

Conference Paper

From the City-Plant to the Socialist City: Losses and Acquisitions of Human and Architecture

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Abstract

The article has proved the comprehensive approaches to the formation of the architectural and urban environment of the founders of the Ural industrial settlements (city-plants) of the 18-19th centuries and the socialist cities of the 20th century. These approaches were determined mainly by climatic, geographic and economic circumstances. It has been shown that the orientation toward the goals external to the city (economic benefit, conformity to ideological doctrine) destroys and deforms the primary, more humane, and sustainable goals, based on the succession of the town-planning tradition of the Ural region.

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1. Introduction

The crisis situation in the most mono-cities of the Urals makes it urgent to find directions of further development. Does the Urals region, with its more than 290 city-plants, has internal resources for growth? What are the ways of development of industrial cities in the 21st century? We are convinced that one of the main resources is the cities themselves and the settlement system, which has not yet been adequately evaluated by specialists. The issue is complicated by the disciplinary division of the object of research: the historians of architecture ignore such aspects as the way of life or the posture of the human in the city; humanities do not pay attention to constructive or planning solutions. However, the study of history empowers better understanding of the advantages and certain significant qualities of the dense urban settlement system, subordinated to manufacturing goals, and a corresponding number of quantitative and

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qualitative parameters. Their violation in socialist cities leads to deformation not only in the structure of a settlement, but also of the way of life, and ecology [7].

The Ural region has a unique urban heritage. At the same time, its sociocultural determinants, traditions, and contradictions have been studied relatively few; authors are more often content with the study of a single stage without paying due attention to the continuity, spontaneously transmitted experience, and similarity of approaches of different periods. By providing an increment of factual material, these actions do not provide an opportunity to discover the evolution of the urban culture of the Ural region in its distinctiveness; also, they complicate the formation of regional self-consciousness as well as the preservation and actualization of architectural and urban heritage. The article shows the continuity and the moments of the transformation of the cities of the Ural region during the transition from the traditional type of planning and development to the socialist cities of the 1920s and the first half of the 1930s.

1.1. Methods

The methodology of the article is determined by the comparative-historical, semiotic, and phenomenological approaches. It involves the study of architectural processes in the context of socio-economic, cultural, and political changes, on the one hand, and in their connection with human life, on the other. The discourse of everyday life enables to overcome the abstract interpretation of urban planning that exists in the "classical" theory of architecture as an objectively performing process not touching the destinies of individual people. In fact, a person's understanding of his purpose, immediate and strategic tasks causes architectural solutions to the same extent as technology.

The hypothesis of the work is the assumption of a genetic link between the Ural city-plants (which number is about 300) with the earlier metallurgical settlements in this region, which were oriented more toward long-term coexistence with the natural environment than to its "conquest". It may seem artificial to bring the urban civilizations so far apart from each other in time; however, following the researcher [12], we are talking about the continuity not only of technology but also of locations and the way of life. Settlements of the southern Urals steppe of the Late Bronze Age had a diameter of about 400 m; due to the circular shape of the plan, which is observed in most cases, they also became maximally capacious. The population was engaged in mining and processing of metal, so the place of melting can be considered the initial "cell" of a proto-city, which organized around itself residential and public areas. Three millennia later, compact city-plants of the Urals were formed in the territory from the

Kama to Irbit and from Kushva to Ufa, in the southern part coinciding with proto-city settlements. They were organized around the dam and the plant, their main function was the same, i.e. extraction and processing of metal. We recognize the axiological and semiotic aspects of the commonality of the two types of urban settlements of the Urals deserving special consideration (in part, it was done in [4]). This connection was interrupted in the Soviet era, although, at first glance, the approaches of architects from different epochs have much in common with each other: the building of cities according to a single plan or common principles; rationality of location of architectural objects; reproduction of constructive and town-planning solutions in several settlements at once; fast terms of creation; a desire to form a system of cities.

1.2. Results

The Russian reclamation of the Urals and the construction of plants and settlements in the 17-18th centuries went from north to south [3, 5, 9], and it was this vector that determined the selection of architectural solutions most adapted to the harsh climatic and living conditions. They proved to be largely isomorphic to the functional tasks and structures of settlements and architectural structures of the earlier period that arose in the southern part of the Ural region. The scale of development and production are close: the first plants in the Urals of the 18th century had from 7 to 30 workers [9]. It is not much different, and maybe even loses the period of early urbanization. This process was strengthened by the continuity of the technology of extraction and smelting of metal [5]. Thus, the inhabitants of the Aramil settlement before the construction of the Iset plant, "made through small stoves and used iron for sale, and paid tenth (tithing)" ([3], 14). In 1722, this works was banned in order to attract workers to the plant under construction.

We qualify the small size of densely located settlements as a significant characteristic of the Ural industrial cities, both economic and sociocultural. N.S. Alferov noted: "Ural factory settlements of the beginning of the 18th century were enclosed by a rampart and constituted a single complex of buildings and structures, which included a plant with a dam and a pond, a pre-plant area and residential quarters» ([2], 148). The reason for the construction of the wall was the uprisings of the local population, which led to military operations in the 18th century. But typologically and semantically, it was similar to the bulk shafts of the South Ural settlements ensuring the integrity of the town-planning solution, the conditionality of the parts as a whole. A human being cannot create genuinely organic forms by means of technical devices, at least

until now, although the technological changes taking place contribute to the possibility of such a level of formation. But man can preserve nature and the world around him organizing integrity similar to those organic objects constituting nature. It's amazing that people in different periods of history and in different regions come to very similar actions in this direction.

S.V. Golikova stated: "The factories inside each district, as a rule, were scattered throughout its territory: the distance between them was very rarely less than 10 km... the limitations of energy and the dispersal of raw materials and fuel resources generally determined the grouping of factory settlements" ([6], 67). On average, they were located at a distance of 40-50 km forming a dense network with a length of about 400x500 km. Such a decision is dictated by both a long and, most likely, spontaneously reproduced tradition, as well as economic considerations (the plant next to the "cottage" supplying the forest, the possibility of regular trade and cultural contacts, the shortness of foot and horse passes, etc.). In this system, unnecessary transport and energy costs were reduced as much as possible. The settlement system itself was kept by communications and was inscribed in the landscape of both urban planning (location "under the mountain") and architectural level (consideration of landscape while allocating a building or a park, nonregularity of built-up environment, etc.).

The subordination of the interests and structure to manufacturing in all the features and specifics played a critical role in the "exclusivity" of the Ural industrial cities. This is relevant for both early [5] and late ([2, 10]) cities. It is impossible to exclude the negative anthropogenic impact of manufacturing on natural environment and human, but it can be reduced or compensated. This was achieved by creating a dam that provides the plant with energy; use of local raw and building materials; use of rational architectural designs in wooden and brick buildings that allow saving heat; creation of gardens and parks; vegetable gardens and a number of other actions.

The socialist city as a typical product of modernist architectural thinking considers the landscape as a space of subordination and overcoming. Architects are guided by the ideal cartographic view of the city, which does not always benefit its climate and comfort. The translation of ideological dogmas by means of architecture ensures the ensemble of decisions of socialist cities, which is common for this and previous periods.

Functional division leads to the loss of the city as a whole, even at the level of design models. The city turns into a mechanically assembled set of functional zones.

The model of a socialist city is introduced to the territory of the Urals from the outside. For all its rationality, it is not adapted to history, climate, and production. In addition, all of its indicators are uniquely productive in nature and, in turn, maximally

"tied" to the conditions of the socialist economy. "Our difficult economic situation and the need to provide housing for millions of workers make economic issues a priority," writes M. Ya. Ginzburg in 1929, and this message can not be underestimated when commenting on dugouts, missing buildings of workshops, bulk walls of constructivism objects or wooden barracks. The architect comes to the idea of "compacting" the tenants in houses, close to the compactness of the cities of previous periods. It will lead to innovations in the architecture by M. Ya. Ginzburg himself, who proposed two-level residential cells in a "transitional house". But it will also turn into an incredible close socialized communal life: "To what extent can we continue to dehumanize...?... It is necessary first of all to reduce to an absolute minimum all those passages and corridors, which serve only as communication paths. It is necessary to find scientifically and practically verified dimensions for them. It is necessary to study the hallway, bath, kitchen in the manner they study the most important and most accurate organisms. The scientific analysis of these premises leads to a clear conclusion that when rationalizing the design of these premises, and especially their equipment, their dimensions can be reduced painlessly". The rationalism of architecture leads to the transformation of the minimum indicators into an end in itself. Both architects and cities were on this path.

What was being done for the workers or their families was mainly for the purpose of attracting and retaining the labor force, in order to "freely manipulate the population" [11].

At first glance, such a city had great prospects for growth and development (regular planning and development, open nature of town-planning structures, availability of social and cultural facilities, etc.). The historical experience has shown the dramatic and illusory nature of this impression: mono-profile socialist cities quickly exhausted their resources due to their isolation from the tradition and natural urbanization processes of the region.

1.3. Discussion

The basic architectural and town-planning and socio-cultural characteristics of the Urals city-plants of the 18 - early 20th centuries are determined on the basis of historical sources and commentary literature (N.S. Alferov, E.G. Animitsa, D.N. Antropov, E.N. Bubnov, T.A. Vasina, S.V. Golikova, V.N. Lakhtin, W. Lorenz, B. Herez, A.Yu. Kaptikov, R.M. Lothareva, A.N. Mitinsky, I.Kh. Ozerov, E.V. Ponomarenko, V.S. Fedosikhin, S.S. Fokina, O.V. Shipitsyna, E.F. Shumilov, and others). The commonality and differences

in the climatic, geographical, economic, and ideological determinants of the formation of cities of different periods can be shown with reference to the works of S.A. Ageev, N.S. Alferov, E.N. Bubnov, A.V. Dolgov, etc.

The premise of the architects, who designed the socialist cities, including the Urals, reconstructed according to the theoretical and publicist materials of the architects themselves (N. Milyutin, M.Ya. Ginzburg, Vesnin brothers, etc.), and by secondary sources, among which a special place is occupied by the works of M.G. Meerovich and C.O. Khan-Magomedov.

Earlier sources of the turn of the 19-20th centuries, although they are devoted to the history of city-plants in the Urals (A.N. Mitinsky, I. Kh. Ozerov, V.I. Nemirovich-Danchenko), almost entirely bypassed the topic of the city structure. At the same time, they listed the data of factory property and facilities in cities but do not analyze the city image or quality of life in it. Reporting the products or lives of factory workers, they "forgot" to show the world in which all this was happening. This lopsidedness of classical historical science, oriented to socioeconomic and sociopolitical characteristics, has yet to be corrected. However, unlike the beginning or middle of the 20th century, when these works were written, this kind of reconstruction today is much more difficult to produce, because too much has been destroyed, many features can be guessed only by indirect signs.

Many works on regional studies lack attention to the issue [14]. The same about cultural studies [13] enthusiastically retelling the legends of cities or describing the details of life without mentioning their devices, as well as architectural objects in which the events unfolded. Therefore, it is necessary to generalize a large number of data, providing a volumetric and detailed reconstruction of the life in the Ural cities.

2. Specificity of the Development of Settlements in the Urals

The functional and production purpose of the Uralic settlements determined the continuity of the tradition of the relationship with the natural environment unlike most other regions of the world, where early and modern architecture are separated from one another by early modern period and modernism, whose paradigm is either explicitly or implicitly aimed at conquering or forgetting nature. Paradoxically, it is due to the industrial component that the Ural mining plants of the 18th century have more in common with the previous versions of the settlement, and therefore with the attitudes toward entering the natural context, finding a balance. Further, the situation changed

dramatically: during the 19-20th centuries, pragmatic and irresponsible in relation to nature and descendants, sometimes predatory, approach becomes more and more widespread.

3. The Construction of City-plants and the Socialist Cities of the Urals

The compact location of the city around a certain sacred center (the period of late bronze) or a dam (city-plants of the early modern period) is very rational, unlike, for example, from the feudal city spontaneously forming behind a fortified wall. "Villages arose simultaneously with the construction of industrial buildings or after them. In the immediate vicinity of the works, there were built administrative and religious buildings, residential buildings for the administration and workers of the plant.... The location of the factory villages was determined by the peculiarities of the location of manufacturing, for which raw materials (ore) and fuel (wood) were needed as the initial basis" ([6], 67). The same was stated by R.M. Lotareva ([10], 97).

This rationalism has as its basis the model of the world in which man is still "inscribed in nature" (N.A. Berdyaev) and does not oppose himself to it. While the rationality of a socialist city has a pragmatic worldview premise.

If we talk not about metallurgy, which has always been "among the main and especially "terrible" forest devourers" (E.N. Chernykh), namely the settlements of metallurgists, we can state that in their principal decisions the desire to connect with nature (but not to its subjugation) dominates, including the level of beliefs. After all, it is nature and its personified forces (the Mistress of the Copper Mountain, Poloz, etc.) that open up the resources of the Earth being transformed by man.

This tradition continues in the "intermetallurgical" period. According to E.N. Bubnov, the Ural settlements of the 13-18th centuries were a variant of free built environment of wooden houses with maximum allowance for relief, comfort of the location in relation to the water, land, and the possibility of airing. The connection between the planning structure of city-plants and the relief was highlighted by R.M. Lotareva. Considering it "the third element of space" and "the main determining element of the settlement," she spoke of the inclusion of the relief in the regular (now) built environment, "despite the straightforwardness of the streets that flowed around it following elevations" ([10], 113). She also emphasized what would be called today an unintended visual ecology, the decisive role in the realization of which was played by the connection between the city and its reflection in the water of the pond.

The Ural industrial cities were created on the high banks of narrow rivers, which were easily overlapped by a dam that gave life to the plant. Very often they only reproduced a much earlier settlement that already existed at this place, whose inhabitants also engaged in the extraction and processing of metal or stone. The emerging pond naturally fitted into the landscape. The decisive attention of the authorities was given to the development of the dam while preserving the natural shore of the pond. The city was "held back" by nature. Being criticized today (N.S. Alferov, S.V. Golikova, V.N. Lakhtin), the town planning decisions of the period of classicism strengthened the centripetal processes, pulling the activity of the townspeople toward the center, and not providing population growth.

This compactness gives rise to a special kind of ensembles of the Ural city-plants (N.S. Alferov, O.A. Shipitsyna): in the case of a functional and even stylistic difference in buildings made of various materials, they were subordinated to urban dominants and formed as a whole. For example, N.S. Alferov wrote about Pozhva as an original and integral urban settlement, pointing out that its architectural and town-planning solutions were not unique for city-plants. The factory and the dam formed the main axis of the city planning. The Prezavodskaya square ensured the connection of the production core with residential buildings. The most valuable moment, in our opinion, is that "architectural unity here is created by a combination of different in purpose and character of buildings and structures... The integrity and expressiveness of the ensemble have been achieved through the contrast of buildings, the combination of vertical and horizontal volumes, the skillful use of plastics and the color of buildings. Here there is a single proportional system, which coordinates the height and distance between buildings with the proportionality and repeatability of individual parts" ([2], 174).

Factory and industrial buildings, especially by the end of the 18-beginning of the 19th centuries, "combine a great architectural expressiveness, the courage of constructive techniques with full compliance with utilitarian designation and economy" ([2], 7). Even the estates were located in the factories and served a very specific purpose of ensuring a short stay of the owner.

Gradually, in the industrial cities of the Urals, there appeared gardens and parks, which are an important element and an integral part of any sustainable settlement system. In urban estates of the Ural cities, fruit and fruit-and-berry gardens, as a rule, were combined with a regular, and later a landscape park. In all cases, they were dominated not by exotic or imported, but by local tree species. The binding to the landscape required individual solutions, and the Ural parks differed from European ones, for

example. An example of a regular garden in the 18th century was the first botanical garden in Russia, settled by Grigoriy Demidov in the village of Krasnoe (Solikamsk district). In Ekaterinburg, the regular garden was settled by A.F. Turchaninov in the village of Kuyash. Continuing the tradition of active interaction of the city with water, the parks had ponds and canals, later even fountains. Parks were large in area, in the 19th century they began to make them more compact for reasons of land saving. Nearby meadows, fields, wood served as their frame.

In contrast, the 20th century, along with gigantomania, gave the idea of a rigid functional division of territory (the concept of the "linear city" of N. Milyutin, the socialist city of E. Maya, etc.). The merger took place in a more external, superficial manner, including Soviet symbols, common fonts, i.e. not architectural, but graphic techniques. The architecture was virtualized and devalued, as evidenced both by sources on the architecture of Stalinism and by the annals of factories [1]. Losing its ontological status, it turns into a set of conventional signs, in text-appeal, text-greeting of the authorities. Along with this, it became a recognized by authorities tool for the formation of a new man, whose only task would be work. "The conditions of life must be changed, first of all, in the direction that the individual household should be destroyed, that "home", which has always been and is being the source of slavery for women. The above calculation of how many workers should be employed in various branches of social labor in 1942-43 leads to the conclusion that even with a very rapid rise in labor productivity, a shortage of workers can be overcome after 15 years only if all the able-bodied at the age of 21 to 49 years - both men and women - will be engaged in socially-compulsory labor," socialist cities ideologist L. Sabsovich wrote ([11], 33).

This ideology rejected not only the past but also the competitive present. The ideologist of socialist construction N. Milyutin wrote with some casuistry: "The terrible conditions of workers' lives in the capitalist countries... give rise to the liberal idea of building" green cities "," garden cities "among the best part of bourgeois architects, etc. However, we perfectly understand that these ideas, despite all their temptation, are the purest and, moreover, harmful utopia, creating the illusion (false idea) of a possible way out of the situation without the destruction of the capitalist system. This illusion dulls the will of the proletariat to fight" ([12], 12). Such statement covered up and justified the terrible living conditions of the builders and workers of the new socialist cities [1].

The socialist city (Magnitogorsk, Krasniy Kamen district in N. Tagil) was often built, literally, from scratch, without a historical basis. Many ways of surviving in harsh climatic conditions were lost or invented anew.

4. The Way of Life of the Townspeople: 18th and 20th Centuries

Without setting the task of full reconstruction of the way of life of citizens within this article, let us note the most “anthropological” moment, largely caused by political processes.

Undoubtedly, the Ural city-plants of the 18th and the first half of the 19th centuries were far from perfect; there were dirt, rough life, cold, insects. Nevertheless, a) the system itself, which today would be called “network”, kept urban processes in an active state; B) a person in this city had, albeit a small, but individual space; C) the city was arranged so that the person was not one-dimensional, he realized himself in factory work, working in the garden, side job in the form of processing stone or metal “at the stove”, hiking in the forest or fishing (see P.P. Bazhov); this was all the integral tissue of human life; D) the relatively small size of the city, even on a visual level, connected it with the surrounding nature, bringing the lifestyle closer to the traditional rural way of life.

The socialist city with its craving for huge numbers, for all new production indicators, storming, severe regulation of life implies a much more one-dimensional existence of workers. Barracks were divided according to nationality, creating peculiar enclaves ([1], 96). There was a need for factory kitchens, public laundries, baths, kindergartens (so that mothers can work), the idea of giving up personal property, and so on ([11], 33-34, 39-42). Refusing the very possibility of an individual space, architects design hostels and communal apartments. Even these crumbs become the subject of speculation: on December 2, 1931, due to the order of Uralmash director A.P. Bannikov “malicious truants who were absent in November for three or more days were fired and evicted from their housings” ([1], 93). Socialist architecture was ridden from the complete lack of humanity only by the fact that the model of the socialist country was realized only partially.

5. Points of Intersection of the City-plant and Socialist City

Concepts of modernity, in a hidden and explicit form, asserted themselves already in the activities of V. de Gennin (for example, the requirement for regular urban development without taking into account the landscape). With the greatest consistency, they were realized in the 1920s. The discourse of the socialist cities aimed at short-term creation, the effectiveness of the results; its design is declarative and imitative

because the city structure and the "spirit of the place" itself do not have long-term prospects.

Both types of cities were heterogeneous, contradictory within themselves: in the process of life, the city-plant most often represented a space of interaction between Western European urban planning standards and local traditions of construction, beliefs, and lifestyles imported from other Russian territories (from this point of view they have not yet been examined by researchers).

Socialist cities, with the aspiration of their forms for typification, economy, and functionality, especially at first, were inhabited by people from rural areas who "lived" in them according to their habits, values, material possibilities, often without regard to or in spite of ideological attitudes (the factor of "interference" in architecture could be even crowdedness, as it happened in the town of Chekists in Sverdlovsk-Ekaterinburg, when apartments without kitchens were supplemented by them). In this sense, to the "losses and acquisitions" of architecture, referred to in the title, we include not only the results of the actions of professional architects but also the spontaneous actions of the inhabitants, purposefully or inadvertently improving the habitat.

The contradiction of the architecture and planning decisions of the Ural city-plants can be described as a balance or imbalance between anthropogenic interference in nature and its preservation. It has been natural for a city of any period and remains relevant so far, and the Ural city-plants represent one of the surprising options for its solution. Therefore, their experience can be used at the present time. The contradiction of the socialist city, in our opinion, was set by the gap between ideology and everyday life, a "picture" in the report and the reality that is not specific to architecture but rather permeates the whole period. Therefore, the experience of socialist cities is understood either in a negative way or in connection with similar tasks of economy and functionality, as, for example, in the Russian architecture of recent years. The idea of designing house types becomes very relevant, the architects are working on it today, though not always referring to the experience of the recent past.

6. Conclusion

In this article, we tried to overcome the artificial division of city-plants in the Urals of the 18-early 20th centuries and socialist cities as separate and independent products of architectural and town-planning activity, which had become habitual. The similarity of climatic, geographic and socioeconomic conditions leads to rationality and high

effectiveness of city solutions that are becoming relevant at the present stage of urban development.

The differences in architecture and way of life are connected, first of all, with the loss of historical continuity and the "idealness" of the original model of the socialist city, planted on the territory "from outside" and without consideration of many aspects of life and human.

Understanding human and his place in the urban space, urban processes is fundamentally important for the architecture of all the periods studied, because it dictates the choice of architectural and planning solutions, materials, technologies. It is human who "makes" the city, both consciously and unintentionally. This means that the processes of regeneration and renewal of city-plants in the modern Urals will not succeed without changing the model of the person, which is operated by design specialists.

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