Architectural practices in the formation of a subject-spatial environment: current discourses

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Abstract. This work proposes the formation of a discourse of architecture, in which the leading place is occupied by images and signs of systematicity, symbiosis, metabolism, evolution of systems and objects, and ability to sustainable development. The goal of an architect in urban planning renovation is to create aggregate material and spatial conditions that ensure the creation and restoration of the urban environment. The paper considers cultural and value-based foundations of architectural practice constituting a hierarchical system. It concludes that the highest level is represented by the system of values of the modern theory of architecture, which determine the dominants of architectural creativity, including the worldview and its humanistic and philosophical foundations, creative and aesthetic problems, as well as the practices in the formation of a subject-spatial environment.

The modern theory of architecture asserts the image of culture in general and architecture in particular like linguistic systems, discourses that are linked by a single semantic field. In the first place, its meanings are defined by ontological foundations of culture and architecture, their value, and mental basis [1].

The scientific worldview considers the world as a process of evolution of many open, self-developing, self-organizing systems that follow the arrow of time both in inanimate nature and in the organic environment, society, and culture [2]. This worldview is based on an idea of global evolution, which unites the ideas of systemic and evolutionary approaches into a single whole. Systemic consideration of an object involves identifying the unity and integrity of a system, analyzing structural links between elements that shape it and the nature of communicating with the environment.

An architect becomes involved in everything that happens in the world, which establishes the principle of personal responsibility for yourself and for everything that happens, and that responsibility implies a humanistic examination of each project within the framework of architectural practice. The architect's foremost objectives are harmonizing the relations between natural and sociocultural systems, as well as humanizing sociocultural systems, in particular, in terms of building a genuine dialogue between tradition and innovation, thus achieving a balance between spiritual needs and economic effects [3].

Hence, throughout the course of history, architecture has developed and acquired new shapes, following the evolution of society and civilization. The change in formal characteristics of architecture is due to interaction of political processes, economics, government regulations, technology, culture, and
social engineering. The new arises against the background of the renewing needs of society, the old dies away, being no longer able to serve modern processes, and architecture does not stand aside.

Being a complex organism, the city remains in the process of continuous development. It manifests itself in changes in population, shapes, sizes, and intensity of use of developed areas, in an increase in technical potential and an information field of the city growing more complex in nature. Those factors of development are mobile and rapidly changing; they naturally come into conflict with a more stable artificial physical environment. City reconstruction is the process of resolving those contradictions, constantly enforced and historically conditioned, objective, and purposeful [4]. The question of reconstructing cities with valuable architectural heritage is closely related to finding solutions to modern problems of preserving and enhancing the original nature of urban architecture. This is possible only along with the creative development of urban planning culture, the use of traditions, and continuity in building and planning.

Renovation means renewing buildings through partial or complete demolition to increase their usability; it includes new construction, major repairs, modernization, or reconstruction of preserved objects, as well as restoration of historical and cultural monuments. In this process, searching for solutions to creative and aesthetic problems is particularly difficult. Handling issues related to perception of the historical city center architecture in urban planning projects, its skyline and views, as well as perception of inner-city spaces, contribute to solving the most important creative task – achieving architectural and spatial integrity and compositional unity of the city's appearance. Those issues are of particular importance for the city of Irkutsk, which has a rich historical past.

Irkutsk, being a valuable spatial system of architectural facilities, has the status of a historical city. Urban planning practice in recent decades has been characterized by extensive development, the consequences of which brought the city centers to decaying, which resulted in the life of old districts losing its special sense of completeness. To return the city to a full-blooded life, development of the so-called intracity construction through reconstruction and improvement of the central district infrastructure became a necessity.

Karl Marx Street is one of the oldest streets in Irkutsk and is currently a historical and architectural conservation area [5]. The protection of valuable historical environment in its developed areas should be ensured by methods of complex reconstruction, by envisaging and working on the restoration of buildings of architectural and cultural value at the same time; reconstruction, modernization and capital construction of existing buildings; selective new construction that does no harm to the environment; as well as development of engineering equipment systems and landscaping.

To save a historical environment, it is necessary to make it viable; for this, it should be preserved and revivified. Regeneration and renovation, as creative methods, define a necessity for the new architecture to identify internal laws of a historical environment, as well as the architectonics of creative images. Professionals of the architecture and design center offer urban planning renovation of a quarter in the main historical Karl Marx Street within the limits of Kalandarishvili Street and Dekabrsikikh Sobyttii Street.

The block to be reconstructed is considered an integral part of the urban environment. The main idea of the regeneration project was to design a new cultural and entertainment facility with a hotel, that would organically complement and enhance the city center. When looking for a relation between new and existing buildings, the architects would support combining old and new architecture solutions that complement each other. Modern architecture in this project is in harmony with old buildings: glass façades serve as a neutral background while accents of high-rise buildings tactfully recede from the line of the existing buildings. The green roof technology with viewpoints has been applied with stained glass windows showing the panoramic view of the city, see Figure 1.
In addition to the demolition of a motley residential area lacking any cultural value, and construction of a hotel and entertainment center, a complex reconstruction of the quarter consists, first of all, of restoring an integral fragment of the historical architectural environment with the introduction of modern functions like recreation, leisure, and culture. The historical city quarters should become centers of the city's commercial and cultural life, with comfortable spaces available to its people. After all, the primary tasks in regeneration of the built environment should be not only reconstruction and restoration of buildings – it is also important to improve the quality of urban environment [6].

As a result of market research, analysis of the location and the level of competition, the architects developed a concept of a multifunctional quarter, providing for entertainment, hotel, and retail functions, as well as restaurants and catering establishments. This concept considers existing and future facilities, location, level of competition, preferences of the retail and public catering market, and common demand for goods and services. The hotel function will be represented by a new four-star hotel with 300 rooms, which is in demand today. The trade function will be represented by retail trade enterprises located on the ground floor of the facility in question and shaped like a trade gallery. The main functions will be supplemented by a business center, a conference hall, and an underground parking. The catering function will be represented by restaurants and coffee shops located on the ground floor of the facility. The entertainment part is a sports and recreation center and multiplex wide-screen cinemas, including the restored children's cinema, Pioneer Cinema, which is an object of cultural heritage.

Monuments of history and culture (objects of cultural heritage) are buildings, memorable places and objects related to historical events, development of society and state, artwork of physical and spiritual creativity that are of historical, scientific, creative or any other value [7]. Old city buildings take a special place among cultural heritage sites.

The Pioneer Cinema is a former mansion at Karl Marx Street No. 43; in 1915, it had an address of Bolshaya Street, 63/8 [8]. The fractional number indicated that the mansion faced two streets, Bolshaya and Lyubarskaya. The mansion was located in the central part of the city of Irkutsk, surrounded by buildings of the 19th century, see Figure 2. That part of the city was very attractive to developers in the past. Almost all of the city’s major points of interest like shops, hotels, restaurants were located nearby.
Karl Marx Street (the former Bolshaya Street) is the main street of the city, built up only with stone houses according to the decision of the City Council as of 1883. Stone civil construction was developing extremely slowly in those distant times. By the end of the 18th century, the city had about one and a half thousand common houses with only about twenty of them being stone buildings, including city services and churches. At the beginning of the 19th century, isolated inclusions of stone residences among the sprawl of wooden building patterns were exceptional by the very fact of their existence [9].

In the last quarter of the 19th century, the mansion on Bolshaya Street belonged to merchant K.K. Sapozhnikov, a honorary citizen of the city, and V.G. Sapozhnikov. At that time, there were a wooden one-story house and a wooden delivery house on its premises. In 1897-1898, the mansion was acquired by the Irkutsk Society for Mutual Insurance of Property against Fire. On April 5, 1899, a report on construction of a house was heard at the meeting of the society’s governing board. On September 29, 1899, the rebuilt stone buildings in Bolshaya Street were accepted. A.P. Artyushkov, who at that time served as the province’s chief architect, was the project architect.

In 1924, the mansion was municipalized and run by the Irkutsk Provincial Department of Local Economy. In 1927, the building was transferred to the Society of Political Prisoners and Political Exiles and various meetings, disputes, and events were held here. On November 6, 1935, the first children's sound cinema in Eastern Siberia, Pioner Cinema, was opened in the premises of the former conference hall with the film “Chapayev” being demonstrated on that day. On July 1, 1936, the cinema building was closed for major repairs and reconstruction by architect B.M. Kerbel. Its reconstruction was carried out from 1936 to 1937 and the grand opening of Pioner Children's Cinema took place on November 26, 1937.

The building represents the most successful example of reconstruction and creation of a building superstructure during the Soviet era. In 1898, according to the original project of the architect A.P. Artyushkov, the building was a one-story one, and, during the reconstruction in 1936, its appearance was significantly changed. The second floor with the auditorium was added to house. A two-story volume was attached to the eastern side, initially blind end, the first floor had ticket offices, and the second floor included a cinema booth, as well as an open front staircase. On the first floor, B. M. Kerbel placed a lobby, a foyer, a concert hall, restrooms, and service premises. Two staircases were installed in

Figure 2. Bolshaya Street, 63/8. Photo dated 1909-1910 (an image from the book “Irkutsk in postcards” by S.I. Medvedev).
the courtyard outbuildings to lift spectators to the second floor. The problem of evacuating spectators was originally solved as exits from the hall were located on the side façade and led to open galleries located on both sides of the side annex. The galleries are arranged under a common pitched roof with an annex, the outlets of which are supported by Ionic columns. Further, the descent from the galleries is along two symmetrical stairs, merging on the last march. Such a solution of the side annex with a main staircase and open galleries seems to be very successful, since it significantly enriches the overall space-planning solution without violating the logic of symmetrical composition of the main façade, see Figure 3.

Figure 3. Pioner Cinema on Karl Marx Street before restoration: main façade and side façade of the annex with a main staircase and open galleries (photo taken by the author).

Development of a project for restoration of a cultural heritage site as part of the Pioner Hotel and Entertainment Facility is a research, survey, design, and production carried out to identify and preserve the historical and cultural value of the cultural heritage site. The basis for the adopted design solution is reconstruction of original appearance of the monument, as well as the maximum preservation of original layout when adapted for a children's cinema and leisure center.

In complex reconstruction projects, it is necessary to envisage measures to preserve a valuable historical and natural environment, preventing changes or distortions of the conditions to perceive the landscape of settlements, valuable panoramas, as well as individual objects of cultural heritage along with natural landscapes [10].

The original space-planning solution has no counterparts among Irkutsk facilities and should be preserved. The design of the main façade of the first floor is made in accordance with the architectural trends of the late 19th century and can be defined as eclecticism using classical architectural forms of the Renaissance with a three-part vertical division into a basement, a wall, and a crown. The main façade has a static symmetrical composition with the main middle axis highlighted by a central projection (avant-corps) topped with a high attic and two lateral projections decorated with orders. The stylized Doric architectural order is applied as a decoration superimposed on a flat façade. Along the axes of the piers are stylized Doric pilasters, channeled to two-thirds of the height, bearing the general entablature of the building. The pilasters are mounted on plinths. Within the projections, the frieze is decorated with triglyphs alternating with rectangular panels. The window openings are framed with frame profiled platbands with protruding corners, topped with horizontal sandrils on brackets.

The design of the second floor, erected in the 1930s, was carried out while maintaining the entire composition of the building. Without repeating the forms already used, it develops the theme of the
original design. At the level of the second floor, elements were used like a slender Ionic order, high window openings with an arched top, acting as an arcade, visually enlarged by niches filled with semi-balusters. The crowning entablature is somewhat different from the original one – the architrave is transformed here into a profiled belt, the frieze becomes taller and smoother, and the cornice is decorated with modulons. Above the lateral projections, there are triangular pediments without parapets, above the central one there is a parapet wall without an attic. After the reconstruction, an important role is given to the side façade with the main staircase and open galleries. [11].

Reconstruction of historical buildings is sometimes needed because of the need in modernization or repurposing, strengthening the foundations and supporting structures, eliminating damage to the structures that occur during the use of the building due to uneven deformations of the foundation or increased level of groundwater. Since the regulatory requirements for fire resistance and physical and technical properties have significantly improved over the past decades, it may be necessary to resort to reorganization of individual structural elements, for example, wooden floors, during reconstruction, even if they are well preserved.

According to the project for the restoration of the Pioner Cinema, measures are envisaged that bring the building in accordance with the modern standards, including strengthening of foundations, brick external and internal walls, and stair columns. Old plaster and some of the destroyed bricks are dismantled. The project provides for the dismantling of the brick vault over the ceiling over the first floor and the installation of a new reinforced concrete floor over the metal beams, as well as partial repair of the roof over the auditorium and glazing of the dormer windows in the attic. Metal-wood trusses are subject to reinforcement of the struts at the lower belt.

Based on deviations from modern building codes, unsatisfactory, and sometimes emergency condition of the main load-bearing structures of the second adjoining block and in connection with new space-planning solutions, the project provides for the dismantling an old facility and constructing a new three-story extension within the premises.

The project provides for landscaping of the area. Since the existing covering of the courtyard has been destroyed, its reconstruction is envisaged. The pedestrian path along Karl Marx Street and the main entrance area are supposed to be paved with tiles.

The role of heritage is invaluable in the development of culture that dominates in defining the identity of the country and its individual regions. The Urban Planning Code says: “The objects of cultural heritage include architectural monuments with their premises, objects of archaeological heritage, ensembles, including fragments of historical plans and buildings of settlements, works of landscape and landscape architecture, and city sights. When planning and building, it may be necessary to comply with the law on protection of cultural heritage objects (historical and cultural monuments), provide solutions to ensure their preservation and the use of their urban planning potential” [10].

Reconstruction of historical cities requires that, in the process of renovation, the monuments of history and culture, the prevailing features of the architectural composition and individual creative originality of the city, remain safe. During a renovation, great attention is paid to creating conditions for an optimum perception of old and new buildings, which corresponds to a wish to preserve urban planning significance of historical sites with their high architectural and creative qualities, determining the overall level and expressiveness of an urban environment.

The monuments of the past tell us about how a city was built. They are buildings of old style, memorable places, and monumental sculptures that stand on the streets and squares [12]. An important condition to extend life of an architectural monument is its integration in the life of modern society. This integration can be achieved in two ways: thanks to emphasized identification of creative and historical value of a monument (restoration) and due to endowment of its practical function (adaptation) [13].

A city with a large number of cultural heritage sites cannot be mothballed. Reconstruction with the primary preservation of the existing historical and architectural heritage with the tactful inclusion of new elements that fill in the loss and recreate the spatial relationships of buildings in the development of a fragment of the object-spatial environment is necessary for a historical city. Irkutsk is a developing city; therefore, reconciling the interests of protecting cultural heritage with the need for development
and reconstruction of its areas is one of its most important tasks. The integration of modern architecture into a historic city periodically appears in the theory and practice of construction. New architecture in the context of the historical environment is one of the components of the strategy to preserve cultural heritage. There are different methods of bringing harmony in the modern architecture being a part of groups of historical buildings: from full-scale “dissolution” of new architectural volumes, materials and colors in the environment to “counterpoint” methods, stylizations, and recreations by means of modern construction, progressive technologies and materials. Solving the problems of reconstruction of premises and facilities, including new construction, is possible only if a system of restrictions and preferences is developed and observed to ensure the preservation of key elements of the historical environment.

The main goal of the architect is to increase the sustainability of the development of urban areas, therefore, it is necessary to develop in more detail the actual discourses of the formation of a subject-spatial environment in an unstable world, the interaction of variables and constant parameters of urban planning renewal.

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