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Phenomenon of Nur-Sultan architecture: Aleatoric principle and identity

El fenómeno de la arquitectura de Nur-Sultan: El principio aleatorio e identidad

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ABSTRACT

Introduction: The article presents the authors' reflections on such a phenomenon of modern architecture as identity. **Materials and Methods:** The methodology of the architecture of sovereign Kazakhstan is based on the combination of historical and religious studies, comparative-typological, iconographic analysis, reflecting a systematic, interdisciplinary approach to the study of architecture, the comparison of historical and literary sources, composite graphic analysis of the layout and spatial organization of the objects in question, based on their source study and field survey. **Results and Discussion:** As applied to the formation and development of the capital of Kazakhstan - Nur-Sultan - this phenomenon shows its transformation, due to the search for architects who embody their ideas at various levels of this phenomenon. **Conclusions:** The concept of aleatory, characteristic of the state of the capital today, in general characterizing the state of modern architecture of Kazakhstan as a whole, is derived.

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INTRODUCTION

The situation in which the architecture of the twenty-first century Nur-Sultan is developing is unique. The collapse of the Soviet Union led to completely different conditions for the development of post-Soviet Kazakhstan. The fall of the Soviet country defined the transition to thinking in terms of national development⁽¹⁾. The reasons for moving the capital from Alma-Ata to Astana are usually connected with geographical arguments and safety issues, since Alma-Ata is located in the south of the republic, in a seismic zone. A well-established system of heat, water and energy supply, as well as the availability of communication networks facilitated the process of relocating the capital⁽²⁾.

The relocation of the capital to the center of the country launched a unique experiment in urban planning and architecture in Kazakhstan, according to which the regional center was to become the country's main city with a corresponding architectural appearance. An international competition held in 1998 for a sketch idea of the master plan for the new capital showed commitment to the eastern tradition and, in particular, the ideas of the metabolic city of Kisho Kurokawa. In 2001 the competition for the idea of the general plan of Astana was won by the Japanese architect Kisho Kurokawa, who proposed a symbiotic city concept. This concept springs from the architectural practice of regionalism and the Japanese tradition of metabolic architecture⁽³⁾.

The dichotomy of the city's planning structure, built along the river: the old right bank, built according to all the rules of Soviet urban planning, and the new left bank, combining different world trends, which was an experimental architectural platform. Different scale, different character, different image. But there is undoubtedly integration: Nurly-Zhol Boulevard and its continuation on the right bank to the railway station of the same name. Along this axis, the main administrative and public facilities of the city are placed in a system of ensembles and squares. The central square with the Government House and the Parliament House is adjacent to the square with the buildings of the Presidential Residence, House of Ministries, Senate and the Majilis of Parliament⁽⁴⁾. The architecture of these structures is dictated by ideas of representativeness, monumentality, which, however, did not prevent the square from giving the character of a harmonious ensemble.

The administrative and social axis of the left bank of the city consists of three squares: Central Square, to the west of it - Independence Square and on the highway leading to the airport - Round Square. Nurly-Zhol Boulevard is flanked by ensembles of residential, entertainment and business complexes. According to the designers' concept, the appearance of the capital is characterized by a combination of high-rise dominant residential and public buildings, green esplanades and boulevards with landscaping and watering, architectural and historical complexes, small architectural forms and sculptures⁽⁵⁾.

At the moment there is a further integration of the left and right banks, and the existing gap between them will gradually be overcome. This is the main objective of the new Master Plan 2020-2030, developed for Nur-Sultan by the British architect Ed Parham. The city development model is based on three factors: the city must be comfortable to live in, sustainable and conducive to maintaining the health of its inhabitants⁽⁶⁾. The master plan defines the creation of seven city development centers as the main points of growth, which defines the prospect of the development of polycentricity and overcoming the problem of lack of connections between the two planning parts of the capital.

THE METHODOLOGY OF THE ARCHITECTURE OF SOVEREIGN KAZAKHSTAN

The problem of development of methodological bases for architectural and art history analysis of Kazakh architects' works becomes especially acute and relevant at the present stage of development of national art culture in Kazakhstan. After gaining the state sovereignty Kazakh architects faced the unusual task of creating their own national tradition. In methodological address this task acts as a problem of creation of works of art, in which their own conceptual bases would arise, create, create, invent for the first time.

In order to analyze the artistic language of such pieces of art, which concentrate the contradictory multiplicity of both the world and the artist's consciousness, the methodology of the Soviet art-science, inherited by the domestic socio-humanitarian science, is obviously insufficient. Therefore, the development of philosophical and methodological bases of art creativity in the sphere of architecture and art, based on the critical approach to the world and domestic philosophical and aesthetic thought, is of high priority for the art studies science of modern Kazakhstan. As evidenced by the analysis of publications by leading national and foreign specialists, in contemporary philosophical and art history literature the problem of methodological foundations of art is one of the most relevant, since the approaches of the academic methodology of art studies to development of the problems of style, form, value-semantic plan, narrative structure, composition, etc. of the art work have lost their relevance, especially in relation to the art of post-modernism. The processes of radical transformation which art and creative activity in general are undergoing in the epoch of

globalization, formation of information society, virtualization of reality, etc., impose on contemporary art cognition the need for critical review of traditional concepts of art history, development and application of new philosophical and methodological strategies in comprehension of conceptual foundations of the fine arts.

The methodology of the architecture of sovereign Kazakhstan is based on the combination of historical and religious studies, comparative-typological, iconographic analysis, reflecting a systematic, interdisciplinary approach to the study of architecture, the comparison of historical and literary sources, composite graphic analysis of the layout and spatial organization of the objects in question, based on their source study and field survey.

One of the fundamental issues in the problem of identity in architecture is to determine the possibility of identifying the self-value of architecture, which allows us to realize and understand architecture in its subject or phenomenological definition. Strategies for the nationalization of urban space Nur-Sultan, which is a product of the Soviet era, are associated with the formation of a new image of the capital, a process in which the legacy of the Soviet past is transformed into a qualitatively different urban phenomenon. The new image had to combine the ideas of civilization and openness to the global world with the principles of national identity. The problem of national identity in architecture is one of the most relevant and is the subject of the works of many modern researchers. European researchers focus on the issue of cultural identity in contemporary architecture to create uniqueness and local identity in a competitive environment on a global level. This process has influenced the creation of modern architecture and has ultimately sparked an intense debate on how to create a local identity rather than copying fragments from the past. Singaporean and Filipino researchers have developed the concept of "modern vernacular" as the conscious influence of the unique features of tradition and the embodiment of symbolic identity in creative form.

Let us note that contemporary architecture of the capital city can be considered in terms of its three conventional levels of identity: conformity with place (horizontal identity), conformity with history and myth (vertical affinity) and conformity with modernity (point of intersection of the two directions), and the concept of place identity, which we identified in the ideas of Nur-Sultan architectural objects, is, in our opinion, ideologically dominant.

Methodological inversion of such architects-metabolists as Kenzo Tange and Kisho Kurokawa is an appeal to realize that there is no such thing as permanent cities; therefore we should focus on adaptation to changes, instead of trying to preserve "permanent" examples of city planning history⁽⁷⁾. The decision to divide Astana between the old and new city along the Ishim River easily fit into this conceptual framework. Following the idea of a symbiotic city that never stops in its development, Kurokawa leaves the old city located on the right bank to the past, and plans to build a new administrative center and a new city on the left bank. This sets a fundamentally new format for the city, unconstrained by the urban landscape inherited from past eras. The city becomes not only a screen for strategies of national representation, but also a testing ground for the use of modern architectural innovations.

URBAN STRUCTURE OF THE CAPITAL KAZAKHSTAN

Let us consider the peculiarities of the urban structure of the capital. The axis of the central esplanade of the new capital began from the Akorda residence, stretched to the West through the square with the monument Baiterek to the Round Square, then as it was built it lengthened to the shopping and entertainment center Khan Shatyr to the West and the Pyramid to the East, located on the right bank. The length of the Explanada was 6 km. According to the suggested idea of the Japanese architect, the city development was supposed to follow the existing linear-parallel scheme along the Yesil river with the development of the left bank and reconstruction of the "old town" on the right bank⁽⁸⁾. The main compositional axis was to connect the two transportation hubs of the city: the railway station and the airport. Along the axis, the ensembles of administrative buildings and residential complexes, connected by landscaped boulevards and parks, were to be placed. Despite winning the international competition, the Japanese architect's project was never brought to life in the form envisioned by the Japanese master himself.

The main Explanada of the left bank of the Yesil River was connected to the right bank by the Park and Independence Square. The main objects in the Park are a large-scale fountain, embodied in the image of Samruk bird, and the Pyramid, designed by the famous British architect Norman Foster. Independence Square is a key transportation and logistics hub, connecting the right bank of the city with the new left bank. It is one of the biggest squares in the city with the area of 25 thousands square meters⁽⁹⁾.

The development of the search for new means of architectural language leads to different, sometimes ambiguous results. One of the mandatory compositional techniques in the architecture of administrative buildings becomes a complete symmetry as an expression of the idea of unification of the nation and a strong centralized government. The leading formal sign becomes the dome, called to clearly define the identity of the new Kazakh architecture as the successor of medieval Central Asian traditions. The dome becomes a key metaphor⁽¹⁰⁾. For example, in the former

Presidential Residence in Nur-Sultan⁽¹¹⁾ the dome fixes the compositional axis of the building, the architecture of which is otherwise far from the forms of national architecture⁽¹²⁾. Flat modeling of the side wings emphasizes the plasticity of the central volume with a wide segmental bay window. The brutality of the appearance, created by a large-scale segmentation of the glazed planes, smoothed smooth sketch hemisphere slab. In the architecture of this building the architects presented a new interpretation of the dome composition, which has developed in some major metropolitan public buildings.

Regionalism is also evident in the architectural forms of the Nur-Sultan Reception House⁽¹³⁾, which is characterized by a dichotomous structure, such as the use of structural elements of both European classical and traditional Central Asian architecture, namely the symmetry of the main facade, the motif of the columned gallery (the Roman portico and iwan) and the blue hemispherical dome, associated with the turquoise waterfall of brick domes in Central Asia.

An important step in the process of changing the architectural language, at least affecting the outward signs of the new emerging trend, was the reconstruction of buildings in the Central Square of Akmola. K. Montakhaev changes the scale and color of the facades of Government House and Parliament House⁽¹⁴⁾. And although, at first glance, the architects refer us to recognizable global postmodernist analogues, they still managed to achieve reflection in the high-rise volume of Parliament House: the once monotonous facades are given a completely different rhythm to the monumental vertical composition, which creates a gigantic scale and the illusion of a tower object. In this way, the designers of Government House have recreated one of the oldest archetypes of traditional architecture - the tower, which makes this experience of searching for a new language unique. In essence, in the Government House the same method was used, but the opposite result was obtained, as a result of working with a completely different form - the flattened form. We should also note the harmony of the color combination with the form of the objects: while in the vertical volume the central part is emphasized by the light cladding, in the horizontal part there is solid glazing of a dark blue hue. The central dark plane has a stepped outline, which, in our opinion, can be interpreted as a reflection on the ziggurat/mound theme⁽¹⁵⁾. Thus in these two objects, monuments of Soviet modernism, in the new time unexpectedly sounded the theme of national, which restored the identity lost in the restraint of international style. But it was achieved in the modern language of architecture.

Both the former Presidential Residence in Astana and the new residence, the KORDA Palace (architects A. and B. Tortaev, comp. MABETEX Group, architects M. Gualazzi, M. Molteni, K. Montakhaev, etc.) also reflect the motifs of neoclassical and national architecture. This technique is becoming one of the leading ones in the quest for a new “national” style in the contemporary architecture of Kazakhstan. Beginning with the Residence, variations on the theme of classicism become the basis of the architectural language. The blue color of the domed sphere, national ornaments, and the overall coloristic solution to the facades and interiors of the building appeal to the images of national architecture. All these techniques serve the idea of representativeness and monumentality, the idea of a stable and prosperous state: it is no coincidence that the classical style was chosen. The building immediately became a symbol of the state and the subject of discussions on the further development of the national style in modern architecture.

A peculiar spatial portal organized by the volumes of the tower offices of the House of Ministers⁽¹⁶⁾ shows the dominance of conical towers with solid glazing in a golden hue. The architectural simplicity of the buildings is illusory, they embody the laconism of the architectural volumes of the ancient stone monoliths of Begazy and Ulytau. The symmetrical arrangement of tower volumes flanking the square in front of the KORDA residence makes them important compositional elements of the main axis of the capital's public part, which gives logical completeness to the spatial development of the main highway.

The administrative and social axis of the left bank of the city consists of three squares: Central Square, Independence Square to the west of it, and Round Square on the highway leading to the airport. Nurly-Zhol Boulevard is flanked by ensembles of residential, entertainment and business complexes⁽¹⁷⁾. According to the designers' concept, the appearance of the capital city is characterized by a combination of high-rise dominant residential and public buildings, green esplanades and boulevards with landscaping and irrigation, architectural and historical complexes, small architectural forms and sculptures.

The principles of regionalist architecture are also leading in the architecture of the capital's other administrative buildings. The monumental horizontal rhythm of the facades of the building of the Ministry of Foreign Affairs is achieved by the three-axis U-shaped classical composition. It uses a rather rare deep composition of the square, in which the entrance part is placed in the depth of the half-open courtyard. Note that in the building of the Ministry of Foreign Affairs in an interesting way solved the vertical rhythm of the facade: the lower part of the building is organized by a colonnade several floors high, supporting the cantilevered protruding two upper levels. The combination of the vertical elements of the colonnade and the glazing strips with the horizontal planes of the window openings creates a balanced composition⁽¹⁸⁾.

The building of the Ministry of Justice, located opposite the Ministry of Foreign Affairs, has a dynamic composition reflected in the rhythmic combination of protruding and receding facade planes and various height accents⁽¹⁹⁾. The culminating accent of the building is the central faceted hipped roof and the continuous stained-glass window, located on the symmetry axis of the entire composition. In general, the active plastic and color design of the facades, a skilful combination of solid and through air masses creates the effect of mobility, a living language of communication between the architecture and the viewer.

A different aesthetic is represented in buildings designed in the style of high-tech, where the entire composition is dictated by the large volume with continuous glazed surfaces. Thus, in a series of representative objects of the public administration is a separate building of the Ministry of Finance^(20,21), which has a single curved volume in a complex with multistory blocks. The curvature of the building as well as the blue color of the glazing allowed the citizens to see the image of a flying flag or a bill in the object. It is probably one of the “read” images of an interesting form associated also with the movement of streams of water or air, which is in tune with the changeable element of finance.

NEW ARCHITECTURAL LANGUAGE OF NUR-SULTAN

In the architecture of Nur-Sultan we can observe the process of formation of a new architectural language, distinguished by sensitivity to both global trends and the historical past, which has launched a process of gradual transformation of the phenomenon of national identity. Here unfolds a large-scale urban planning experiment, as a result of which one can observe an active development of the local school with the participation of Almaty architects and invited foreign masters. As a result a multifaceted interaction of diverse artistic trends, creative directions, regional models and individual solutions that demonstrate the unique process of forming the image of the new city and, in general, reflect the new status of the state⁽²²⁾. The broad, “steppe” scope of architectural solutions set another scale, identical to the new worldview and revival of the powerful natural element that had historically been inherent to the Kazakh ethnic group. The public architecture of Nur-Sultan reflects all variants and shades of the national in a modern interpretation: from a vivid illustration of the ideas of Eurasianism, representing the synthesis of the architectural traditions of the East and West (Reception House, Akorda Palace) to modern advanced ideas of technological direction (Ministry of Finance, Nazarbayev Center), to the creation of new architectural compositions (Rixos Hotel, Yrskeldy kazhi mosque).

The leading ideologies, in our view, in addition to Eurasianism, are the ideologies of symbiosis and aleatoriness^(23,24). They serve as the basic context of the national idea, which formed the basis of the national “mission” of Kazakhstan. The ideology of symbiosis in the Japanese context reflects ideas of both postmodernist nature and ideas corresponding to Japanese traditional culture, such as the idea of “temporality”, reflecting the Buddhist thought that everything material will sooner or later collapse. According to Kurakawa, “we all know that everything cannot exist forever, but the spirit and the relationship between architecture and its surroundings are eternal”. Every form, style or material should be applied according to function, climate, cultural identity, or geography. Kurakawa's main thesis is that the Age of Machines is being replaced by the Age of Life. Architecture will eventually move away from a universal international style and toward an intercultural style, which aims at a symbiosis of the universal and the regional. Unlike the times of racism and provincialism, this will be an age of regionalism open to dialogue with the rest of the world, that is, open regionalism.

In this statement by Kurakawa, the problem of the hierarchy of values is first and foremost evident. Symbiosis philosophy attempts to embrace that layer of reality that can be called the overcoming of monocentrism, the dichotomy of contradictions. Symbiosis is an interactive position, involving more and more people in its communications. Ideas of co-creation and ideas of personal responsibility for new architectural and conceptual solutions capture more and more different people.

CONCLUSIONS

A brief historical retrospective of the development of urban culture demonstrates a unique combination of urban and nomadic culture in Kazakhstan, which is a certain justification of the aleatoric principle. Settlement as the basis of urban culture in Kazakhstan originated in the 3rd-2nd millennium BC, as evidenced by the findings of the oldest proto-urban formations - the settlements of Botai, Kent, Toksanbai, Manaisor. Thus settlements of Northern Kazakhstan (Toksanbai) were included in area of "the Country of cities" - proto-town culture of Southern Trans-Ural. The mixed sedentary-nomadic character of ancient nomadic culture manifested itself in the design of dwellings (both mobile and

stationary) and in numerous monuments of urbanism. Settlements gradually turned into well-fortified cities with powerful fortification: thick earthen walls (sometimes in several rows), partitioned and angular cylindrical towers. The town-building art of the Aral Sea region is unique, where the Zhetyasar culture was formed - a complex of 50 settlements, which had been developing uninterruptedly during the millennium.

Turkic time is also marked by the development of nomadic traditions, and by wide spread of urban culture and establishment of cult architecture. The final formation of *kiiz ui*, a traditional Kazakh collapsible dwelling, recorded from the middle of the 1st millennium A.D. is connected exactly with the ancient Turkic environment.

The time of Karakhanid state, the first Turkic dynasty that made Islam the state religion, was the period of flourishing culture in all spheres of life. In the southern areas of the country the cities with classical tripartite system (citadel, shahristan, rabad), cities with "long walls" (with the fenced-off agricultural area), castles-fortresses of separate owners are developed. In the central regions of Kazakhstan, also involved in the area of the international trade route, rectangular in plan fortifications with citadels were erected. Agricultural land was irrigated by systems of canals and ditches diverted from rivers. Cities such as Otrar (1-19 cc.) had a high level of improvement: streets had paving, residential areas were supplied with water through a system of clay pipes - *kuburs*; centralized sewage system is also found. Later, during the period of Mongol Empire, construction activities were transferred to the region of Central Kazakhstan, where a sacred place for Kazakhs - Ulytau - was finally formed. Cultural continuity has been preserved here, starting with Paleolithic caves, rocks with petroglyphs of the Bronze Age, nomadic mounds, early medieval fortresses, and mausoleums of Mongol and Kazakh rulers.

During the Ak-Orda and Altyn-Orda periods (14th-15th centuries), and the Kazakh Khanate (15th-18th centuries) the cities of Sygnak, Saraishyk, Zhaik, Sauran and Turkestan continued to function. The high engineering skill is evidenced by the water supply of the powerful fortified center of Sauran, which was carried out by Kazakhstan's only system of *karizes*.

After joining of Russia, European methods of architecture and design penetrated into Kazakhstan. So, regular "new" parts of cities with a rectangular grid of blocks, a central square with a church and administrative facilities, street landscaping, public gardens and parks were built next to the old cities. New cities emerge on the basis of Russian military fortresses. During the Soviet period, urban planning practices associated with the formation of industrial and agricultural production, including in regions with adverse environmental conditions, were widely developed.

The 1990s - the time of independence, was marked by creative development of a new plastic language, due to the search for identity, up to copying historical monuments. This is a time of changes in housing design, which are required to increase the area and overall comfort. The design of interiors, landscapes is rapidly evolving, there is a huge interest in the world experience. The transfer of the capital to Astana in 1997, and the international competition for the development of the concept of general plan attracted the attention of the world's leading designers (the winner was Kisho Kurokawa). The concept of a linear metabolic city was in tune with the image of nomadic culture, as well as a symbol of the dynamic development of the new state. New forms were connected with Old Turkic mythology (Baiterek observation tower, State Archives in Astana), with general Muslim cultural component (numerous mosques) and with architectural traditions of the Karakhanids (Pavlodar mosque). One of the most remarkable in terms of new design is the Presidential Cultural Centre in Astana (2000, arch. S. Zhanbulatov), which gives a new interpretation to the central composition of the cross-shaped volume, covered with a blue dome.

The architecture of Nur-Sultan in the period of Sovereignty unfolded graphic architectural and urban planning experiment, resulting in a multifaceted interaction of diverse artistic trends, creative directions, regional models and individual solutions that demonstrate the unique process of forming the face of the new city and reflect the new status of the state. Wide, "steppe" range of architectural solutions set a strong urban scale, identical to the Kazakh ethnicity. The public architecture of Nur-Sultan reflects all variants and shades of the national in a modern interpretation: from a vivid illustration of the synthesis of the architectural traditions of the East and West to the modern, advanced ideas of technological trends, to the creation of new architectural compositions.

This process we propose to call aleatoriness in architecture, which to a certain extent has captured the architectural process in the capital, and in the whole country. The element of randomness and variability characteristic of the phenomenon fully reflects a very revealing process of interaction and transformation characteristic of the contemporary architectural language in Kazakhstan.

Thus, the idea of aleatory is incorporated into the concept of Astana under construction; in other words, there will be no architectural dominants in Astana, but there will be a competition of architectural types, freedom in the interpretation of relations and cultural pluralism. The new capital Nur-Sultan/Astana, which embodies the aleatoric concept, is intended to be a city of the XXI century, a symbiotic city. The new capital will receive its birth in the symbiosis of the history of the old city of Akmola and the new erected capital Nur-Sultan.

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