Semantic Aspects that Determine the Nature of the Architectural and Planning Decisions of the New Administrative and Business Center of Tyumen

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Abstract. The article considers semantic aspects that contribute to the formation of an expressive architectural and planning environment of a new administrative and business center in the city of Tyumen. The analysis of examples of foreign and domestic practice, demonstrating the formation of a new administrative and business center with a certain semantics of the architectural image, reveals the semantic and spatial planning features of administrative and business centers in Berlin, Brussels, Nur-Sultan, and Moscow. The authors identify the reasons, regularities and conditions that determine the semantic content of the image of the architectural environment of new administrative and business centers. Based on the identified patterns, a variant of the semantic framework model of the architectural and planning environment of the new administrative and business center of Tyumen is proposed.

1. Introduction
Tyumen is a fast-growing city, the capital of the Tyumen region is fully a regional center for the development of industry, science and business. Tyumen has been discussing the construction of a new administrative and business center for more than 10 years. The feasibility of forming such an object in Tyumen is due to a number of reasons related to the development of the city's planning structure, and the placement of business and administrative structures in the city. There is no clearly localized administrative center in the city as such - the objects of regional and city administration are located in various buildings located within the Central part of the city, but scattered over a fairly large territory. This situation not only complicates the communication process, increases the traffic congestion of streets in the Central part of the city, reduces the efficiency of the management apparatus, and does not contribute to improving the quality of the architectural and spatial environment of the city as a whole.

2. Relevance
The formation of a new administrative-business centre (ABC) in Tyumen will provide quality administrative work, communication administration and business, reduce the cost of transportation, and will also solve the issue of forming a clearly localized center for management and business: construction of administrative-business centre is in the interests of big corporations, which is connected with the peculiarities of development of industrial complex in the region. In addition, the formation of a single administrative and business center of the city will contribute to improving the status and quality of the architectural environment, will ensure the appearance of an" image " object - a symbol of sustainable development of strategically important areas of industry and science in the
region. In this context, the role of semantic aspects of the image of the architectural and planning environment of the new ABC is particularly important. The study of semantic aspects of the architectural and planning environment of Tyumen is conducted for the first time. The principles of semiotics as the science of signs in the theory of architecture and its semantic properties began to be used in the last century by researchers C. Jenks, R. Arnheim, A.V. Ikonnikov, I. G. Lezhava; in modern science, research in the field of architectural semantics is conducted by Yu. S. Yankovskaya, A. G. Burtsev, and I. M. Volchkova. Studies of the features of the development of the architectural and planning environment of Tyumen in the historical aspect are presented in the works of S. p. Zavarikhin and B. A. Zhuchenko.

3. Setting goals
In the framework of the requirements to the architectural image of the new ABC in the capital city of the region determined by the main objective: to identify the semantic aspects that contribute to the formation of expressive architecture and environment planning of new ABC in Tyumen; present the model of semantic frame as the model implementation in the architectural and planning environment of ABC Tyumen image with semantic content that meets the characteristics of historical and contemporary development of the region. The main tasks, therefore, are to analyze the semantic content of the architectural and planning environment of new ABC cities with a certain administrative status, as well as to identify patterns and semantic aspects that ensure the formation of an expressive, meaningful and informative architectural image of the ABC.

4. Theoretical part
A. G. Burtsev defined the concept of the language of architecture: "as a structure ... reflecting a complex of syntactic, semantic and pragmatic properties of its elements" [1, p. 230]. Examples from the world architectural practice demonstrate how the semantic properties of the architecture language affect the image content and the architectural and planning environment of the ABC.

Berlin. After the transfer of the capital of the United West and East Germany in 1994 to Berlin, there is a need to form a new administrative center to house the government and administrative bodies. The location of the site chosen for the design in the bend of the river Spree is very symbolic - it is almost the center of the city on the border of East and West Berlin [2]. The composition for the new government quarter Band des Bundes (Federation Band), developed by A. Schultes and S. Frank, was chosen for implementation. The clearly formulated idea for the implementation of the new center allowed us to form the same clear and expressive composition of the space-planning structure of the new center: the linear structure - band, oriented from West to East, symbolizes the Union of two parts of the city, two Germanies. The straight axis of the Band contrasts with the plastic of the spree line. The strict forms of government buildings' volumes are also contrasted with the picturesque surroundings, but they interact with it. The General character of the composition clearly corresponds to the stated idea of "unification" and makes it easy to "read" the semantics of its image. In addition, the translation of the ideas of democratic foundations also requires expression in the nature of architectural forms. Modern "architecture of democracy" avoids excessive monumentality, so the architectural solution of the buildings of Band is closer to the architecture of postmodernism than to the classicism characteristic of the historical quarters of the Central part of Berlin. The Federal Chancellery building was to become the main symbol of the democratic aspirations of a United Germany. The pure geometry of the forms is combined with light structural volumes and solid glazing, which in turn solves another semantic problem - demonstrating the openness and transparency of the work of the government and officials. W. Sonne notes that the architecture of the structure is rather rooted in the avant-garde of the 1960s [3].

Brussels. The main institutions of the European Union are located in Brussels: a huge complex of buildings is located in the Eastern part of the city, where at one time part of the territory of Leopold Park was allocated for it and the historical buildings were demolished. This fact gave rise to the term "brusselization" - mass demolition of historical buildings, which are replaced by modern buildings [4].
Despite the fact that the European quarter is adjacent to Park areas, there is no integration, interaction with the natural environment. Many experts note that a complex complex of structures is also opposed to the surrounding buildings of the historic district of Brussels, which is expressed not only in the nature of its architecture, but also in the functional isolation of the quarter. R. Vos and S. Stolk note that the European quarter is "both embedded and isolated from its city", as "visually the style of the EU buildings — though hugely diverse — is different from the wider historic Leopold quarter within which the EU district is situated" [5]. The British "The Guardian" notes that the lack of a formal plan for the development of the area has led to the fact that the EU quarter turned out to be gray, uninviting and aesthetically cut off from the city [6]. The semantics of the architecture translates the basic settings applicable to the way such global organizations as the European Union: the scale of buildings and monumental forms demonstrate the stability, globality, typical of the architecture of power: modern and post-modern architecture symbolizes the progressive development of Europe; the democratic vector of development and transparency of the work of European institutions is expressed in a large area of glazing.

**Nur-Sultan.** At the end of the last century, a grandiose project was launched - a new capital of Kazakhstan, a city that "meets the requirements of world standards, which should become a well-recognized brand in the international arena" [7]. The government of the country faced the task of searching for ideas of a new national identity and its symbols. A very successful vector was chosen - the idea of "Eurasianism", based on the geopolitical, historical, cultural, social and demographic features of Kazakhstan's development: the connection between Europe and Asia, East and West, traditions and modernity. The compositional scheme for the development of the General plan of the new capital - Nur-Sultan (until 2019 - Astana) is based on the system of the metabolic city proposed by K. Kurokawa, which clearly defines the territory for the new administrative and business center. During the formation of the spatial planning structure of this center, the semantic aspects were given great attention: the architectural and planning environment is permeated and even oversaturated with the semantics of the national idea. The planning and functional structure of the center is divided into semantic zones in accordance with their semantic and stylistic load: "past", "present", "future", the connection between East and West. The image of each of the elements of the architectural environment to some extent carries a semantic load associated with the translation of ideological attitudes. Such a number of symbol structures, even in the names of which the belonging to the ideological vector is reflected, is a unique phenomenon. The role of the government personnel, in particular the first President of the Republic of Kazakhstan, is very important in this aspect. In studies related to the socio-economic and geopolitical phenomenon of the new Kazakh capital, N. Nazarbayev is often referred to as the chief strategist, inspirer and visionary of many global projects [8], including the idea of a Eurasian identity, which becomes the basis of the style of "Eurasian" architecture [9]. Nazarbayev himself outlined the role of the Central government in the process of forming the city's identity: "... aesthetic forms and appearance of the same Astana should, first of all, determine the Central authorities" [910, p.127]. Professor B. Köppen reveals the theme of the semantic role of architecture in the expression of the main national idea:... “being Eurasian” was also intended as a leitmotiv of Nazarbayev’s geopolitical viewpoints. Consequently, the new capital would verbalize this claim in an appropriate way..." [11]. In turn, N. Mkrtchan emphasizes: "The architectural content of the city is full of the ethnic and civic archetypes and symbols that are essential preconditions for the emergence of pan-Kazakh identity" [12]. Despite the dominance of the idea of "Eurasianism" in the semantics of the architectural and planning environment of the new ABC Nur-Sultan, a huge number of visual and verbal codes were identified, which did not contribute to the formation of a single integral image that meets the representative qualities of the environment of this level. There are intertwined in various styles - postmodernism, classicism combined with elements of Eastern architecture and national Kazakh household tradition. As noted by M. Gajewski: "The majority of outsiders emphasize eclecticism, monumentality and ostentation..." [13]. American geographer Anaker says that the stylistic chaos of Astana is an artificial product created to demonstrate that Astana is on the way to becoming a "global city" [14].
Moscow. According to the original idea of the architect Boris Thor, the functional structure of the Moscow international business center (MIBC) "Moscow city" included business facilities, cultural and entertainment facilities, housing, a Park area and an administrative and government quarter. But the project is in the process of construction has undergone a serious transformation dictated by the changing economic situation. We had to abandon the construction of some "iconic" objects: the project "Russia tower" by architect N. foster was not implemented. The 600-meter-high tower was to become the high-rise dominant of "Moscow city" [15]. The unrealization of some objects and the construction of others that were not initially envisaged led to changes in the architectural and artistic concept of the MIBC: "...skyscrapers should have been located around a vast green area, and their heights would have increased consistently and gradually"[16]. The number of tower structures has increased, and the Park area - pedestrian space, the center of the composition-has disappeared. The semantics of the architectural image of the MIBC as a result of transformations did not preserve the main message embedded in the integrity of the image of the original concept. Nevertheless, it was Moscow city that demonstrated the semantic phenomenon of large-scale ABC: they can become a "symbol" themselves, thanks to the brightness of the architectural image and the global nature of the architectural planning solution. As noted by the chief architect of Moscow Sergey Kuznetsov: "in recent years, the city has become a new "postcard" point on the map of the capital" [17].

5. The model of semantic frame

The examples discussed above allowed us to identify a number of aspects and conditions that determine the quality of the semantic content of the image of the ABC architectural environment:

1. Using the image semantics as the basis of a clearly formulated idea that reflects the main semantic message. Semantic content based on semantic messages should appear in the ABC localization, zoning of its territory, spatial planning and functional structure. Verbal and visual codes should work in the system, revealing the main semantic message underlying the concept of a three-dimensional solution. Overloaded images and symbols, complex semantic content of images can lead to inaccuracies in the process of translation and perception of information, which leads to multiple interpretations and lack of integrity of images. It is important to choose the optimal scale of ABC spatial objects that corresponds to its status, functional and" image " tasks.

2. The choice of the ABC territory taking into account the conditions that can affect the quality of architectural planning and image solutions: the nature of the context-the surrounding development; the availability of territorial and recreational resources (as, for example, in the case of ABC Nur-Sultan: "...the Yessil river has become a natural green and water axis that guides the development of the city and symbolizes the course of life"[18]); central position of the site in the overall planning structure of the city. No less important is the condition for the qualitative integration of the territory of the new ABC into the existing planning structure and ensuring their interaction: the experience of Brussels has shown that a block with a closed structure isolated from the rest of the city has turned into an "administrative ghetto"[19].

3. The Absence of global changes that can distort the semantic content of the architectural image in the process of implementing design solutions. Strict adherence to the initially defined concept of the architectural and planning solution of the ABC will ensure the integrity of the image of the architectural environment and the preservation of the structure of semantic links.

The identified aspects should be taken into account when constructing a semantic framework model, which represents a system of laws and mechanisms for using visual and verbal semantic codes to form an expressive image of the environment. This model will form the most favorable concept for Tyumen semantic content of the architectural image of the ABC.

Semantic framework of ABC in Tyumen. The most priority areas for the construction of a new ABC in Tyumen are located within the geometric center of the city near the river. The inclusion of water resources will contribute to the formation of an expressive architectural image of the ABC, which has a reference to the historical and modern aspects of the city's development. At the beginning of the century, researchers of Tyumen architecture S. P. Zavarikhin and B. A. Zhuchenko spoke about
the need to create conditions "under which the city "would finally turn" to the river - this bright geographical component of the urban landscape"[20, p.250].

As the most convenient and expressive space-planning composition for sites on coastal territories, the composition with the predominance of the extended latitudinal axis is presented, which will reveal the following semantic message: Tyumen is a gateway, a portal, a hub on the way from the European part of Russia to Siberia, the most important point of the "Great Siberian way". In this case, a linear nodal structure of the semantic framework is appropriate: visual codes are distributed evenly along the axis; their concentration is observed on the territory of nodal spaces. The Central, dominant element of the spatial planning structure that emphasizes the dynamic axis of the composition is a linear Esplanade with spaces and zones distributed along the axis. The Esplanade line, as well as the river embankment, is a path connecting the "West" and "East", Europe and Asia, the Urals and Siberia (figure 1). It is advisable to place high-rise sign accents on the most significant spatial nodes - the Central square and squares localized at the Eastern and Western ends of the main axis.

![Figure 1](image)

Figure 1 Distribution scheme of semantic influence zones: 1- "West", 2 - "Tyumen", 3- "East".

If the site conditions allow, the Central node-area can be crossed by a secondary Meridian axis that connects the conditional zones of the "North" (Northern districts with the theme of the development of the oil industry, ethnic features of culture and life of the peoples of the North) and the "South" (connection with Central Asia and Kazakhstan, historical aspects of interaction). The building silhouette is formed by a uniform distribution of buildings along the Central axis with a concentration of high-rise accents on the nodal spaces.

6. Conclusions
The analysis of examples of world architectural and urban practices to the construction of new ABC identified conditions for the formation of high quality semantic content of the image of the architectural environment. The conditions allowed us to determine the semantic aspects that contribute to the formation of expressive architecture and environment planning of new ABC in Tyumen and present the model of semantic frame represents the linear - nodal structures with the ideological and semantic message - idiom "Tyumen - the gates of Siberia", reflecting regional semantics in the context of historical and contemporary features of development.

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