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PRESERVATION OF TRADITIONS AND NEW FORMS OF ARCHITECTURAL EDUCATION IN RUSSIA

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Abstract

The paper analyzes the current state of architectural education in Russia. Establishment of the Russian architectural school is traced from 16-17th centuries, with its own traditions and ways of developing the architectural education. Creation of Saint Petersburg and Moscow architectural schools is characterized as an important stage in formation of the Russian architecture. Development of the Soviet architectural school is considered in detail, starting from 1918. The study highlights the main crucial moments for formation of the architectural education in the Soviet Union and the leading role of the Moscow Architectural Institute in this process. Creation and development of architecture departments in the largest cities of the country during the 1970s is emphasized. A special attention is paid to the state of the architectural education in Russia during the last 15-20 years. Several current directions of development of the architectural education are identified, which is followed by the state institutions of higher education, innovative direction in new independent, largely commercial architectural schools, etc. Advantages and disadvantages of each direction are described. The authors draw attention to a changed approach towards architectural design in the global practice during the last decades and note that it necessitates the study and application of the most recent computer technologies in design process, in teaching architecture. Ways of further development of the architectural education with considerations for modern requirements are discussed. An example is given in organization of the educational process in the Architectural Department of The Surikov Art Institute.

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1. Introduction

Origins of the architectural education in Russia may be traced to the 10th century, a period of establishment of the Ancient Russian state. In the antiquity, gangs of construction craftsmen educated young architects through practice. In the 16th-17th century, teaching of stoneworks was established in Moscow in the form of Stonework Prikaz.

Late 17th century is considered the beginning of a systemic professional teaching of architecture, when Peter I started sending young architects to study in Western Europe. Later, in 1749, several architectural teams were brought together under the helm of D.V. Ukhtomskii (1719–75 (74?), a prominent architect. From this group, A.F. Kokorinov (1726–72, M.F. Kazakov (1738–1812) and many other traced their roots (Mykhaylov, 1954).

In 1757, in Saint Petersburg the Academy of Three Greatest Arts was founded, which in 1764 was reorganized into the Academy of Arts under A.F. Kokorinov. In 1780, in Moscow, M.F. Kazakov took from V.I. Bazhenov (1737 (alternatively 1738)–1799) the authority over the Kremlin Expedition and organized an architectural school under it. In 1801, the school of M.F. Kazakov under the Expedition of Kremlin Buildings was officially transformed into the Architectural College (after 1831 – Moscow Palace Architectural College - MDAU in Russian). Among the pupils and followers of Kazakov were the most prominent Moscow architects of the following years – I. Egotov, O. Bove, A.Bakarev, D. Tiurin and others (Vlasyuk, Kaplun, & Kiparosiva, 1957).

In 1865, MDAU was joined to the college of painting and sculpture: the Moscow College of Painting, Sculpture and Architecture (MUZhVZ) was formed that existed until 1918. MDAU was training specialists in the sphere of civil engineering and was close to practice, while graduates of MUZhVZ usually got the title of Artist in Architecture, and only after 1909 – that of Architect.

Throughout the 19th century the process of stratification of the architectural school continued. In Saint Petersburg, architects were trained in the Academy of Arts and in the Institute of Civil Engineers (later known as LISI, currently Saint Petersburg State Architectural and Constuction Academy, SPbGASU). As a rule, artist-architects, graduates of the Academy, were involved into construction of rich villas, churches, theaters, museums and other one-off buildings, while civil engineers were concerned with construction of commercial apartment buildings, roofed markets, power plants, slaughter houses, cool storages, urban sanitary and utilities facilities.

After the fire of 1812 in Moscow that had almost completely destroyed the city, architects approached serious urban planning tasks. In parallel to reconstruction of afflicted buildings, new ones were constructed. After 1861, due to increased flow of migrants, first commercial apartment houses were built in Moscow. Late 19th century saw building of factories, foodstuffs storages and other industrial facilities. At the same time, Modernist villas of rich merchants started to appear.

After the October Revolution, the principle of bringing together artistic and technical training of future architects was put into practice. The Resolution of the Soviet of People's Commissars dated 25 December 1920, ordered establishment of Higher Artistic and Technical Workshops (VKhUTEMAS) on the base of the College of Painting, Sculpture and Architecture (SNK, 1920). Among the workshops was one dedicated to architecture. Later, in 1926–27, VKhUTEMAS was reorganized into Higher Artistic-Technical Institute (VKhUTEIN), where Department of Architecture introduced specialization in

accordance with different types of facilities: Residential, public, industrial, urban planning and ornamental-spatial architecture.

In 1930, VKhUTEIN underwent a radical reform, its Department of Architecture was merged with a similar one from the Moscow Higher Technical College, thus forming a new independent educational institution, the Higher Architectural-Building Institute (VASI). In 1933, after the Resolution of the CPSU CC on architectural education (TsK VKPb, 1934), VASI was renamed into Moscow Architectural Institute.

The main principles of the Soviet architectural school are: Merger of artistic and technical education, serving a necessary and first prerequisite for correct, all-round understanding of the objectives of architecture; maximal approach to requirements of life, requirements of real construction; specialization in accordance with various established practical directions of the architectural profession; broad general foundation of education in both technology and art, including in-depth study of global and national architectural heritage; a high creative level of training, stimulating students to seek the kind of new that corresponds to the development prospects of the Soviet society. (Kairov & Petrov, 1964, p. 72)

After the Second World War, the need in architects increased globally due to recovery and reconstruction of cities destroyed during the war, building of new housing accommodations and other architectural structures. Both in the Soviet Union and abroad, practice concrete was finding more and more use in construction; plastics and new water- and heat-insulating materials are widely used; building mechanization expands. Construction of large-panel housing and single-storey industrial buildings becomes common; industrial house building had developed that uses prefabricated structural elements. All these factors forced architects to deepen their knowledge of new machinery, to get interested in the construction industry. The architectural schools significantly strengthened technical training of architects; departments of architecture were usually created under technical, usually civil engineering, higher education institutions.

After Resolutions of the CPSU CC on rectification of excesses in design and construction (1955) (Sovmin SSSR, 1955) and the Law on School (1958) (VS SSSR, 1958), the whole system of tertiary education of architects was revised, especially in architectural design and technical disciplines; industrial placement and design practice were included into the curriculum: students worked at a construction site as workers in the first year and in design institutes as architectural technician in the fifth year.

According to the new Program of the CPSU, adopted at the 22nd party congress (1961), capital building started in a vast scale, while requirements to construction quality were raised. Demand for architects increased, as increased their level of training, in both technical and creative-artistic aspects.

In 1963, in the Soviet Union, in addition to the main educational institution, Moscow Architectural Institute, there were 17 architectural departments or division under higher education institutions of various types (polytechnical and civil engineering institutes, artistic institutes and academies), including the architectural departments of national republics of the Soviet Union.

Training of architects was performed in the following profiles: Civil and industrial engineering, urban planning, landscape gardening, interior equipment of buildings, agricultural construction.

Of the total time of education, 3 years were dedicated to the general component: mathematics, physics, structural engineering, construction operations, construction materials, history of architecture and art, drawing, sculpture and painting (with approximately equal ratio of STEM and artistic subjects); senior years are dedicated to special training. From the first year to diploma, the leading subject was Architectural Design, a complex professional discipline. Departments of the Moscow Architectural Institute and its R&D institutes provided post-graduate education. At that, MARKHI remained a leading educational institution of the country: It was the place where curriculum development took place and study guides were written, as well as main textbooks for students of architecture. It was also a place that instructors and professors from departments of architecture located throughout the country headed to for their probation and further training.

A new stage in development of the architectural education in Russia started in 1970s. It was a period of blossoming of the Soviet, or, to be more exact, Moscow school of architecture. These years saw multiple international architectural contests, whose winners were almost always Soviet architects (Iu. Avvakumov, M. Belov, M. Khazanov, A. Brodskii, I. Utkin). During this period, development and growth of architectural departments and chairs started in the largest cities of the Soviet Union, a system of employer-sponsored education: after their second year, the best students were directed to continue their studies in MARKHI, on condition that they come back after finishing the education. After graduation, most of such "employer-sponsored" graduates stayed with their alma mater, usually combining teaching with practical design work.

As a result, during the last 45-50 years, independent architectural schools formed in many cities. An objective indicator of quality of architectural education is the level of quality of diploma projects. In the architects community such indicator is the results of International Review Contest of Graduation Theses. The International Review Contest of Graduation Theses in architecture and design takes place every year. Its location is every year a different city of the country, where there is an architectural higher education institution or department. The contest admits graduation theses (diploma works) in architecture and design from Russian and foreign institutions of higher education.

Tradition of holding such review contests started from all-Union review contests of students' diploma projects in architecture that had been regularly run since 1966. Nowadays, the contest is organized by MOOSAO (Moscow) – Interregional Public Organization for Assistance to Architectural Education.

For example, in a private talk, S.V. Brovchenko, the head of MOOSAO noted: "Today it is safe to say that there are several independent architectural schools in Russia. They are in Samara, Saint Petersburg: (SPbGASU and Saint Petersburg: State Academic Institute of Painting, Sculpture and Architecture named after I. E. Repin), Nizhni Novgorod, Ekaterinburg, Ufa, Krasnoyarsk, Novosibirsk, Kazan. These are the most outstanding. Today these schools are marking their 45-50 years! Leading Russian instructors in the field of architecture are the product of these schools: V.A. Samogorov, V.L. Pastushenko, A.G. Golovin, S.V. Sementsov, F.V. Perov, A.L. Gelfond, M.V. Dutsev, A.V. Merenkov, Iu.S. Ianovskaia, I.N. Sabitov, A.A. Dembich, S.M. Mikhailov and many, many others". All these schools, having academic architectural education as their foundation, has acquired their peculiarities and architectural individuality.

2.   Problem Statement

This work discusses and analyzes problems of the contemporary (early 21st century) architectural education in Russia and their relation to the traditional architectural education. A certain contradiction is noted between education in state institutions of higher education that is based upon architectural traditions, but pays insufficient attention to new trends in architecture and architectural education on the one hand, and new schools, which are subject to the opposite – an almost complete breach from rich architectural traditions for innovative procedures that are mechanically, without any adaptation to national specifics, copied from Western examples. An optimal approach is proposed from analysis, the one that combines the best qualities of both traditional and innovative schools.

3.   Research Questions

The subject of this research is curricula of the architectural education and forms of education in Russia through various periods. A description is given of their changes depending on social demand, technological advance, new construction technologies becoming available, etc.

4.   Purpose of the Study

The purpose of the study is to analyze advantages and disadvantages of the contemporary architectural education in different Russian schools, trends and routes of their development. Analysis results in a proposal of optimal (as the authors believe) way to form the architectural education, the one that combines the strong points of different schools.

5.   Research Methods

This work employs theoretical research methods: Analysis of literature and primary sources, documents, reports, curricula of various schools, etc.

6.   Findings

Many authors note that during the last 40 years there were no significant changes in the architectural education, not only in Russia, but globally, despite growing discrepancies between the existing educational approaches and requirements to real-life design projects. Due to that, there is a necessity to introduce additional subjects into curricula of architectural institutions of higher education, which conflicts with the already existing curricula. As a result, many institutions decide saving existing foundational courses, keeping the new disciplines beyond the academic life. In other words, the problem of creating a new educational structure in not being solved, which is leading to further increase of the gap between the existing architectural education and vital requirements of our times (Tzonis, 2014a).

In the end of the 20th century, in parallel to existing architectural schools, new educational institutions arise that also teach architecture, environment design, landscape design, urban planning. Most of them are new, predominantly commercial departments in pre-existing universities or those new ones formed by merger of several institutions of higher education. Almost all of them are trying to copy old

curricula of state institutions of higher education, however, lacking qualified instructors and well-developed methods, they cannot achieve a high-quality level of education yet. This phenomenon does not solve the issue noted above, but to the contrary, aggravates it.

Other private architectural schools, whose heads are usually talented architects looking to respond to the contemporary needs and searching for alternative methods of teaching and learning. One of the main objectives of such schools is integration into the international architectural process. They often partially copy western curricula in an effort to find a way of development, which is new for Russian schools, and almost completely reject academic curriculum. At that, selection of commercially attractive programs in such schools does not always bring desired results.

Against this background, the architectural schools with good traditions and methodology mentioned above are at a disadvantage. The thing is, rigidity of state standards and inertness of large academic institutions prevent them from timely reaction to quickly changing requirements to the architectural education and changing their curricula. Movement to the Bologna system is in many cases done formally, with rejection of well-practiced methodologies and curricula and not solutions for the new forms of education. Architectural institutions of higher education needed about 10 years to implement new curricula for Bachelor's and Master's degree, polish the system of admission for post-graduate studies and formulate requirements to graduation theses.

Modern construction technologies are related to a high level of complexity in architecture, thus posing new questions not only to the practice of architecture, but to the architectural education as well (Tepavčević, 2017; Tzonis, 2014b). It is undoubted that currently there is an urgent need to apply innovative models of education that primarily assume creation of digital platforms and use of information and communication technologies (ICT).

> *International research projects, such as OIKODOMOS and OIKONET are looking for tools facilitating international cooperation and expansion of education with an emphasis to support of the educational model of blended learning: a virtual campus. To apply such a virtual campus to architectural education in several universities, three environments have been developed: operating environments, case bank and OIKOpedia*. (Joklová & Pifko, 2015, p. 128)

Weak equipment capabilities of most state universities prevent full implementation of such programs, as they require expensive equipment: powerful modern computers, commercial software, 3D printers, etc. This issue is primarily related to limited financing. The same cause impedes such forms of education as student exchange between Russian and foreign institutions, joint workshops and master classes. Invitation of foreign specialists to Russian universities is cumbersome and practically impossible for most of the schools. It should be understood that in the current period of globalization, sharing experience with specialists from different countries, work in international collectives starting from student years are no longer luxury, but rather a necessity that lays a foundation of professional activity of future architects.

Nevertheless, under current complex conditions, some educational institutions and departments of architecture are looking for modern ways to develop the architectural education. One of such examples, we

believe, may be the Department of Architecture of the the Surikov Art Institute in Moscow, under the Russian Academy of Arts. Looking for and implementation of new modern forms of education, while keeping academic traditions of the Moscow school of architecture (Tribelskaya & Sokovnina, 2018) is one of the main objective of the Department of Architecture, created in 2001. The department is a model of an architectural institution of higher education in miniature and within the academic art institute. It creates unique conditions for formation and functioning of the department. Small count of students traditional for the institute and small academic groups make education there close to individual. Concentration of all the instructors, both architects and engineers, within a single department allows for coordinated work and flexible changes to the educational process, quickly reacting to current problems in architecture and ever-changing contemporary demands. A combination of exceptional graphical and artistic training of students with mastering of advanced computer technologies leads to great results marked at many international contests.

7. Conclusion

The current practice of architectural education in Russia does not completely conform to global standards, as the academic schools do not have time to restructure their curricula in accordance with the modern requirements, while the new experimental schools, despite their attempts at integration into the global architectural process are lacking well-developed and well-practiced teaching methods and are implementing non-systemic fragmentary education as a result.

It is important to note that mastering and application of new computer technologies can substitute neither fundamental knowledge that is in the base of the academic education, nor understanding of compositional and spatial principles of architectural design, knowledge of structures and laws of architectural physics, etc.. This situation is neither conflicted, nor unsolvable, but requires time and high qualification on behalf of those forming curricula of the architectural education.

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