

Architecture of Post-Soviet Kazakhstan: Key Stylistic References in Public Facilities

Khalima Khamitovna Truspekova^{1,2,*}, Dilyara Safargaliyevna Sharipova²

¹T.K. Zhurgenov Kazakh National Academy of Arts, 127 Panfilova str., Almaty, 050000, Kazakhstan

²M.O. Auezov Institute of Literature and Art of the Science Committee of the Ministry of Education and Science of Kazakhstan, 29 Kurmangazy str., Almaty, 050010, Kazakhstan

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Abstract The paper is devoted to the question of stylistic directions in the development of architecture in post-Soviet Kazakhstan. The construction boom that marked the great restructuring of the entire cultural paradigm of the country after the collapse of the Soviet empire is expressed in the stylistic diversity of architecture of the present time. The article notes that at the foundation for the context of the current urbanization of the steppe region lies a reimagining of both Kazakhstan's own cultural heritage and all architectural currents of the 20th and 21st centuries. The study identifies the most popular stylistic references in the artistic and visual architectural solutions in the country's major cities. Particular attention is paid to the balance between neoclassicism, modernism, and postmodernism in the characteristic of the general field of transformations of the urban environment. The role of new technologies in the development of modern architectural plasticity and the overall artistic language of architecture in present-day Kazakhstan is analyzed. It is argued that all its apparent diversity comes as a result of the influence of contemporary global architectural practice.

Keywords Architectural Styles, Artistic, Contemporary Art, Post-Soviet

main objects of attention of architectural and art historians of the republic. The extremely bold and large-scale project of creating the new capital of Kazakhstan, Astana, the scope of construction and competition, a radical renewal of the appearance of cities in the regions, comprehension of the urban context, and involvement of the stars of world architecture, – all these require a deep reflection from the point of art history. That is why the present time actualizes the problems associated with the category of style, which allows finding links between a wide range of different architectural monuments, identifying the principles of artistic language, and comprehending the ideological and content program embedded in them. We recognize that this category is difficult to use against the backdrop of the loss of "big" styles and the deterioration of stylistic norms and hierarchies. Clearly, style is losing the criterion of the unity of form. Nevertheless, in this paper, we refer to the concept of style, first, as a productive method in art history for establishing general patterns. In addition to that, the category of style expands the scope of research, covering a vast layer of issues related to understanding the predominant values in society and the problems of communication and social construction in architecture.

Post-Soviet Kazakhstan, like other post-Soviet countries of today, is experiencing a very dynamic transformation of the former cultural experience of its existence. Its most visible and tangible metamorphosis is expressed in the transformation of the urban environment, which exposes the desire of the authorities and citizens of the country for

1. Introduction

The architecture of present-day Kazakhstan is one of the

decisive change.

On the whole, the process of urbanization reflects the state of postcolonial thinking of society at a given point in time. The desire to match the achievements of world culture has led to a significant rise in the number of modern architectural objects, although the number naturally does not imply a higher qualitative level. The striving to fit in with the global trends of the common development vector is reflected in the nature of all transformations. One of the leading positions in it is taken by the involvement of architects in the design of iconic objects of the country and transformations in the minds of Kazakh project authors that are occurring now.

In this light, it seems promising to talk about the stylistic direction in the context of not only formal but also semantic commonality as a translator of common political, social, and spiritual ideas. Thus, the purpose of this study is to research the diversity of stylistic trends in the architecture of today's Kazakhstan, identify reasons for the actualization of classical traditions and the architecture of modernism alongside the impressive results of progressive technology, and analyze the semantic field formed by post-Soviet architectural objects.

2. Methods

To study the specific features of the artistic language of contemporary architecture of Kazakhstan, we use formal-stylistic and partly semantic analysis. Examination of prominent monuments also involves their analysis in the functional-typological and urban planning aspects. The source base consists of scientific monographs, articles, competition documents, and Internet resources covering the theory and practice of today's architectural process.

The methodology of the study relies on academic texts concerning both the architectural practice of modernity and the philosophy of modernism and postmodernism architecture. In V. Buchli's work, along with a large-scale study of the anthropology of architecture, our attention is drawn to the social ties formed by the modern urbanization of the environment [1]. The arguments of the key theorist of postmodernism C. Jencks, in particular, concerning intertextuality as a phenomenon of late modernism, are important for understanding the diversity of styles in Kazakh architecture [2]. The psychology of human perception of space, especially from the modern point of view of communications quality, organization of life, and further urban development, are reflected in the book by L. Kostron [3]. The dynamics of the functioning of public spaces in Astana, are considered in the context of sociological urban studies [4]. Thoughts about the emergence of non-place phenomena in the context of the development of the "epoch of hypermodernity" by M. Auge also come into focus when studying urban Kazakh architecture (functionally transit types of objects in the

post-industrial world) [5]. Of interest is also the study of one of the directions of scientific thought in the sphere of post-postmodern culture, referred to as metamodernism [6]. The conducted analysis suggests that the problem of style in the 21st-century architecture of Kazakhstan fits into the general context of the stylistic development of world architecture at the present moment. Commitment to neoclassical and neo-modernist practices dominates the minds of project authors because of the new round of comprehension of all past cultural experiences.

Texts on parametric design practices also fall within the scope of the study. The culture of the 21st century has made a tremendous leap in its development thanks to technological breakthroughs. Parametric, or digital, architecture is the latest stage of its development as of now. Here, our attention is drawn to a critical assessment of the phenomenon from the standpoint of ontology, the problem of the spatial orientation of a person in a parametric environment [7], as well as the artistic principle of the classical design model and the experience of artistic creativity in parametric architecture [8]. The manifesto of parametricism is important in the study of non-linear stylistics in the newest architecture of the country [9]. In contrast to all of history, computer modeling of forms is fundamentally changing architectural shaping itself. The former geometry of strict lines of rectangular, prismatic configurations of volumes is replaced by free variations of the flexible fluid plasticity of forms, which is enabled solely by the modern digital design format. As a result, the figurative expression of architecture has fundamentally changed. At present, bionic stylistics come up close to the structures of natural forms.

Another major issue of the present moment is new urbanism. The movement to address the environmental problems of man and nature has brought into play many aspects of the organization of the urban environment. The trends of sustainable urban development are also relevant for architecture in Kazakhstan. In this context, the issues of comfort and aesthetics of the urban environment are given considerable attention.

Aside from the aforementioned scientific works, the topic under consideration is covered by a variety of publications devoted to particular aspects of the problem. Specifically, these issues include the formation of the artistic and communicative environment of the city of Nur-Sultan [10] and the artistic features of the high-rise architecture of modern Kazakhstan [11]. A number of Kazakh authors touch upon these problems in their works on architecture. These materials are related to the issues of the changing creative paradigm in the construction of landmark objects in Kazakhstan during the Soviet and post-Soviet periods [12]; K. Kurokawa's symbiotic concept and the general futuristic vector of development of Astana, [13]; a brief review of style features in the history of the formation of the three capitals of Kazakhstan: Kyzyl-Orda, Almaty, and Astana [14]. In studying the

outlined problem, we could not but refer to materials on the history of architecture of Soviet Kazakhstan, in particular, to the stylistic uniqueness of constructivist architecture [15]. All the mentioned scientific publications are important sources for further investigation of the established research problem.

3. Results and Discussion

3.1. From the Pages of History

The history of the architecture and construction of modern Kazakhstan largely overlaps with the development of many post-Soviet Central Asian countries at the turn of the 20th and 21st centuries. The acquisition of independence after the collapse of the USSR led the society and leadership of the former Soviet republics to the dynamic construction of their own world, which was most clearly expressed in restructuring the surrounding space of the countries in the literal sense. Autocratic regimes have been established in many post-Soviet republics, including Kazakhstan. Undoubtedly, this phenomenon influenced the development of the country's cities.

Architecture has always "been a tool to demonstrate the achievements of power, its visual identity" [16]. This is fully illustrated by the subsequent development of many post-Soviet states. In spite of all the economic problems, rapid construction was observed not only in Kazakhstan but in other republics as well.

Despite their common cultural background, all states of the former Soviet Union had different starting positions in their development. For example, it was believed that nomadic peoples, which include the Kazakhs, historically did not create cities, as was typical of the cultural heritage of other Oriental peoples. Yet modern history (archaeology, in particular) has made its adjustments. The dynamics of life in the steppe region were heterogeneous: the nomadic and sedentary-agricultural life were neighbors here. For this reason, the region represented a rather motley picture of the interconnection of different forms of environmental organization, including the presence of urban settlements. By the time of the collapse of the USSR, four layers in the development of urbanization of the Kazakh lands were the most clearly traced: the most ancient settlements with stationary types of buildings; remnants of medieval cities characterized by a common structure of construction with the countries of Central Asia (now included in the area of Central Asia); the architecture of cities founded by Tsarist Russia (often on the sites of medieval settlements); and the architecture of Soviet Kazakhstan. Along with urban culture, even at the end of the 20th century, the mobile form of the yurt was used in remote mountain areas and on tourist routes. In the arsenal of national heritage, nomadic yurt construction, the classic portal-dome medieval architecture of the East, was considered the basis of ethnic

identity in the architecture of the region.

By the beginning of the 21st century, all cities of the country showed only the legacy of the last two periods: the period of the Russian Empire and the most fully represented architecture of the Soviet era. Objects from the Middle Ages were preserved only in the southern cities of the republic. In other regions, they are extremely fragmented.

3.2. Architecture of Post-Soviet Kazakhstan

As a result of historical circumstances, several artistic styles can be distinguished in the stylistic appearance of the cities of the post-Soviet period. Specifically, well-known and extensively applied here were the ideas of Russian architecture (Russian version of classicism, pseudo-Russian style – the period of Tsarist Russia), constructivism (functionalism), Stalin Empire and brutalism of Soviet architecture, and national stylistic features used in the architecture of the 20th century. The late Soviet period was also marked by the emergence of new trends of postmodernism, in particular, the idea of deconstructivism. However, as known from world architectural practice, this idea was not expressed in full and did not find a real embodiment in the volumetric and spatial composition of the form.

The most active transformation of the country's cities became possible only after the first decade of the state's independence. Naturally, the key event in this transformation was the construction of the new capital, Astana. Back in 1994, despite the state of deep economic crisis experienced by all countries of the former Soviet Union, President Nazarbayev first voiced his ideas to move the capital from Almaty to Astana. This was the first sign of the reorganization of space as one of the main tools of reformation of the entire steppe region on the ruins of the former culture. By opening its borders to the world, the young sovereign country got the chance to get acquainted with the achievements of world architecture without intermediaries (in the form of Russian culture) and the opportunity of direct contact with the leaders of world architecture (architects), who subsequently took part in the design of landmark objects.

The architecture of the Soviet era was a solid base, especially in matters of urban planning, but time imposed new requirements for the arrangement of the urban environment. Everyone was aware of the limitations of Soviet architectural and construction practice, especially in the republics on the periphery of the former empire. As a result of the transformations of the last 20 years, the appearance of cities has changed drastically, although not necessarily for the better.

The first transformations concerned the central cities like Almaty and especially Astana. In time, large-scale changes also occurred in the western and southern cities of the country. These events were made possible only by the

will of the first president since all the fullness of power was concentrated in his hands. While Almaty was built under the active influence of business, President Nazarbayev was the one directly responsible for the construction of the new capital. This is an important factor because the role of the customer is of great importance in all issues of urban construction, including the stylistic solution of architectural objects.

For instance, the primacy of neoclassicism and the synthesis of elements of national and classical architecture in the erection of iconic state institutions were largely set by the authorities, especially in the early days of laying the main conceptual trends in the urbanization of the post-Soviet country. Already by the end of the first decade of the 21st century, priorities in the architectural stylistics of the cities of Kazakhstan had been defined, despite the great diversity of participants in their construction.

Above all, the Soviet legacy still actively influences stylistic preferences in construction, especially in mass urban development. The stereotypes formed under the influence of the practice of Soviet life are still alive in the minds of customers. Although people have gotten extremely tired of the architecture of brutalism and wish to part with it, the extreme saving mode and especially the standards of construction are still a brake on the more active inclusion of not so much new technologies, but new artistic expressions in architecture. The quality of design developments still suffers because of the simplifications and all sorts of additions made to the original version of the project. It is no coincidence that many high-quality developments of Kazakh authors that match the European level are not feasible due to the dictates of builders, who are more concerned with simplifying their job of erecting complex architectural structures. This situation took shape in the Soviet period and has its own reasons. At the moment, only the will of the client and the level of financing of the project can allow the architect to bring their ideas to life.

In this specific case, the role of President Nazarbayev as the main customer of the country's architecture is difficult to overlook and disregard in the priorities of urbanization of Kazakhstan. Initially, it was his initiative to invite world architects for the construction of the capital city of Astana, which was a milestone in the development of post-Soviet architecture. These renowned architects then began to actively offer their services in all cities of the republic.

The development of the territory of the current capital (Sary-arka – the Kazakh name for the lands) changed many times: Akmola-Akmolinsk, Akmolinsk-Tselinograd, Akmola-Astana-Nur-Sultan-Astana. Each of the stages of the city's construction testifies to a new page in the history of the steppe region. The first stage marks the symbiosis of nomadic and sedentary types of construction in the development of the terrain. The second is the large-scale transformation of the Soviet era. Finally, the third reflects the desire for the new government to express its will and

for a different, changed image of Kazakh society. The latter reformation is guided by another restructuring of the system of cultural coordinates, with architects from all over the world taking part in the grand project of the republic.

The first architect standing at the beginning of the creation of the new capital of Astana in 1997 was the Japanese architect Kisho Kurokawa, who won the announced international competition. Kurasawa is known to the world for his ideas on metabolism and symbiosis. The foundation of the new city on the left bank of the Yesil River realized the author's ideas about the harmony of the city with all its natural and historical surroundings. His idea was to bring to life the concept of a river city, a symbiosis of the city and the river, the city and nature (in the form of recreational areas), which were laid down in the general plan of the capital. In accordance with Kurosawa's ideas of symbiosis, the old Soviet city is also included in the orbit of transformation, although the former morphology of spatial organization is preserved.

Naturally, the core network of urban neighborhoods accounted for all the mistakes of urban planning in the preceding era. First of all, the city was envisioned as polycentric, creating a comfortable environment for work and leisure for citizens and visitors to the capital. Thus, the ideas of new urbanism emerging at the time were already put to use by the city's architects. While the general plan was developed under Kurosawa's supervision and later actively developed by Kazakh architects, the construction of public administrative, cultural, and iconic buildings was entrusted to a wide variety of authors. This characteristic of the construction process has had its own impact on the appearance of the urban environment.

In this particular case, the primary compositional axis of the capital city is the main dominant feature of the presentation of power: the classical architectural volume of the Akorda government house (architect K. Montakhaev; draft design by Tortaev brothers; designers A. Gualatsi and A. Molteni). Next comes the symbolic architectural monument Astana-Bayterek – the image of the world tree in the high-tech style (architect A. Rustembekov). Outside, but in the visible field of the main boulevard stands the "Khan Shatyr" shopping and entertainment center (architect N. Foster). The whole ideological-semantic concept of the post-Soviet order of the state in the eyes of its new leadership is reflected in the symbiosis of the traditions of national and European classics and the scale of modern high-rise architecture. As a result, on a line of four kilometers, we observe a succession of intertwined cultural contexts: from the traditions of European classical synthesis with oriental motifs (Ak Orda, Figure 1), to the new high-rise buildings (high-rise buildings of the circle of Baiterek Square, Figure 13), to the presentation of the Khan's stakes in the form of Khan Shatyr yurt construction (Figure 5).



Figure 1. Ak Orda Presidential Palace. Astana



Figure 2. Residential complex "Triumph of Astana". Astana



Figure 3. Complex of buildings of NC KazMunayGas JSC. Astana

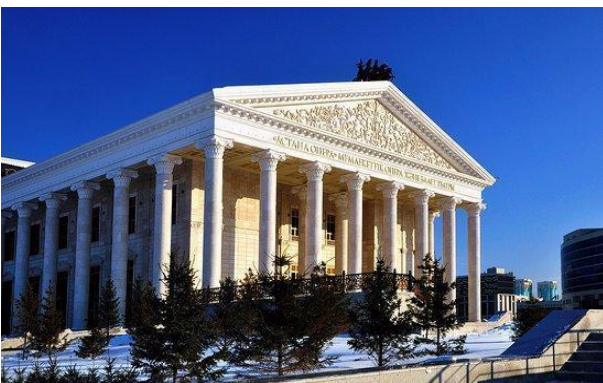


Figure 4. Astana Opera Theater. Astana

The entire architectural and spatial composition of the main residence of the country, Ak Orda, is created in the neoclassical style, with order architecture surrounded by a neoclassical landscape. This vividly expresses the President's desire to surround himself with monumental objects in the spirit of European classics. The surroundings of the presidential residence include government buildings (the Supreme Court of Kazakhstan, the House of Ministries), the stylistic appearance of which is another reflection of the classic architecture of the Soviet period.

The construction of Astana also realized the postmodernist principles of citation. In particular, a direct quote is the Astana Triumph complex (Figure 2, architect N. Boriskin), almost a complete copy of Moscow's Stalinist high-rises. The monumental proportions of the architecture of the Stalinist Empire are reflected in the architecture of a number of buildings, for example, the monumental solemnity and grandeur of the tiered image of the KazMunayGas NC complex (Figure 3) and the rounded, extended wall plane of the Ministries House, which at different ends form a kind of entrance gate to Nurzhol Boulevard.

Perhaps one of the most striking examples of a direct quotation from the architecture of Russian classicism is the Astana-Opera building in Astana (Figure 4, developed by Renato Archetti, architect Bechet Pacolli). This object is an actual copy of the Bolshoi Theater in Moscow.

Thus, the construction of the new capital reflected the ambitions of the authorities, as the image of imperial Moscow and Russia as a whole influenced their understanding of the majesty of the country. This phenomenon is surely understandable, since the entire power structure of sovereign Kazakhstan grew up in Russian culture, or rather on its periphery. Furthermore, a different approach could hardly be expected from the customer at that time. A similar situation is taking shape in the construction of Uzbekistan and Turkmenistan: the same pompousness and pathos in the buildings of the early 21st century with the use of European order classics. The postcolonial features of thinking are reflected in everything that unfolded in the space of the time, including a large number of high-rise complexes built in Astana.

3.3. National Stylistics in Post-Soviet Architecture

In parallel with the desire to match the greatness of the imperial cities of the world, the authorities of Kazakhstan have not forgotten their own cultural arsenal. Thus, the country's own national heritage had to be present in the architectural and spatial environment of the modern city along with the European classics. The use of national elements had already been tested in the architecture of the Soviet period, mainly representing the details of the construction and decorative embellishment of the yurt. A basis for the synthesis was also the traditional lancet arcade, the system of carpet decorations, and the very structure of the portal-dome types of architecture of the Central Asian

region. Oriental motifs in Islamic architecture were at one time used by Arab-Turkish designers of administrative buildings in the capital, such as the Majilis building and the Senate building in Astana.



Figure 5. Khan Shatyr Shopping and Entertainment Center. Astana



Figure 6. Mashur Zhusup Central Mosque. Pavlodar

Yet the most prominent example of the use of national traditions (or, as it is called today, "folk" types of architecture) is the transformation of the structure of the Kazakh yurt. It was used by K. Kurokawa (the new airport building in Astana), N. Foster (Khan-Shatyr. Astana. Figure 5), N. Yavein (the Palace of Schoolchildren, Astana), Gyultekin Linea (Independence Palace. Astana), V. Kolush, K. Zhiyembayev (the First President of the RK Centre in Temirtau), etc.

Various interpretations of the national heritage are mostly found in the developments of Kazakh architects. Some examples are the iconic architecture of the Mashur Zhusup Central Mosque in Pavlodar by architect T. Abylda (Figure 6), the Presidential Cultural Center in Astana (architect S. Dzhambulatov), and many other buildings in the post-Soviet Kazakhstan. The most unique construction, however, is the Khan Shatyr shopping and entertainment center by N. Foster, which has been repeatedly mentioned by us and other researchers [17].

The above examples of the comprehension of national stylistics in the architecture of central cities are incomparable in scale to the example of the revival of the country's lost cultural habitats. The most notable example in a series of transformations of the urban environment of

the post-Soviet period is the last one – the revival of the medieval cultural centers of the south of the country, the city of Turkestan, in particular. Here the national traditions in architecture had to be reflected in full. Yet the result of the work done shows that the authorities did not set out to simply reconstruct or only restore what had been lost.



Figure 7. Keruen Saray complex. Turkestan



Figure 8. The city center. Tree-shaped street lamps. Turkestan

The experience of creating a new old city is another feature of one of the primary directions of the work of autocratic power. The construction of Turkestan, one of the most ancient cities in the republic, was started by a direct order of President Nazarbaev. At the core of the project, the city is thought of as the spiritual center of the entire Turkish world. The Mausoleum of Akhmed Yasawi (14th century) preserved here has always been a sacred center, a stronghold of the Kazakh khans, and often their place of burial. At the present stage, a new reading of the old medieval text of the Central Asian architectural tradition is created in Turkestan (Figures 7, 8) (for the most part, the city was completely demolished and rebuilt in the Soviet period). Yet these are entirely new architectural stylistics, in which the traditional cultural experience is viewed through the lens of modernity. The parade lines of the city's central quarter, surrounded by an artificial waterway, reflect the stylized medieval architecture of the East, something reminiscent of the construction of modern Dubai.

3.4. Architectural Styles of Modernism and Postmodernism

In contrast to the abundance of neo-modernism, which can include the historical neoclassical buildings of recent years, Art Deco (which is also a synthesis of art nouveau and classicism) is most often interpreted in the architecture of Kazakhstan in the post-Soviet period. It is quite natural that the new understanding of modernism and postmodernism is present in the architectural and artistic practice of the country. One striking example of deconstructivism, in this case, is the Central Concert Hall “Kazakhstan” in Astana by the Italian architect M. Nicoletti. In the works of Kazakh architects, interpretations in the spirit of deconstructivism are found in a number of buildings, for example, in the image of the National Museum of the Republic of Kazakhstan in Astana (architect V. Laptev).

In general, the combination of neoclassical and modern trends in Astana postmodern architecture is concentrated in the area of the main axis of the city – Nurzhol Boulevard, continuing the trend further beyond its borders and pouring into the space of Mynzhyldyk Alley (Millennium Alley – from Norman Foster’s Palace of Peace and Reconciliation to the railway station). The lines of Alikhan Bukeikhanov, Dostyk, Dilmukhamed Kunaev, Saraichik, and Sygynak streets and Turan Avenue are included in the orbit of the formation of the city’s main arteries. The architecture of the entire left bank of Astana carries the spirit of the postmodern interweaving of styles.

A significantly different form of construction is reflected in the organization of another large city center. The main street of Mangilik Yel, perpendicularly crossing the axis of Nurzhol Boulevard and Kabanbai-Batyr Avenue, stretches to Nursultan Nazarbayev International Airport. Within the boundaries of these streets, the large-scale Astana-EXPO-2017 complex and all the adjacent architecture built in connection with it unfold. Spatially, these are also the main axial lines of the city, within which the authorities clearly demonstrate their inclination toward the future. The world exhibition EXPO-2017 itself was held under the slogan “Energy of the Future”, which indicated the need to transform the consciousness of all mankind in environmental matters.

The project of the complex is different from everything tested earlier in the construction in the country, reflecting Kazakhstan’s desire for world integration. The main message is the renewal of society, which, at present, is possible only if the country is open to the world of high technologies. Thus, this district of the city is formed not only as another public, business, and cultural center of the capital but also as an innovative scientific center, setting the next vector for the development of the state.

Certainly, post-Soviet architecture continues to be affected by the architecture of the Soviet era. First of all, the experience of constructivism (functionalism) and

rationalism have not exhausted themselves, and the Soviet practice of brutalism has a greater impact on the projects of Kazakh authors of the older generation, which is reflected in a certain heaviness of their objects. The works of the latest generation of masters have more focus on the global experience. Younger architects increasingly often play with all kinds of plastic methods of indentation, depressions, and cantilever extensions of parts of volumes on the facades of the traditional rectangular and prismatic forms of buildings. Playing with flat decorative hinged panels is also part of the arsenal of artistic and design solutions that enrich the compositional individuality of architecture.

However, all the latest trends of postmodernism and modern digital (nonlinear) architecture are introduced by foreign architects and, of course, the stars of world architecture (starchitects: K. Kurokawa, N. Foster, Adrian Smith – Adrian Smith + Gordon Gill Architecture, M. Nicoletti, the American company SOM – Skidmore, Owings & Merrill, British, Italian, Portuguese and other architectural studios).

Of all the variety of architecture of the 20th-21st century, one of the most popular style trends in the country’s architecture of the early 21st century is high-tech. The era of the Soviet period already demonstrated all the advantages of this style, mainly in the format of utilitarian structures such as sports complexes, small pavilions, glass cafes, and restaurants. At the beginning of the 21st century, the high-tech style brought a variety of sensations into the space of Kazakhstan’s cities: from harmony with the whole environment to almost dull monotony typical of the mass architecture of the Soviet era. The latter observation is associated with the construction of all kinds of multifunctional shopping centers, where the clear saving of funds has not the best kind of influence on the aesthetics of the form of objects.

The most successful examples of high-tech style were created in Almaty by the American company SOM – Skidmore, Owings & Merrill. Another example is, of course, the Astana EXPO 2017 complex by the Chicago bureau Adrian Smith + Gordon Gill Architecture, as well as a number of high-rise buildings in Nur-Sultan, like the Emerald Quarter and others.

The high-tech style has also become one of the leaders in the creations of Kazakh architects, which were mainly explained by the accessibility of materials and the economic considerations of customers. Among such projects in Kazakhstan is the Nurly Tau complex in Almaty, which is regarded with high ambivalence; the Bayterek monument; sports complexes, such as the Nur-Sultan track and field complex (a project by INK Architects, Kazakhstan); the Maqan Hotel and Business Center (INK Architects); the CDC business center in Almaty (by the Turkish-Kazakh company Capital Real Estate), and many other buildings.

The list of high-tech buildings is much longer, as the

style is truly dominating the space of all cities of the country at the moment. For this reason, the abundance of glass and metal no longer appears as a great achievement, although the predominant part of innovations is executed with these materials. One of the reasons for this lack of acceptance is that in Kazakhstan's construction practice, high-tech sometimes takes on kitschy pretentious forms both because of the disharmonious proportions of forms and because of the plentitude of stained glass in bright colors. To be fair, plenty of kitsch can also be seen in the appearance of traditional concrete architectural objects in the contemporary public and residential sector.

The high-tech style also dominates the world practice of construction. Its abundance in the urbanization of Kazakhstan can be an object of separate research, as from this particular style comes a lot of innovative techniques in the architecture and construction of the country. Among the leading innovations for the cities of Kazakhstan is the construction of high-rise buildings, many of which are created in the style of high-tech.

The very construction of high-rise buildings is yet another testimony to the desire of authorities to establish themselves in the world of the powerful. We can once again refer to the postcolonial thinking of the clients, as high-rise buildings indeed symbolize the striving to show off the power and might of the country since greatness and monumental presence are well reflected in this frame of reference. In the Soviet period, the cities of Kazakhstan were filled with low- and medium-rise architecture without any high-rise buildings, with the sole exception of the 25-story "Kazakhstan" hotel in Almaty. In this respect, the erection of high-rise buildings in Astana, Almaty, and other cities of the country was a new phenomenon in post-Soviet architecture. The style of high-tech is widely represented in their figurative expression. For example, in Almaty, in an earthquake-prone zone, high-rise buildings of high stories first appeared at the end of the 20th century, but the most complex development of such objects was realized at the beginning of the 21st century.

One example of such buildings is the Esentai Park complex, which includes the Esentai Tower business center (167 meters), Esentai Apartments, and the Esentai Mall shopping and entertainment center (a project of the American company SOM – Skidmore, Owings & Merrill). According to the design concept, the transparent and mirrored glass facades were supposed to reflect the surrounding majestic mountainous landscape. The same was assumed in the design of Kazakh architects when developing the Nurly Tau complex, which had been built much earlier. Yet the silhouette of the Nurly Tau complex did not turn out to be the best. The complex of Esentai Tower (Figure 9), Esentai Apartments (Figure 10), and Esentai Mall is characterized by greater aesthetic clarity and completeness of minimalist figurative expression.

The overall composition of the Esentai complex is made up of buildings of different heights, among which Esentai

Mall stands out due to the horizontal proportions of its transparent volume. In the artistic design of the glass panels of the facades is a matte ornamental decoration in the national style. The external tangible lightness of form design and the clear logic of free internal spaces create the conditions for a comfortable human experience. Commercial and business spaces actively use the works of modern artists in their interior design. It is clear that these artworks are chosen based on the design concept of the spatial environment of the entire complex. That is, the use of works of art as a special artistic accent in the interior and exterior of the complex.



Figure 9. Esentai Tower business center. Almaty



Figure 10. Esentai Apartments. Almaty

The main dominant feature of the complex is Esentai Tower, the tallest building in Almaty to date. The composition of the tower's volume is founded on the widening of its shape at the top, and a small oblique break divides the vertical plane of the facade into two unequal parts, visually enlivening it. The barely visible line of the break is readable only under a certain angle of light and from a certain perspective. In bad cloudy weather, the building is perceived as a single mass.

The same feeling is not evoked by the image of Esentai Apartments, which is part of the overall architectural and spatial composition of the complex and presents a pile of glass cubic parts of volumes. Along with transparency, and

therefore visible lightness, the aesthetics of the architecture is based on combinations of small reversals of geometric shapes on top of each other. Overall, it is laconic minimalism built on a play of simple geometric forms.

Together with the Esentai park complex, on the other side of the same Al-Farabi prospect in Almaty, there is another object in the high-tech style also designed by SOM – Skidmore, Owings & Merrill: the building of the Financial Center in Almaty. Transparent glass brings to light the entire internal space of the volume and the construction of floor plans. This creates the necessary rhythm, visually lightening the heavy mass of the form.

3.5. Architecture of High-rise Structures

The high-rise Esentai Tower in Almaty is also notable for the fact that its construction involved all the contemporary technologies and the newest materials. This is primarily due to the seismic hazard of the region, as well as to the engineering problems of modeling the forms, as the volume of buildings extends to the top. In all objects of this level, the problems at hand are addressed based on the constructions and materials. Surely, complex forms of high-rise buildings are no longer an obstacle to their realization in contemporary practice. However, for the Republic of Kazakhstan, this is another experience of world-level construction from architects. The artistic merits of the high-rise architecture of many Astana sites are also based on the use of modern technologies and materials.

For example, the aesthetics of the shape of the Emerald Quarter high-rise complex in Nur-Sultan is perceived as complete and modern thanks to the solution of many complex engineering problems (Figure 11, idea by R. Varakalli – Zeidler Partnership Architects, Kazakh authors of the project: R. Allayari, E. Zenina, chief designer: G.A. Sultanov). The shape is achieved through a gradual cantilevering (deflection from the base) of the volume in the upper part of the building up to 15 meters. According to the author of the idea, Roy Varakalli, the concept of the project implied the image of trees swaying in the wind (another version is associated with the emerald crystal). The silhouette of the asymmetrical volumes of architecture indeed curves gracefully, as if the wind is blowing, especially since the upper part of the buildings seems to flutter like the crown of a tree. The cladding of the facades with the emerald color of mirrored glass does not overly dominate and does not fall into kitsch, as is often the case with the buildings of Kazakhstan's cities in the last 20 years.

The same image of trees swaying in the wind is used by architects of the Northern Lights complex in Astana (architects J. Ezau, A. Saumenov, and Sh. Mataibekov, Figure 12). The authors argue that the prototype for the external appearance was birch trees growing in northern Kazakhstan. The new residential complex seems to imitate

this natural phenomenon. Unlike the towers of the Emerald Quarter, buildings of the Northern Lights complex have light undulating curves in their silhouettes, as if repeating the appearance of the well-known in the country “dancing” birches of the Borovoe tract. These birch trees have very peculiar, uniquely curved trunks (because of the soil on which they grow). In the artistic and imaginative solution of the facades of the complex, the authors of the project used “a glass shell of four finely fluted/wavy facets with an irregular arrangement of horizontal corrugations, creating a visual sense of ‘vibrating/shaking facade’” [11, p. 51]. Of course, as noted by the authors of the article, this ripple effect might not always be pleasing to the eye.



Figure 11. Emerald Quarter. Astana



Figure 12. Northern Lights complex. Astana

There are several more similar tower-type buildings in the immediate vicinity of these skyscrapers. Like a forest, they line up in a single grandeur, framing the background of the symbol of national independence – the Baiterek Monument (Figure 13).

It should be noted that all the main high-rises on the Nurzhol (water-green boulevard) line in Nur-Sultan are concentrated in this small section of the main city center. From the very beginning, laid during the first phase of construction of the new capital, they were intended to be landmark objects. By definition, high-rise structures are to

be the dominants of the urban environment, and here they are the compositional axis of the city, an important ideological and semantic node of the entire architectural and spatial composition of the capital. Concentrated along the four kilometers are several squares with government-administrative facilities, religious and cultural centers, a network of ribbon-type recreational facilities, and symbolic monumental objects.

Created in the style of high-tech is also the Baiterek architectural monument – one of the symbols of the independence of the country, the dominant tree in the series of the above. Its semantic meaning refers to the Kazakh version of the myth of the world tree, in the crown of which the legendary bird Samruk lays its golden egg – the sun, a symbol of life. Erected on the direct order of President Nazarbayev, Baiterek (poplar) is an expression of the idea of continuity of national traditions. Everything in its appearance had to be symbolic, including the height of 97 meters – the year of the transfer of the capital from Almaty to Astana (1997). The author of the project, A. Rustembekov, visualized the image proposed by the president in the glittering steel and glass of high-tech style, in the upper openwork nest of which lies a golden ball (Figure 13).



Figure 13. Nurzhol Boulevard. Baiterek Monument. Astana

Of course, this crystal tree had to be highlighted spatially, which was ensured by the efforts of the authors of the projects. Baiterek is located in the center of the square of the same name, being its architectural and artistic dominant. But in its orbit are also some other iconic high-rise buildings of Nur-Sultan, the row of which is arranged progressively, behind the buildings of lesser stories surrounding the monument itself.

This specially created perspective enables an integral perception of the entire line of the capital's central boulevard. However, high-rise buildings tend to draw attention to themselves against the flat steppe landscape, so the "Emerald Quarter", the "Northern Lights" complex, the "Kazakhstan Temir Zholy" building (in short form – NC "KTZ" JSC; architect T. Abilda), and the Ministry of Transport and Communications building, "Transport Tower" (architect N. Boriskin), read well at a great

distance. The varying tonal saturation of stained glass on the listed high-rise objects is also one of the specific features of the juxtaposition of objects on the flat relief of the steppe region. Coloristic accents were desirable because the nature of the terrain itself is quite sparse on them.

3.6. New Technology and New Plasticity in Architecture

Undoubtedly, the construction of the Astana-EXPO-2017 (Chicago bureau Adrian Smith + Gordon Gill Architecture; Figure 14) is a major milestone for the country in the architecture of the post-Soviet period in the high-tech style. It should be noted that despite all the criticism of the main pavilion "Nur-Alem" (Figure 15), this particular object has become one of the most visited by Kazakhs and visitors to the capital for many reasons. Reminiscent of space objects, the architectural image as a whole has much in common with similar structures in the history of world architecture. Spherical structures are found in all parts of the world, as well as in the architecture of Kazakhstan.



Figure 14. Expo 2017 Complex. Astana



Figure 15. Nur-Alem Pavilion. Astana

The main pavilion is not standing in the spotlight alone. All the objects of the complex represent the significance of the breakthrough of new ideas and technologies in the development of the republic. The futuristic image of the entire architectural and spatial composition naturally implies an aspiration to correspond to a new level of understanding of environmental problems.

The entire complex, consisting of several interconnected structures, has flowing, streamlined volumes that seem to

fit into the landscape with their organic plasticity. These are the structures directly included in the circle of the exhibition part of the building, a ring surrounding the central pavilion “Nur-Alem” – the Nomad Hall Concert Hall, International Technopark, International Financial Center “Astana”, Business Center, IT University, and other administrative facilities, as well as restaurants and cafes (today). The complex also includes the separately built “Congress Center”, a five-star hotel Hilton Astana, the vast space of the “Mega Silk Way” shopping center, and the specially erected residential quarters of EXPO-town.

Thus, the construction of Astana-EXPO 2017 presents a solution to a major urban development task, as the area is located to the south of the main square of Baiterek, thereby organizing another major administrative, cultural, and business center of the city. In the vicinity are some educational institutions, as well as a good transport interchange, connecting the complex to both the main highway, the main axis of the city, and the airport. In other words, the modern trends of the city’s sustainable development, the trends of the new urbanism, have been developed here, solving the problem of decentralization of urban spaces.

In addition to the above-noted special characteristics of the construction, we should dwell on its artistic and stylistic features. Glass and metal create plasticity of flexible forms, where everything is subordinated to light, air, and free space. The movement of people is not constrained by any obstacles; almost all facilities have huge atriums, spacious recreational areas, and panoramic elevators. The attention of visitors is always especially focused on the sphere “Nur-Alem”, as it is the dominant feature of this architectural space, and not only because of the status of the museum complex at the moment.

As is the case with all unique structures in the world, such facilities are attractive for their engineering innovations, the use of the latest materials, and often for solving isolated local construction problems. In this case, the resolution of the set architectural and artistic tasks was only possible through the development of new technologies of construction from metal and glass. The perfectly round shape of the 80-meter diameter pavilion is created using cable structures, a metal shell, and glass panels with a special spherical deflection of the glass (a special unique development). Meanwhile, the sphere volume has no stylobate and is instead supported by a circular bar at a height of forty meters from the ground (the bar is suspended on eight cable stays). Certainly, these are not all of the peculiarities of the building’s construction. Virtually in every case, the problems could only be addressed with computer modeling of the complex elements of the shapes of all EXPO complex objects, because accurate calculations could not be obtained using the preceding design methods.

In this relation, computer-aided design technologies have been leading the way in the practice of Kazakhstan architecture, among other things, in the creation of design

solutions. Overall, parametric architecture, digital architecture, and what is now known as the non-linear form of architecture are new phenomena in the world’s urbanization. By virtue of new technology, the architectural form began to take on previously unthinkable shapes, it is no longer simple geometric towers and boxes. However, high-rise construction, too, is impossible without computer calculations. New technologies of computer modeling of forms have brought a variety of avant-garde bionic types of structures into the style of modern architecture.

The EXPO 2017 complex in Nur-Sultan also shows an example of the bionic configuration of volumes. In the architecture of Kazakhstan, these smooth streamlined shapes are mostly characteristic of sports complexes (Astana-Arena, Almaty-Arena, etc.). Thus, the architecture of the EXPO 2017 complex is in the style of bionic high-tech architecture, fitting into its latest context. However, there are also some challenges inherent in parametric architecture from the point of urban planning. Immersion into such an unclear, disorderly environment is fraught with disorientation in space. This argument is brought up by I. Dobritsina [7, p. 57] as she recalls the laws of Gestalt perception in space once described by Niels Park.

In the present case, bionic stylistics in the architecture of Kazakhstan enters the space of the urban environment in a proper way, without in any way falling into ultra-avant-garde types of forms. Besides, the EXPO 2017 complex in Astana organizes new territories instead of fitting into the existing context of the old quarters. Overall, the phenomenal feature of the construction of Kazakhstan’s new capital is that it was built at ground zero. Therefore, in the vast majority of cases, problems were related to the difficulties of one-stage erection of many buildings, when there was no way to visually compare them in real, rather than design, space.

It should be noted that in almost all modern objects of high-tech style, the fundamental philosophical idea of architects is to create a friendly, comfortable atmosphere. In today’s world of business and professional activities, these are very important messages. Therefore, one of the central trends in the concept of architectural and spatial composition is an abundance of open spaces as an expression of the idea of human openness to the world. Consequently, the design of interiors incorporates more light and dilute tones and environmentally friendly materials in the lining and decoration of all spaces.

The above-presented list of objects in high-tech style is not exhaustive. In fact, many objects of functional purpose are designed in this style. For example, the new airport terminal in Astana is another object from the category of solid solutions to both functional and artistic-stylistic problems. In many world-class hotels that have appeared in almost all major cities of the country, the most demanded solutions to functional and aesthetic problems, along with neoclassical style, is the style of high-tech and minimalism.

It should be pointed out that minimalism is one of the clear frontrunners of our time, not only in the world practice of architecture but also among Kazakh architects. The latest business center projects are proof of this. The most extraordinary avant-garde types of structures, like the deconstructivist architecture of M. Nicolletti, are a great rarity. Instead of an avant-garde image, kitsch is more often produced; classic architecture is better synthesized. The present article deals only with public facilities, leaving residential ones out of its scope. However, it is precisely in residential buildings that neo-modern, art deco, and neoclassical styles dominate. As a rule, this concerns premium and business class objects, while the mass budget types of buildings are constructed based on the experience of Soviet functionalism (constructivism). Meanwhile, the facades of the houses are more aesthetically pleasing due to the rejection of brutality, which was characteristic of Soviet mass construction. The problem is addressed by using the coloristic variety of stucco. Yet in the principles of the form of architecture, Soviet constructivism still actively influences the figurative expression of mass residential buildings in post-Soviet Kazakhstan.

Thus, the overall picture of the development of stylistic currents in the architecture of post-Soviet Kazakhstan shows a balance of strivings to reinterpret the architecture of modernism and postmodernism of the 20th century. This very phenomenon is currently being referred to as the era of metamodernism. A large number of articles defining modernity as an era of post-postmodernism, transmodernism, and other isms, currently boil down to the postulate of metamodernism. The experience of construction and architecture in post-Soviet Kazakhstan largely corresponds to this development.

Comparing the stylistic preferences of the authors of the projects, we can see that in today's practice, stylistic trends in architecture majorly gravitate toward a reinterpretation of modernist architecture. The features of postmodernism are observed in quotations, collages, and the intertwining of a variety of styles in the appearance of the architectural structure. Deconstruction as a style of postmodernism can be found but is not so preferable.

4. Conclusions

In light of the material presented in the paper, we can draw the following conclusions. All the aspirations of customers and architects throughout the construction period in post-Soviet Kazakhstan have been focused on creating a new image of a prosperous country. The achievement of these goals reflected the specifics of both post-colonial thinking and the mentality of the new government and the people brought up on the principles of the Soviet worldview.

The established stereotypes of consciousness have been reflected in the search for "role models" in the field of architecture and construction in the 20th and early 21st

centuries. The experience of modernism, most fully represented in the architecture of Kazakhstan's cities, could not help but influence the further evolution of the stylistic diversity in contemporary post-Soviet construction practice. The search for the country's own place in the world community was also based on the desire to conform to best current practices. An important message was presenting to the world its cultural identity, the formation of which coincided with the collapse of the old cultural space.

The key stylistic currents in the architecture of post-Soviet Kazakhstan took shape in the first decade of the 21st century. Rethinking the experience of modern, modernism, and postmodernism is the main reference point in its development at the moment.

The primacy of neoclassics, neo-modernism, art deco, constructivism, and the minimalist high-tech style owes to the demands of the authorities and the citizens themselves. In this format of stylistic expression, the architecture of post-Soviet Kazakhstan reflects the state of the country's spiritual quest in contemporary world culture.

Digital technology has found its place in the architecture of the most iconic objects in the country. New technologies affect the figurative expression of traditional objects and the creation of non-linear forms in architecture. However, the use of parametric design principles does not produce extremely avant-garde forms of bionic structures, so the bionic style in the architecture of the country is represented in very concise architecture, close to the traditional system of shaping.

The architecture of post-Soviet Kazakhstan most clearly and multidimensionally represents the style of high-tech. The materials and technologies that constitute the basis of this style have turned out to be among the most demanded in the construction of not only specific functional objects such as airports, sports complexes, and shopping and business centers but also many public and cultural facilities of the country. A part of the appeal to modern architects is the laconic minimalism that often accompanies the high-tech style. Significant influence on the high-tech architecture style has also been produced by high-rise construction in the cities of the country.

The largest changes and transformations of the urban environment took place in the new capital of Kazakhstan, Astana. This great construction site of the century looks like a versatile collage architectural installation in the steppe landscape, attracting the attention of researchers and critics.

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