him of the great
importance of "the science of proportions" (Zloković, 1955: 85) and the needs of contemporary architecture.

In order to illuminate Zloković's contribution to building the Yugoslavian identity in architecture, we divided his work in three main fields due to chronological order they appeared in public: (1) Traditional architecture, (2) Proportional systems and Modular coordination studies, and (3) Public buildings.

A. Traditional Architecture

Zloković considered the critical review of customs and traditions as one of the basic principles in the process of architectural creation. Therefore, he wrote: "Architecture from East left a powerful and useful clues in Yugoslavia. In the existing traditional architecture, there can be discerned new and important moments for the progress of the Yugoslav architecture." (Zloković, 1940: 262)

He was fascinated by architectural ethnographic expedition which included tours of the old Balkan cities like Ohrid in Macedonia, old cities of Kosovo and Metohija and Montenegrin coast. During the summer in 1923 Zloković joined Vladimir Petković's expedition and visited Ohrid and Prespan districts, collecting data for "twelve different monuments, mostly from Slavic and Byzantine epoch" (Zloković, 1925: 115-149). Afterwards, he continued this kind of terrain research, regularly publishing his conclusions and comments [2]. However, the mostly elaborated and illustrated article on Balkan wooden architecture is considered to be lost [3].

Zloković’s pre-war work is based on the studies of traditional heritage, as well as the studies of modern architects. In traditional stone houses of Boka Kotorska he had researched "the economy of space and object", as well as "great rules of harmony and proportion set in stone by anonymous old master craftsmen rather than to evoke nostalgia for patriarchal handicraft culture" (Blagojević, 2003: 194). Zloković argued that vernacular architecture exceeds the limits of ordinary folklore, thus it offers "new moments of great importance for the progress of contemporary Yugoslavian architecture" (Zloković, 1940). This illustrates the primordial character of modern architecture, which took part in the general structure of the Yugoslav myth of continuity - "perhaps the strongest motivational factor of any nationalism" (Ignjatović, 2007: 246).

Traditional values are incorporated in several architectural achievements of Milan Zloković. The search for his own architectural expression began with competition projects for the Pavilion of the Kingdom of SCS designed for the Exhibition of decorative arts in Paris, 1925 and the Pavilion in Philadelphia, 1925. Both projects have similarities: flat facades with no ornaments, hipped roofs with wide protruding eaves and vaults. The design of Paris pavilion, with folkloristic motifs and decorative chimney head, was followed with the motto, "Through the people towards a new art".

Fig. 2 Exhibition of decorative arts in Paris, 1925, drawing by Zloković (Source: Manević, 1976: 289)
However, his contemporary critics find that, in some of his works with complex modernist/romantic characteristics, Zloković achieved additional value by combining simple shapes of modern as well as traditional architecture (Anonymous, 1929). On the other hand, his work around 1930 was criticized to vary between sentimental gentle historicism and modernism’s rationality (Manević, 1989: 16).

Villa Zloković (1927-28) was the anticipation of the birth of the Modern Movement in Belgrade. The traditional design elements were transformed in the modern expression, losing the obvious relation with the heritage – ornaments and hipped roof, but still keeping the inbuilt principals of proportions in windows openings and cubic architectural composition.

B. Systems of Proportions and Modular Coordination

In his work, Zloković reflected the ancient thought that held geometry as characteristic to the nature, not just the framework for describing one. He considered the measure and number in architectural composition crucial for achieving the harmony. Thus, he criticized the contemporary use of proportions “based solely on the artistic intuition and a sense of proportion or just the use of pleasant ratios, something innate, and something that cannot be and must not be mastered by reason” (Zloković, 1955: 82). Although, he shared his viewpoint with many contemporary architects (Auguste Perret, Frank Lloyd Wright, Le Corbusier, Mies van der Rohe), he was aware that the fight in favor of the application of the proportions has just started (Zloković, 1955: 85).

During the WWII, Zloković was marginalized and thus unable to work. Therefore, he dedicated himself to theoretical work, mostly studying systems of proportions and modular coordination. Although he followed the ideas of Le Corbusier, who offered more rhetorical and less rational arguments, Zloković’s work was very systematic and mathematically precise. Le Corbusier’s Modulor was published in 1949, but with a mathematically incorrect setting. When the error was mathematically proved, Le Corbusier faced it in quite poetical way without showing the will to improve it. However, Zloković provided a concrete proposal how to overcome the problem of fractioned numbers of Corbusier’s blue and red sequence for the metric measuring system (Zloković, 1960).

After the WWII, an important economical issue of prefabrication have risen in the world and Yugoslav architectural scene, related to the problem of building a large number of housing units in a short period of time. Zloković was among the first who dealt with the problem of modular coordination of measures in architectural design. The modular coordination is a system of dimensional coordination of building elements in order to enhance productivity and decrease building expenses. He advocated the use of
anthropometric measures, rather than metrical system, and worked on adjustments of international standards. Zloković here also demonstrated the importance and power of geometry and traditional principles, arguing that this method leaves a wide range of choice to a designer, without putting in a danger his creative freedom. He had participated in numerous international meetings - International Organization for Standardization (1957), European Productivity Agency (1957), Conseil International du Batiment (1959) and International Modular Group (1960-63) – and published his studies in various journals and international conferences as the official Yugoslav representative for Modular Coordination in architecture (1946-65).

After thorough research, Zloković was aware that the science of proportions does not belong to the past, but like all sciences, it leaves room for new scientific contributions and achievements. He tended to prove that the presence of proportional system and harmony in architectural design is not conditioned by the style or period of construction. His most important researches were focoused on detailed mathematical and geometrical analyses of the, according to him, two key proportional systems: the rational harmonic system (the musical harmony) and irrational system based on the golden section as well as their mutual relations [4] (Zloković, 1955: 65). The advantage of golden section is that it contains all other systems of proportions including the harmonic system. (Zloković, 1954).

Zloković was familiar with six different types of compasses from Ancient Greece and Rome and endeavored to interpret their possible use (Zloković, 1960). He underlined the importance of the compass whose leg length stand in a ratio 9:5 (found near Posušje, Bosnia and Delos, Greece). This ratio, as he tended to prove, offers vast compositional possibilities and stands in correlation with golden section. It played an important role in the architectural composition of the past, but also in contemporary building design, though Zloković does not mention the examples except of his own public building design (Zloković, 1954: 1002-3; 1958: 15-16; 1965: 159).

Since his contemporaries did not support his standings, Zloković’s work on proportional systems remained unrecognized. Nevertheless, Zloković expressed firm attitude despite "reservations" of the colleagues and some of his students, later professors, continued his work [5]. Due to his analysis of intuitive application of golden section proportional system in architecture of the past, Zloković derived his final recommendation for contemporary architects that proportioning is an indispensable part of the design process; such a procedure does not restrict artistic freedom and it represents a necessary tool for every modern architect (Zloković, 1954, 1955).

C. Public Buildings

Yugoslav identity in architecture is expressed in public building designs. The national political aim was to reject the provincial and local values, and stand side by side with developed, progressive cultures, states and nations of Western Europe. This demanded break with the past was confirmed with the 6 January dictatorship. Certainly, the architectural discourse was an important cultural instrument in achievement of this objective. The adequate expression for a “new Yugoslavian man” was found in the modernism which was not "burdened with established national and ethnic
imagination” (Ignjatović, 2007: 234). The breakthrough of modernism represented the constructive discourse of change in ideology and political course in Kingdom of Yugoslavia. Since public buildings were mostly ordered by the state, Zloković’s work reflected this ideological shift and the spirit of Modern movement ideas. Also, private organisations who invested in design of their headquarters, often choose the modern expression. Here we highlight only a few of his most important buildings.

In 1928 Zloković designed three public buildings: Kolarac National University, Maritime Museum in Split and Mortgage Bank in Sarajevo. The first two represented the first public buildings conceived in a modern way. Maritime Museum in Split, was exhibited at the GAMP exhibition in 1929, where Zloković was paid compliments as the most original designer, as his cubic volumetry deprived of ornaments and styles represents a postulate of contemporary expression which modern architecture should aspire to (Panić, 2011: 67). On the other hand, the Mortgage Bank in Sarajevo (in collaboration with Vojin Petrović) represented his last project with traces of academic eclectic design elements. The building is “modernization” of academicism, the basic concept that was already present in Europe in the second half of the thirties, fitting the dominating totalitarian spirit (Blagojević, 2003: 51).
In design for Commercial Hall in Skopje (1934-5) Zloković achieved “very bold iconological construction as he decided to turn the house of creative working people into a visual model of the house of creative businessmen” (Perović, 2003: 108). Despite the comparisons of this object with examples of contemporary Italian rationalism and Russian Constructivism, Blagoević refered to it as one of the most innovative works of Serbian modernism in architecture, where Zloković inverted “the traditional understanding of structural hierarchy” (Blagoević, 2003: 217). The heavy mass of the upper floors were designed to be supported by the double-height mezzanine with transparent glass façade.

The first great modernist building in the small coastal town of Risan, Health Center Risan (1938-41) Zloković affirms traditional Mediterranean architecture, but also strict proportions and modular measures. The best examples of his modernist views and original creative expression can be found in the building of the University Clinic for Children in Belgrade (1933-40) and the Elementary school in Jagodina (1937-40).
Dominating proportional ratios on the facade are 1:2 and 1:Φ.

Fig. 8 Health Center Risan, (Source: Blagojević, 2003: 95)

Fig. 9 University Clinic for Children, Belgrade 1922-40
(Source: www.skyscrapercity.com)

Fig. 10 Elementary school of Jagodina 1937-40
(Source: www.skyscrapercity.com)

School in Jagodina, completely unknown at the time of construction, is considered to be one of Zloković’s most important works, due to the extremely pure architectural expression, applied proportional system and its vicinity to Italian rationalism [6]. He used proportional ratio 9:4 which is close to 1:√5 derived from his preferred golden section proportional system.

The “Fiat” building in Belgrade (1939-40) was his last building built before the war. Although it was built at the time of the strong totalitarian ideology, the architecture of Fiat shows neither monumentalistic tendencies of the late modernism, nor ideological basis of rational architecture of totalitarian regimes (Panić, 2010: 104). Here he deviated from his earlier works, deciding in favor of white stone framed windows and the brick facade. Besides these quotations of Italian
rationalism, this building “remains deeply Zloković’s” (Perović, 2003: 109).

Fig. 11 Proportional analysis of Elementary school of Jagodina façade, based on the ratio 9:4.

Fig. 12 The “Fiat” building, Belgrade 1939-40
(Source: Manević, 1980: 50)

Fig. 13 Teacher Training School, Prizren 1960
(Source: Zloković, 1961: 49)
In 1960, together with his son George and daughter Milica, he realized the first prefabricated building in Yugoslavia - a Teacher training school in Prizren. Here he applied the modulated preferential measures based on figures derived from the ratio of 9:5, previously proved to offer the vast compositional possibilities. Moreover, the elements of traditional architecture of Prizren were incorporated in the new school building by emphasizing rough stone gable walls. Thus, the traditional and prefabricated elements were confronted in the unique expression of Zloković.

IV. CONCLUDING REMARKS

Zloković's contribution to the identity of Yugoslav contemporary architecture lies in his extensive research of traditional architectural values of Balkan, proportional systems and his effort to imply his research results in the public building designs. The primordial paradigm of Yugoslav identity reflected in the continuous search for the authenticity in the common root for all Slavic people. The early experimental work of Zloković had an emphasized primordial character, with quotations of folklore motifs and vernacular architecture elements. Later on, he purified architectural form, summed up and retained only principles useful for the future, quitting romantic visions of the past. Due to his talent for mathematics, rational deduction and systematical approach, he scientifically enlightened the problem of harmonious relations, proportional regulating lines and preferential numbers in the composition, known and used since Antiquity. The quest for original elements in local Balkan architecture, in order to eliminate ethnic and cultural dichotomy of people of Yugoslavia, lasted until 1941, when primordial focus was suppressed.

During the German occupation and after the WWII, Zloković deepened his personal endeavours and published his research results on proportional systems, sets of preferential numbers and, later on, modular coordination. By the means of his mathematical approach, he succeeded in creating something new in his environment, non-ethical and ethnologically independent, striving only to rationalize architectural composition. Though derived from common history,
this way he created an original approach, as Yugoslavism initially requested. His architectural opus is considered to be one of the most remarking representative of Serbian Modernism in its language - functionalism, abstraction and social programme. However, these buildings are based on original compositional methods of Zloković - application of proportional systems and preferential numbers retained from antiquity - which made them the marking monuments of the epoch.

The language of Modernism became an instrument of representation of Yugoslav ideology. Thus, the involvement of Milan Zloković in public competitions and projects became representative of "cultural level of a nation". These buildings were invested by state - Mortgage Bank in Sarajevo, University Clinic for children, Elementary School in Jagodina, Teachers Training School in Prizren - or by private investors - Kolarac National University, Maritime Museum in Split, Commercial Hall in Skopje, and "Fiat" building.

Syncretic and universal paradigms are less dominant in his expression. In certain sense, the universal and premordial paradigms were coexisting and reflecting in Zloković's work. He studied the architectural heritage of various cultural and ethnical background and epochs, with an intention to summarize this knowledge and justify their modernity by mathematical means. Therefore, he treated without prejudice each culture, ethnical entity and forgotten traditional architecture. His overall goal was to recognize and underline what is necessary for further progress in the architectural profession, in technological and aesthetic sense. The research of Balkan patrimony and the study of proportions were built into the designs of his School in Jagodina, University Clinic for children, Training School in Prizren. On the other hand, the results of his theoretical work, systematically and scientifically impeccable, and the recognition of his buildings by various critics, placed Zloković's opus in the context of Yugoslav culture side by side with developed, civilized and progressive cultures, states and nations of European West.

ACKNOWLEDGMENT

This paper is result of research on the project Theory and practice of science in society: multidisciplinary, educational and intergenerational perspectives; (no. 179048) financed by the Ministry of education, science and technological development Republic of Serbia.

ENDNOTES

[3] The manuscript – Jughasanische Holzarchitekturen – Baukünstlerische Analogien zwischen Japan und der Balkanhalbinsel als Grenzgebiste orientalisch-asiatischer Kulturzonen - was received in Tokio in 1941 for the international scientific competition regarding the 2600 anniversary of the foundation of the Japanese Empire. Due to the WWII the competition results were not announced.
[4] He demonstrated his personal preference for the application of the proportional system based on the golden section only after carefully analyzing all the other systems and realizing that the chosen one would have granted a bigger range of compositional possibilities.
[5] Student of Milan Zloković were Slobodan Vasiljević, Branislav Milenković, Vojislav Korać, Nevenka Petrović Spremo, Milka Čanak-Medić, Đorđe Petrović, Tine Kurent, etc.
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