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FEATURES OF MODERN SOCIO-HUMANITIES RESEARCH OF MOBILITY IN THE REGIONS OF THE AZRF

Abstract: This article discusses the main developments obtained in the process of studying mobility practices in various nomadic communities of the Arctic. The analyzed provisions are based on the concepts of the anthropology of movement and were developed through a combination of methods of visual anthropology, design and various methods of recording movement, which made it possible to see the phenomenon of mobility in a new way and to comprehend its dynamic component. They will be presented not only as a result of the research performed, but also as theoretical tools inseparable from practical action. A scientific concept, therefore, is not just a crystallized concept of a research arsenal, but a tool directly applied in practice, receiving its testing, "cutting" and refinement in the context of field research and analysis of collected materials. It is the possibility of use in practical activities, which allows one to obtain qualitatively new results in the field of mobility research, that is the key distinguishing feature of the theoretical developments under consideration. It is the infrastructure, its internal (endogenous) and external (exogenous) elements that realize the states of stability (order) and chaos (disorder) in the development of systems, as well as the interconnected and balanced formation of two models of organization of regional spatial formations - hierarchical and heterarchical. But at present, due to the difficult geopolitical situation, the practical implementation of these proposals is becoming impossible. But we are confident that the results of this work will definitely be needed by the Arctic community after some time, when a reasonable approach to this problem will again prevail over manifestations of geopolitical ambitions.

Key words: Arctic, nomads, nomadism, mobility, movement, modularity, autonomy, minimalism, materiality, design, action, institutional infrastructure, decomposition of spatial development, transformation of spatial development, chaos in spatial systems, hierarchical model, heterarchical model.

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Introduction

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The problems and mechanisms of influence of institutional infrastructure on the processes of decomposition and transformation of spatial development of regions of various hierarchical ranks, including the Arctic zone of the world, divided on a national basis between Arctic countries, are very important, but little studied at present. Many scientific works are devoted to this problem, but they are reduced mainly to the traditional economic assessment of the “sectoral” effect of the activities of this very peculiar phenomenon and the concept of spatial economics. This is due to the fact that methodological and methodological approaches to the study of infrastructure, including its institutional components, should be built not on the traditional principles of the “mainstream” in economics, but, based on the system-evolutionary paradigm in modern natural science, and should be closely related to such an indicator of the development of spatial systems as self-organization. It is the infrastructure, its internal (endogenous) and external (exogenous) elements that realize the states of stability (order) and chaos (disorder) in the development of systems, as well as the interconnected and balanced formation of two models of organization of regional spatial formations - hierarchical and heterarchical. This methodological approach also finds application in the case of institutional infrastructure. In scientific and applied terms, it is proven that the activation of institutional infrastructure in the Pacific sector of the world Arctic is also associated with the creation of the Russian-American Council of the Bering / Pacific-Arctic Region (BPTR). These proposals were discussed at several international conferences and in various expert communities. The territories and waters of the world Arctic basin today represent in spatial terms a certain decomposition transboundary structure of macro-regional formations with their own nodes and centers of localization of economic and social development, divided according to national principles between the Arctic countries. Why decomposition? Because, if we understand decomposition in its classical scientific and methodological sense, that is, as a deductive method of structural division of a general problem into its more specific components, then it is precisely this historically established division of the Arctic region that is united in its physical-geographical and natural-ecological parameters into national components and represents this decomposition. It is necessary to take into account this current situation in various

assessments of both the current and future development and development of both these national spatial components and the Arctic as a whole.

In general, administrative and political approaches to geographic regionalization and zoning are subject to serious criticism in the scientific literature, since they inhibit the manifestation of accelerating processes in the progressive transformations of spatial development, especially at the present stage of the new world technological order. In the overwhelming majority of cases, the division on the basis of nationality of a world economy that is essentially unified in its essence is an obstacle to the manifestation of global transformation processes in the development of both national and transnational structures. But in real practical activities we are dealing with precisely this approach, including in the Arctic region. As for this region, right now, due to the changed international situation, starting from the end of February of this year, Russia’s interaction with a number of Arctic countries that are members of the Arctic Council is complicated. This is simply destructive for the cooperative ties that have developed over the past decades in the scientific-practical dialogue of the Arctic regions. On the web page of the Arctic Council, which most recently, in May last year, was headed by Russia as chairman and which, at the Ministerial meeting, adopted a historic document - a 10-year plan for joint work and cooperation until 2035, signed by all eight Arctic participating countries Council, it states: “The Arctic Council suspends all official meetings of the Council and its subsidiary bodies until further notice.” In recent months, articles have appeared in the scientific circles of Western countries questioning the hard-won cooperative interactions and institutional ties in the international Arctic community, in particular, calling for the exclusion of Russia from the Arctic Council.

The Arctic community at this stage, more than ever in history, is being subjected to the most serious tests in attempts to establish a reasonable consensus in relations between the countries that make up this community, to identify the prerequisites for improving and mitigating contradictions and confrontations between interested states in this zone of the world. This will be a very positive factor for many countries in relation to the rational extraction of natural resources in this zone, and in the use of the Northern Sea Route (NSR) and the Northwest Passage (NWP), and in the development of coastal territories and waters, and in improving the livelihoods of indigenous peoples and the newcomer population, and in general in creating an atmosphere of trust and

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cooperation, which is extremely important for many countries in Europe, North America, North-East and South-East Asia and others, which may have their own economic interests in the use of international transport and logistics communications. And the role of the international institutional infrastructure of the Arctic in resolving these issues, in our opinion, is of no small importance. Scientifically, we need to prepare for certain positive changes in the institutional and coordination relationships of the global Arctic community, which should appear in the future.

In recent years, the Arctic topic has become - as in the 1930s, the period of “conquest and conquest of high latitudes” - one of the most frequently discussed in the media and at official meetings within the country and abroad. There are several reasons for this, namely:

- global warming provides unique opportunities for the development of unparalleled natural resources;
- new shipping opportunities are opening up (the shortest route from Southeast Asia to Northern Europe lies through high latitudes);
- large-scale economic expansion in this vulnerable region is fraught with catastrophic environmental consequences;
- Intensifying global competition for dominance is causing the governments of the Arctic countries to seek to consolidate national sovereignty in those areas of “white silence” that may attract the attention of other countries in the context of a changed “balance of power” (the collapse of the USSR, the US desire for the status of “guarantor of the world order”, rapid growth economic and political potential of China and India, attempts of new leading countries to participate in solving global problems, etc.).

Russia has been active in the Arctic for several centuries. According to intergovernmental organizations, Russia's GDP is about 60% of the total GDP in this region of the world. The Arctic's contribution to the country's GDP is 11-15%. But these impressive figures do not reflect the internal “technology” of forming such a significant contribution, which distorts the role of the Arctic in the country's economy. These technologies, as shown by the authors of this issue, vary greatly from country to country and in different historical periods.

From an economic point of view, the most important thing is the openness of the country and its economy to the outside world. Thus, in the 1930s, the USSR implemented a “...”closed” paradigm of Arctic development - with increasing economic autarky with the massive use of cheap forced labor.” The situation with the formation of a development paradigm in modern conditions is much more complicated. Despite the change in socio-economic formations and models of political structure in our country, this paradigm has hardly changed. It is based on the following components, namely:

- Extraction, production and production of natural resources and products that are unique in their natural and economic characteristics; at first it was “soft junk”, “gifts” of the tundra, forest and sea; then came the turn of gold and precious metals, diamonds and base metals, and, finally, oil and gas (to a lesser extent, coal). The fundamental feature of these unique natural resources is their relatively high prices and the possibility of “economies of scale,” which allows them to be sold far beyond the Arctic.

- The extraction and production of a number of goods and services (hunting, fishing and fur farming products, a number of common minerals) are aimed at local or nearby markets. A significant part of the efforts to obtain them is of a non-commercial nature and is closely related to the traditional way of life of the peoples of the North (not only the indigenous people, but also the old-timers).

Unfortunately, attempts to introduce market relations into this area led to negative results - for example, a sharp increase in the number of deer in the Yamalo-Nenets Autonomous Okrug (which jeopardized the preservation of pastures and the future of traditional economic activities). The results of recreating the traditional economic structure of the peoples of the North on the basis of modern technical and intellectual capabilities are so far more than modest. The redistributive nature of the economy: the state sends funds to the Arctic to ensure the constitutional rights of citizens living there (medicine, education, government) and protect the sovereignty and territorial integrity of the country. It is very difficult to create a sustainable economy in the Arctic territories with such an internal “structure”, since this is not so much a sectoral, but rather a spatial-zonal problem. Taking into account spatial features requires not only partnerships between the state, local authorities and the population, but also other approaches to managing the flow of financial resources. Now revenues from the sale of raw materials are accumulated in the “bins” of the largest companies, whose offices are located outside the Arctic, and the other part in the form of taxes forms upper-level budgets. With such a structure, the key question is what part of the income received from the development of the unique resources of the Arctic is returned to the territory. Obviously, the more successful the country's economy as a whole is - that is, the smaller the share of the “Arctic component”, the greater the chances for the Arctic regions to claim a significant share of these incomes, which will improve the quality of life. Unfortunately, universal approaches to solving the problem have not yet been found. Moreover, not only in Russia, but also in other countries - from Alaska (USA) to the province of Finnmark (Norway). In Canada, a seemingly quite successful model has been implemented - the peoples of the North have the right to land, mineral resources and a portion of the income from their development.

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However, its implementation is hampered by different understandings of the goals and directions of development of the Arctic. That is, for whom the Arctic has been a home and place of work for generations, they are wary of “fateful projects” that are poorly compatible, for example, with reindeer herding (seasonal migration), hunting and fishing (catch of valuable species of fish in northern waters has decreased many times). But residents of industrial cities and towns, as a rule, have a different view (sectoral rather than spatial). In this situation, the weighty word belongs to the arbiters - the state and institutions representing the interests of those living in the Arctic. When implementing industrial projects, it is necessary to take into account not only the present (return on investment), but also the future - the state of the environment and unique natural systems of the Arctic (it is difficult to assess in monetary terms the damage from the disappearance of unique species of animals, fish and plants). The era of “conquering and overcoming” left a difficult legacy. It is still unclear how and for what money it will eliminate damage to the natural environment - in a number of places in the Russian Arctic it is of a threatening nature. It is equally important, when determining the modern economic model for the development of the Arctic, to consider it as an organic (not just a raw material) component of the economy and life of the country. Our position is as follows: “The success of Arctic projects will largely be determined by how economic and financial relationships will be built with the development of related industries and production in other regions of the country.” There is not and cannot be an Arctic economy without a deep and caring approach to the issues of its future, the development of its economy in the system of internal and external economic relations. Support zones, complex projects, priority development areas are only intended to “get the ball rolling” on this process. Development, a decent life, a favorable environment and harmonious relations between all participants in economic activities in the Arctic are the foundation without which it makes no sense to talk about the economy of this region.

Main part

Modern socio-humanitarian research characterizes the “mobile turn”, the distinctive feature of which is the interpretation of mobilities as an independent reality, existing in the form of networked social relations. Important developments in this area are the works of John Urry, Manuel Castells, Noel Salazar and other researchers. In domestic ethnography, a separate direction was developed - the anthropology of movement. Under the leadership of Andrei Vladimirovich Golovnev, the Russian Science Foundation project “Mobility in the Arctic: Ethnic Traditions and Technological Innovations” was implemented, within the framework of which a series

of monographs and articles was prepared, and an exhibition was held, conceived as a narrative about what it means to “be a nomad”.

The article discusses the theoretical developments used to study mobility in the Arctic, presented in the works of A. V. Golovnev, as well as members of the research team he led. The purpose of the article is not so much to summarize the main results of the application of conceptual schemes of the anthropology of movement to the study of nomadic communities in the Arctic, but to outline the potential for applying these developments within the framework of research practice. E. Eliot, R. Norum and N. Salazar note that, although life without mobility is impossible and any everyday interactions involve movement in space, the methods of anthropological research were largely formed by a static approach: in classical anthropology casts of a disappearing ethnographic reality were recorded, in a lesser degree, the research method was aimed at studying precisely the processes of constantly occurring changes. The theoretical apparatus developed by A.V. Golovnev and a team of researchers under his leadership makes it possible to abandon the static view of mobility and move on to multidimensional and multilevel modeling of movement. The system for recording the movements of nomads, proposed and tested within the framework of the project “Mobility in the Arctic,” allows not only to deeply and comprehensively study northern cultures, but also to present them in a new visual and text format. At the present stage, thanks to the development of technical means, it has become possible to use new methods of recording and analyzing mobility, allowing maximum concentration on the study of dynamics. The movement can be recorded, its elements can be identified, and the slowdowns and accelerations of its pace can be analyzed. In this context, the combination of new recording methods and the non-static gaze of the visual anthropologist is very important. It was the synthesis of methods of visual anthropology, design and various methods of recording movement that made it possible to see the phenomenon of movement in a new way, to comprehend, first of all, its dynamic component. In mobility, both the actual movement in space and moments of stationarity, preparation for movement at certain points are important. However, the static component prevailed in the ways of interpreting mobility, looking at the results of movement rather than the process itself. There is great potential for the study of the physical elements of mobility, plotted on a map or diagram, supplemented by recording GPS tracks of movements, as well as video photographs of movements/actions - a special author’s method of the anthropology of movement, the purpose of which is to create a multidimensional picture of movement with its peaks and pauses, personal and social trajectories.

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Movement mapping is important for ethnographic research, but it is difficult to implement in practice. Recording a track on a GPS navigator and its subsequent decoding, description and interpretation is the most important task for future research projects related to the study of mobility. Drawing tracks of various categories of local residents on a map allows you to visualize movements and highlight gender characteristics of mobility. It is possible to visualize the movement in space of not only a person, but also an animal (deer, dog) or any thing (vehicle, portable home, tool).

Visual methods have enormous potential in mobility research. The idea of visualizing nomadic technologies within the framework of an atlas based on the results of research among reindeer herders in Chukotka, Yamal and the Kola Peninsula was a breakthrough. The authors made an attempt to present nomadic technologies in all their complexity and multidimensionality.

Visualization of mobility practices as a direction has enormous potential for future research and will undoubtedly develop due to the emergence and spread of new technologies. Filming camps from a quadcopter, 3D modeling, using micro- and macro-focus, recording GPS tracks and thermal imaging opens up great prospects for understanding mobility. The most important part of mobility analysis is changing the plan, studying macro- and micromobility. To develop these areas, traceology can be used, which allows us to consider various technologies at the micro level. Movement across the landscape leaves not always noticeable marks on things, similar to those left on them when processed with a tool; special equipment helps to see these marks. The use of new methods allows us to take a fresh look at the material basis of movement. The most important tool for studying the movement of nomads is visualization of their movements using rhythmograms. Two strategies apply here, namely:

1) measurement of the rhythm of nomadism by stops (camps) - in this case, the rhythmogram will have the form of bars, in which the duration of static periods is indicated, and migrations are designated as bar lines;

2) a beat consists of the duration and extent of migration, and stops act as beat features - this option corresponds to the nomadic tradition, in which the path is measured by migrations.

However, using only visual research methods, it is impossible to understand and interpret mobility: it is not enough to observe the movement of nomads, you need to empathize with it, feel it from your own experience. An important aspect of studying mobility in the Arctic is the analysis of the speed of movement of a nomad. Not everything he does is fast, but individual elements require rapid inclusion, prompt analysis of the current situation and action. Arctic nomads have developed a special "art of quick

action." Within the framework of this area, the most important observations were made in the field of the anthropology of speed, which were developed in the research of cyber processes. Speed has its uses. In Chukotka reindeer husbandry, A.V. Golovnev identified three speed orbits, namely:

1) walking, which is supplemented by trips by vehicle;

2) the "middle horizon", which consists of the reindeer movement of the herd and caravan with a long summer season and short stops in the off-season;

3) "upper horizon", represented by air and road transportation.

All these three orbits do not remain unchanged; they include new tasks of movement. For example, the use of new vehicles requires periodic repair and creates the need to deliver spare parts.

Certain actions in the daily practices of a nomad require high speed. This is especially important for controlling the movement of the herd. Nomads develop and perfect a special art of alternating tension and relaxation in rhythms and arrhythmias - one of the most important technologies of Arctic nomadism. Rhythm in nomadism is a complex combination of bio-, eco- and techno-rhythms linked into a single composition.

The speed of various movements has the property of transforming phenomena and creating new ones. The speed and technologies of movement are changing not only in the tundra, but also in towns and cities. For example, in the town of Egvekinot in Chukotka, electric scooters began to be actively used in the summer, which have now become widespread in other regions of Russia. The possibility of such movements is ensured by existing and newly created infrastructure: in Egvekinot, for example, there is a relatively extensive network of smooth concrete roads, which creates the very possibility, or "affordance," of using new means of transportation.

The most important development within the framework of this direction is the combination of the concepts of space and time. This allows you to take a fresh look at the processes taking place. This kind of attempts had been made by theorists earlier and invariably provided new food for thought: MM Bakhtin, for example, understood by "chronotope" (a term introduced by A. A. Ukhtomsky and literally meaning "time space") the interconnection of temporal and spatial relations, artistically mastered in literature.

A. V. Golovnev in his thoughts about "merged space-time" relied, first of all, on the practice of representatives of Arctic nomadic communities. In the ideas of nomads who are constantly on the move, it is impossible to separate time from space. The active lifestyle itself contributes to the perception of space and time in an inextricable connection, one is thought through the other. The difficulty is that within the framework of scientific analysis it was much easier to

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treat them as separate categories. The author observed similar couplings of time and space in the context of categories describing movements among the Evenks. For example, in Transbaikalia, fishermen and hunters often use the expression “walking around with a snack.” This means that a person, moving throughout the day, returns to the same point in space.

A nomad is, at his core, a designer. The concept of “design” is interpreted quite broadly here. Design is a special, strategically important form of arrangement and movement of people, things and animals in space. The most important development is the understanding of design not as a result, but as a special form of interaction between a subject and material objects. This concept not only changes the language of science, allowing us to talk about the “design” of nomads, but introduces a number of essential elements into the analysis of modern processes, namely:

1) refusal to understand design “developments” as a static result that shapes practices and their perception by direct participants and observers;

2) looking at actions through the prism of design allows you not to separate the action from its result;

3) design takes the form of strategic action.

Design here is inseparable from practice and is formed within the framework of direct interaction with the environment.

Studying nomadic technologies makes it possible to update the tools of both the ethnographer and the designer. This kind of approach opens up interesting possibilities, allowing us to analyze, for example, the effect of overgrazing from the perspective of nomadic design. Adjusting the rhythm and method of movement of the herd allows you to adjust the interaction of the herd with the landscape, which determines both the condition of the animals (their weight, first of all), and the preservation of pastures. The design of mobility in nomadic communities varies depending on the landscape, the condition of the pastures, and the distance from industrial sites and administrative centers. The approach described above is potentially applicable not only to reindeer husbandry, but also to other livestock sectors. The way the herd is managed influences the physical impact that animal movement has on the landscape.

Based on the developments of A.V. Golovnev, we can draw a conclusion about mobility as a creative, constructive process. The very mobility of nomads, the methods of its organization, their strategic actions are the result of a creative synthesis of skills and constantly updated information about changes in the state of the environment and the movements of various agents. Design is thus part of everyday life, and not just a narrowly focused activity of designing aesthetic properties. Mobility always takes place in a specific space, but it actually participates in its

creation. If you think of movement not as a set of specific movements from a point

A to point B, and as a set of parallel transformations of the arrangement of material objects relative to each other, then mobility can be interpreted as a creative process, that is, generating new objects and changing their physical states, where nomads are the designers of their space and movements in it. This approach allows us to concentrate on the actions of the nomad, his active involvement in the process of transforming material objects, and see him as a strategist, at the same time similar to a chess player and an artist. This, in turn, allows us to highlight both the practical and aesthetic components of the movement. The migrations of reindeer herders in the tundra are reminiscent of a game of chess, and sometimes a “move ahead” can be made strategically. To avoid mixing reindeer, the Nenets even roam “in a checkerboard pattern.” The most important skill for them is driving the herd across the tundra, which is reminiscent of shipping navigation: it is necessary to prevent collisions and mixing of the herd with the herds of neighboring reindeer herders. Herd management is achieved through coordinated execution of maneuvers. The movement styles of northern nomadic reindeer herders are environmentally friendly. This effect is achieved not so much by regulating the size of the herd or searching for places abundant in food for reindeer (reindeer moss), but rather thanks to constant dynamics, a dynamic manner of grazing. The mode of transportation thus has important environmental and energy effects.

In recent years, the materiality surrounding the inhabitants of the North has undergone dramatic changes. Its transformation is brought about both by the actions of local residents and by various projects that influence the technologies for creating and the practice of moving things. The transition to the use of stationary houses in settlements significantly transformed the mobility practices of local hunters, reindeer herders and fishermen. Thanks to the development of the transport system and the spread of new material objects, this process can accelerate and lead to significant changes in the world of things around humans.

Material objects in the Arctic characterize certain forms of dynamics. A thing does not stand still and does not remain unchanged. Material objects created by man are the result of multiple movements and modifications. There is a constant distribution (contraction and dispersion) of individual objects in space, as well as their change and transformation during operation.

Mobility allows not only to constantly restructure the arrangement of things, creating their conglomerates, but also has an impact on the material objects themselves, changing their physical

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properties. Thus, the things of nomads are created and transformed in constant movement.

The most important concepts for considering materiality are the concepts of transformability and polyfunctionality of things. The material objects used by northern nomads (vehicles, homes, buildings, clothing, tools, utensils) embody many practical functions. Arctic residents can use things in a new context, but the principle of poly functionality is preserved. For example, residents of the reindeer herding village of Amguema in Chukotka actively use yarangas during the warm season, installing them in close proximity to the settlement.

Installing a yaranga in this case serves several purposes, namely:

Firstly, this practice allows the tires of traditional dwellings to be preserved. Some local residents - usually retired reindeer herders - have their own family yarangas. During the cold season, disassembled yarangas can be stored in containers and sheds, but they cannot be kept in this form for a long time. Yaranga is a mobile dwelling; when used by reindeer herders, this structure is constantly in action, in motion. To preserve the yaranga, it must be assembled and disassembled, dried, and repaired;

secondly, yaranga allows you to significantly expand the area for subsidiary farming, making it possible not to be limited to territories adjacent directly to residential buildings.

In the Yaranga, skins are tanned, cut and sewn. Yaranga is also used for cooking: meat and fish are dried in it over a fireplace, and food is fermented. Residents of Amgue store fishing equipment, clothes and shoes, and sledges in traditional mobile dwellings. Yaranga is also used as a space for leisure with children, family, and friends. It is used by some local residents for overnight stays. Yaranga and all its contents, including religious things, must participate in people's lives and ritual activities. Without this, according to local residents, the household spirits of the yaranga itself will not only stop helping their owners, but will also begin to harm them. Thus, the installation of a yaranga aims to ensure the well-being of its owners. Finally, its installation near the village makes it possible to organize a "display" for outside observers, demonstrating and affirming the authenticity of the lifestyle of the local community, thereby attracting tourists. Amguem yarangas are used during holidays to greet guests. Thus, the yaranga as a material object is multifunctional, both in the tundra and near a populated area.

The Arctic is an area where proven technologies can be applied. What has been shown to be effective always becomes quite widespread. In the case of nomads and the movement technologies they use, a significant role is played by mobile, nomadic modules, which include not only a caravan of sleds, but also a herd of deer itself. Modularity is one of the key properties that characterize the methods of space

exploration in the Arctic and allow saving time and energy costs when performing routine actions. The use of modules can significantly speed up movements.

Both local residents of the North and representatives of mining and transport companies use the same type and practice-tested strategies for using space. The development of space involves the use of various kinds of modular systems. Many module elements can be quickly replaced with similar material objects. In this case, we can talk about modules of various scales. The interchangeability of components is the most important element in preserving the action potential in conditions of scarcity of things. There is another strategy, widely used in the North, which allows one to maintain action potential in places remote from distribution centers. This is a strategy for accumulating substitutes, substitutes, and using alternative, additional systems.

The idea of modularity has great potential for ethnographic research. The most important element of the life of nomads is the nomadic module, an effective combination of heterogeneous elements that allows them to perform everyday actions. A module is what makes it possible to effectively develop space. It is modularity that allows representatives of northern communities to maintain relative autonomy. Nomadic communities are characterized by the "principle of autonomous mobility."

The concept of modularity, however, is applicable not only to the description of the everyday life of nomads. In the Arctic, modularity is used both in the tundra and in populated areas. In the North, on their farms, local residents actively use mobile modules - for example, metal containers - as stationary structures. The principle of modularity is of great importance for the Arctic territories as a whole: the development of vast spaces became possible precisely through the use of effective modules - typical sets of things.

A Yaranga, tent or tent is a kind of construction set consisting of similar elements that can be replaced if necessary. This property - the ability to quickly replace individual parts - is fundamental. The lack of such an opportunity often causes skepticism among northern nomads about the innovations being developed and implemented. For example, many Chukchi nomads, residents of the Amguem tundra, told the author that the absence or breakdown of any structural unit of the new yaranga would not allow them to quickly, "on the fly," carry out operational repairs of such a dwelling. Taimyr reindeer herders spoke with humor about the quickly dismountable yurts introduced in the late Soviet period, which were supposed to be used as an alternative to the beam on skids. According to the reindeer herders, these yurts quickly fell into disrepair, it was difficult to find replacement parts, so now the remains of such "innovations" are "scattered across the tundra." Local residents always prefer verified and well-tested

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technologies. Innovations take root, but mostly those that the local community can support on its own. For example, Dolgan reindeer herders adapted the balok on runners because it is easily made from local natural materials - wood, which is available in the forest-tundra zone, and tires made from reindeer skins. They also assemble stoves independently from scrap materials. Taimyr reindeer herders, for example, make the stove body from metal basins, which they buy in local stores.

The most important feature of the life of nomads is “material minimalism”: they carry with them only those things that ensure control over space and the moving herd. It should be noted that the concept of minimalism is promising for analyzing the materiality of not only nomads themselves, but also residents of northern and any settlements remote from the centers of resource distribution, since it allows one to study the dynamics of materiality in conditions of scarcity. Many northern (and other) communities are experiencing supply shortages. People are forced to save resources by developing certain sets and complexes of things that allow them to effectively solve current problems while conserving resources. The strategy of economical spending itself presupposes the ability to achieve results at minimal cost. Such a strategy is the most important component of the technologies developed by representatives of various northern communities. The most important direction for future research is the study of ethnoergonomics, combining minimalism and practicality with elements of northern aesthetics. Things are commensurate with the body of a person, a deer, the shape of other things, they are combined with each other, allowing one to avoid environmental resistance when moving.

Minimalism is not only a feature of the material world, but also the most important component of motion technologies, as well as the process of production and modification of material objects. Technological minimalism is about minimizing the energy required to achieve results. Movement in space itself is an energy-saving technology. It is dynamics that make it possible to master maximum resources with a minimum of tools.

The most important conclusion from this provision is that movement itself can replace or supplement a material object. That is, movement has a certain form of materiality, and this is not only the result of movement, but also the materiality of people, animals, things and natural phenomena in motion. Movements are the force that changes the materiality of objects around a person. Northern nomads actively use such technologies. For example, while working among Dolgan reindeer herders in Taimyr, we witnessed corral work being carried out without installing a corral. The coordinated actions of people and dogs and the use of a certain landscape made it possible to carry out zotechnical work without the

use of special buildings to restrict the movements of animals (corral). It is the herd nature of deer that allows humans to control the movement of animals.

Reindeer herders strive to avoid long stays of animals in one place. According to Dolgan reindeer herders, the places where corral work is carried out can be easily seen from a helicopter - fenced areas where reindeer have been concentrated for some time.

For a very long time they were still deprived of any vegetation. If corral work is carried out without the use of the corral itself, trampling is significantly less, since the concentration of animals in one place is lower and for less duration.

Dynamism is another distinctive feature of northern communities. The state of dynamics creates a special effect that manifests itself in the everyday actions of representatives of nomadic groups: nomadic technologies become effective and manifest their advantages precisely in dynamics. At the same time, those technologies that are effective in static conditions are not always effective in dynamics.

Movement consists of a certain set of practical operations. In this sense, the study of mobility requires attention to the category of action and the analysis of its motivational scheme. In the ethnographic analysis of movement, not only field observation is important, but also phenomenological (hermeneutic) perception and interpretation of the modules of motives-decisions-actions. The action of a nomad is the result of an assessment of a constantly changing situation and a non-static analysis of it. The category of action involves the active inclusion of representatives of the communities being studied in building their own space development strategies, which are based on a set of practical actions that are constantly adapted to current conditions.

Many principles used by residents of the North and involved in mobility practices are applicable in practice and allow them to save resources in conditions of scarcity. Ethnographic research on mobility provides an opportunity to focus on the role of local residents in creating the conditions for the potential for movement or motility. Ethnography allows one to identify and explore the key principles used by local people in their practices, and to consider resources and energy processes at a level commensurate with the individual. A person who consciously adjusts his motivational-activity scheme has enhanced project and activity potential. Skills, reflexivity and knowledge allow representatives of northern communities to change directions of activity depending on the current situation.

The advantage of Arctic cultures is precisely their mobility, which allows them to cover a vast space and develop the resources scattered throughout it. In the process of interaction with other people, animals, and the landscape, Arctic residents have the opportunity to take active action in conditions of resource scarcity. In their movements, Nenets reindeer

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herders rely on the “principle of dynamic cooperation,” which consists of uniting the efforts of various social agents within the framework of migrations. With such unification, the Nenets family retains autonomy and can migrate and, if necessary, join another camp. This principle works in a similar way in other Arctic communities. For example, Dolgan reindeer herders unite during summer grazing, and after corral work at the end of August they split up and graze their herds separately. It is important to consider strategies of cooperation and mutual assistance in dynamics, since the result combined efforts is not only the arrangement of objects in the space of the camp, but also the process of movement itself (migration). During migrations (castlans, argish), it is very important to correctly distribute the roles. It is thanks to the correct coordination of actions, constant internal adjustment of the direction of movement that people, animals and things move in space. Features of the functioning of such a category of economic systems as infrastructure, issues of its influence on the final results of the development of the entire system as a whole and theoretically justified identification of infrastructure components (activities, industries, sectors, etc.) in each system under consideration, problems of the relationship between investments in infrastructure and economic growth and the diversity of organizational, legal and financial forms associated with the creation of infrastructure facilities have long been of interest to scientists. Many scientific works are devoted to such a phenomenon of spatial organization of society as institutional infrastructure. As an example, we can cite the article by Kh. N. Mallaev and M. T. Avramchikov, in which, based on an analysis of many works in the field of problems of institutional infrastructure, it is concluded that this category is understood mainly as a complex of industries and areas of activity that carry out macroeconomic regulation of the economy, supporting the most optimal macroeconomic proportions for the development of the national economy. A number of foreign scientists, in particular M. Ruth, adhere to approximately the same approach. As can be seen from the above examples, the methodology for studying institutional infrastructure is based mainly on sectoral approaches to its formation, related to the economic functions of its constituent activities and their “integration” into the system of institutional management of one or another spatial entity. This is essentially correct and has its effect. But a purely economic approach based on the well-known principle of “costs - results” according to the currently dominant neoclassical paradigm of mainstream economics to the general theoretical understanding of the category of infrastructure, including institutional, is not here, in our opinion, sufficiently scientifically grounded and promising. The phenomenon of infrastructure belongs to another scientific and economic direction. The

methodological approach to the study of infrastructure (substructure) should be built on the basis of an alternative direction in modern economic science, namely, the symbiosis of evolutionary and system economic theories (system-evolutionary economics), which follows from the system-evolutionary paradigm in modern natural science. This direction and its main postulates are set out in many scientific works, starting with the fundamental works of theorists of evolutionary methods for studying economic processes, the systems approach and their followers.

Understanding the role of infrastructure in this approach should be closely related to such an indicator of systems development as self-organization, during which almost the entire life cycle of an emerging complex dynamic system is realized and the reasons why it comes to stagnation under certain critical conditions are identified. Such processes can only be realized in systems that have a high level of complexity and also have a sufficiently large number of elements, the connections between which have a branched scheme that is not rigid, but adaptive, which is precisely typical for infrastructure elements. A distinctive feature of these processes is their focus on the survival of the system, which should be expressed in the formation of its infrastructure, the external, exogenous elements of which are constantly aimed at “probing” and probing future options for its development, adapting the system and its main (basic) elements to emerging new conditions its functioning. Let us emphasize once again that the concept of infrastructure from a theoretical point of view cannot be explained in neoclassical economics. As you know, this term was introduced into modern economics from military science, which primarily uses a systematic approach to the development and evaluation of military strategies. This term has taken root in classical economics; it is now used by both scientists and practitioners in various fields of economics. But the specialists who use it usually do not think about the fact that when using this term, they unwittingly move to another platform of economic research, into the sphere of systemic analysis of economic processes. After all, speaking about the infrastructure (substructure) of any economic system, it is necessary, first of all, to quite clearly define the very structure of this system - sectoral, spatial, combined or other, which in itself is a difficult problem. In general, infrastructure is a system-wide concept, the use of which is necessary when analyzing systems of both abiotic (inorganic, nonliving) and biotic (organic, living) order. This concept relates to general systems theory. It can be assumed that it is the infrastructural elements that create a holistic picture of the world through their connections between abiotic and biotic objects.

This is a special and scientifically very complex subject for research, but it is here, as we see it, that lie

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those reserves and mechanisms that are associated with the stability and adaptability of various hierarchical ranks of socio-economic spatial systems to fairly strong and sometimes destructive influences of natural and social environment. What do we generally mean by the infrastructure of such systems? These are specific accompanying (substructural) activities through which the movement of material, energy, information and other resources is carried out in order to interconnectedly ensure the functioning of the basic elements of a given system for both production and social purposes at various hierarchical levels of spatial and economic entities, as well as their maintenance environmental and socio-economic sustainability, self-organization, survival and adaptability to the influences of the external and internal environment.

Moreover, the role of infrastructure elements in accordance with the principle of isomorphism of systems in each of these formations at different levels of the hierarchy is in principle identical.

The problems of systemic balance in Russia's spatial development, the mechanisms of self-organization and system formation of regional spatial formations and the synergistic effects of their infrastructure in these processes are the subject of many studies. As an example, we can refer to the works that have already been mentioned above, since they provide a broad analysis of research conducted in this area. The main criterion for the development of such systems is their survival in all natural and social parameters. To achieve rational indicators of vital activity in a given system, it is not at all necessary to have the highest indicators of its economic development, especially if this is associated with an "overload" on a number of natural and environmental parameters and infringement of the interests of certain segments of society. The main thing is to be able to accumulate resources and their reserves to adapt the system to new, both external and internal conditions of its development and existence, as well as to ensure sustainable reproductive processes while maintaining reasonable levels of consumption of accumulated resources in terms of public consumption in all respects.

If we methodologically use a structural-functional decomposition approach to the analysis of the entire complex of spheres of a typical spatial-economic system, which is an organic conglomerate of three basic components - "nature - man - society", then its spheres according to these components can be conditionally divided into the following, namely:

nature: cosmosphere, geosphere, biosphere, ecological sphere;
man: physical sphere, spiritual sphere;
society: noosphere, sociosphere, economic sphere, technosphere, political sphere, institutional sphere.

We emphasize that the structuring of these spheres is carried out only according to the criteria of their role in the economic development of any spatial entity. For example, with regard to such a sphere as the cosmosphere, here we are talking about its role not as a certain cosmophysical phenomenon (this is an object for research in the field of cosmophysics), but as about the possibility of its use for economic purposes, namely for the development of navigation satellite systems, Internet and specialized databases, for environmental observations, creation of interconnected wireless communication systems and for other economic purposes.

Each of the identified areas deals with a specific set of resources, which has, in principle, a similar structure in all areas. In an enlarged form, we can talk about two large groups of these resources: material and energy (natural and reproductive, characteristic of this particular area) and information, which naturally differ in scale depending on the specifics of this area.

Speaking about information resources, we understand that they are the basis for managing each area of spatial economic education, that is, they act as a specific resource base for its institutional substructure (infrastructure).

Of course, each area has its own sectoral institutional infrastructure. But the identification of an independent institutional sphere in such a component of spatial education as society shows that this sphere of a given spatial education aims to synthesize all the management functions of individual sectoral spheres. Without such an approach, it will be impossible to coordinate and direct the functioning of these spheres, developing according to their own sectoral laws, sometimes contradicting the single goal of development of the entire spatial economic entity, to achieve its ultimate goal. This can lead (and often leads) to chaotic processes in its formation, its uncontrollable stagnation and a bifurcation jump in an undesirable direction.

Techniques for truly systemic institutional regulation based on the creation and maintenance of appropriate infrastructure should be built on conceptual approaches, research on the basis of which has close connections with such concepts as chaos (disorder) and stability (order), reflecting the essence of two opposing but complementary models of system organization: hierarchical and heterarchical. The hierarchical model is associated with the evolution of the objects under consideration, which is initiated and developed on the basis of transformations and modifications of the upper level of the hierarchy, external to a given system. The heterarchical model is based on internal relationships of interdependence and interconnection of horizontal single-order subsystems that activate evolutionary processes based on adaptive self-organization.

Internal (endogenous) and external (exogenous) elements of infrastructure implement these states of

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order and chaos in the development of systems. Internal elements are responsible for creating and maintaining order in the system, external elements are responsible for the openness of the system, which is associated with the introduction of a certain portion of chaos from the exogenous level, which forces the system in question to constantly improve the mechanisms of self-organization and adaptation to changing internal and external conditions. That is, hierarchical and heterarchical models in system organization and system education are implemented through external and internal infrastructure elements, their specific proportions, dynamics and intensity of interactions, which must be determined for each type of infrastructure at each time stage of the system self-organization process.

This approach is clearly visible in the example of such a well-known main transport infrastructure element of the global Arctic zone as the Northern Sea Route (NSR), to which many studies have been devoted. Regarding this main communication in our country, it was developed and approved in accordance with the Order of the Russian Government of December 21, 2019 No. 3120-r "Infrastructure Development Plan for the Northern Sea Route until 2035." Here it is worth paying attention to the fact that the decisions taken are aimed at creating mutually complementary infrastructure conditions, namely:

firstly, to modernize and expand the mainline communications itself, which is mainly related to technical and technological "vertical" sectoral issues of the development of the mainline itself, the construction of an icebreaker fleet and others (strengthening its hierarchical role);

secondly, to implement additional measures aimed at strengthening its influence on the development of the raw material base and supporting industrial centers of coastal regions for the long-term period (strengthening its heterarchical role).

It is this pyramid of infrastructural connections of various spheres and objects of natural and economic systems, penetrating them from top to bottom, that makes infrastructure problems extremely complex, requiring special methodological approaches and research methods. Many works of researchers are devoted to the development of Arctic spatial formations in our country and the world Arctic. The problems of the development of various institutional bodies and their infrastructures both at the national and international levels are also discussed, including issues of their formation in the specific conditions of the transboundary zone of the Pacific sector of the world Arctic at the crossroads of two oceans and continents.

During the period 2021–2023 The Russian Federation is the chairman of the international Arctic Council, a well-known leading intergovernmental forum, which, despite various geopolitical contradictions in the interests of the Arctic countries

of the world, was designed to ensure their cooperation, coordination and interaction. This Council includes associations of indigenous people and newcomers to the Arctic, as well as many countries and organizations that are observers to the Council in solving common Arctic problems. This Council is often called the Arctic Parliament. It includes countries whose coasts directly face the Arctic Ocean - Denmark (Greenland), Canada, Norway, Russia and the USA, as well as Finland, Iceland and Sweden, whose territories are crossed by the Arctic Circle. These eight countries, according to the international classification, make up the Arctic zone of the world. The council also includes several expert and Task Forces groups. All of them are aimed at solving very important problems for the Arctic. The effectiveness of their activities in specific areas was very high, which is described in detail on the council's website. This council is an intergovernmental platform of the highest government rank. However, the activities of the Arctic Council today, due to the changed geopolitical situation, have come under severe pressure from its members - representatives of Western countries and North America. Some scientists adhere to a similar position.

Timo Koivurova, who is a professor and former director of the Arctic Center at the University of Lapland, writes: "The Arctic Council can continue to work without Russia. With some creativity, the remaining seven Arctic states can move forward with the vital work of this body. The article was published by Arctic Today, a respected news publication based in the United States that works with media outlets throughout the circumpolar north to provide readers with on-the-ground reporting, international news and perspectives on the Arctic community from one of the world's fastest-changing regions.

Alice Rogoff, who is the publisher of the same news source Arctic Today and co-founder of the Arctic Circle Assembly, writes: "The time has come for Arctic Council 2.0. Russia's threat to Finland and Sweden makes the existing paradigm of Arctic cooperation within the Arctic Council unworkable... If Russia's exclusion from the Council cannot be done officially, let it be done unofficially. This can be done by consensus of seven countries."

The Arctic, like many other areas of international cooperation and globalization, is currently becoming an arena for serious contradictions, new challenges, threats and tests. However, specific research developments in the field of problems of spatial economics in the Pacific sector of the world Arctic, reflecting the real situation in this region, show that there is no other way than strengthening international cooperation in solving problems of improving the natural and environmental situation here, and business activities, and the functioning of the most important there are simply no northern sea communications, and the livelihoods of the indigenous and newcomer

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populations, and other important problems. Therefore, we continue to be of the opinion that it is the Arctic Council that can rightfully be considered today as a kind of truly “parliamentary” international institutional body of such a spatial and economic entity as the world Arctic basin. And we are confident that it is still necessary, at least scientifically, to continue to work on issues of improving the activities of this council, since its role and significance are very important not only for the Arctic basin, but also for the entire world community. And the appropriate attitude towards this council will be restored in the near future, and with the full participation in its activities of Russia, which occupies almost half of the Arctic territories and waters of the world. So, returning to the topic of this article, we emphasize once again that many governing functions can be seen in the activities of the Arctic Council, although this body, despite certain intergovernmental support for its functioning, was created as a kind of public forum for discussing pressing Arctic problems, which, of course, is not a fully institutionalized international management structure. As for the working, expert and task groups of the Arctic Council, they can be considered as its institutional infrastructure, through which resource, in this case information and resource, support the functioning of this institutional body, as well as finding consensus in combining hierarchical and heterarchical functions of external and internal elements of this infrastructure in managing the development of the Arctic region.

Each of these groups is aimed at an in-depth study of one or another problem, both the type of activity itself and the joint functioning of all types of activity of a given spatial formation as a unified system of nature, man and society in a given natural-economic zone. Moreover, it is here that their hierarchical (sectoral, coming from the interests of various types of activities and states) and heterarchical (regional, coming from the “interests” of the natural environment and socio-economic priorities of local development) essence is manifested, and here the mechanisms of their mutual coordination are worked out. These groups include leading subject matter specialists and experts on the issues under consideration in the functioning of the Arctic Council. They are the institutional “substructure” (infrastructure) of the Arctic Council. That is, the very essence of the activities of these groups shows the importance of both external and internal infrastructural elements of the Arctic Council, which is the institutional sphere of the entire Arctic basin as a whole. Over time, their focus on certain priority problems changes, but this is natural for the processes of adaptation and self-organization.

Along with the Arctic Council, a number of associations of North Arctic countries at the mega-regional level, down to the level of local governments, are currently operating in the global Arctic zone. Their

work has intensified in recent years and is very productive. They include not only the immediate regions of the Arctic basin, but also a number of territories that are not directly included in the Arctic zone of the world, but have a significant political and economic interest in the development of Arctic spaces. These are, for example, organizations such as the Council of the Barents/Euro-Arctic Region (BEAC), which have shown their effectiveness, and the Northern Forum, in whose activities administrative bodies of the regions of the North Arctic countries of the world participate, as well as a number of other organizations with industry specialization.

As for the Northern Forum, it is an international non-political organization that makes a significant contribution to the development of interregional international cooperation between the regions of the Arctic basin. The Northern Forum has observer status with the Arctic Council.

Another very important and successfully functioning interregional organization in the European part of the Arctic zone of the world is the Barents Council, which is also an observer to the Arctic Council. If you look at the governing bodies of these interregional forums (Northern Forum and BEAC), at their secretariats performing these functions (by the way, very small in number), it becomes clear that they are their institutional structures. And all working groups that provide their activities with appropriate resources (in our case, specific information) act as the infrastructure of these institutional bodies.

Taking into account the considerations that were outlined above regarding the methodological concepts of infrastructure as a system-forming mechanism of regional spatial systems, the following conclusions can be drawn.

First of all, regarding conceptual approaches that are closely related to the relationships between categories such as chaos (disorder) and stability (order), and the concepts of two polar models of the organization of spatial systems - hierarchical and heterarchical. In the case of the considered institutional structures of the entire Arctic basin and its macro-regional components (Arctic Council, Northern Forum and BEAC), these approaches show the following:

1) their hierarchical structures are based on political and legal mechanisms for the functioning of national governing bodies, pursuing their national interests (these mechanisms are implemented through external elements of the infrastructure of the regions in question);

2) their heterarchical structures are based on the natural environmental and physical-geographical parameters of each region; they maintain a state of order that comes, first of all, from natural processes, and then from the characteristics of the socio-

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economic development of each region. And these processes in the heterarchy of natural-social systems are supported by the internal elements of the infrastructures of these systems.

Regulating joint and coordinated actions of external and internal infrastructure functions for the purpose of sustainable development and rational self-organization of the entire system as a whole is a very complex process that covers many issues of regional development. But in any case, it presupposes finding a certain consensus between the national interests of border states (society), the interests of regional societies (people) and the “interests” of nature (nature), and therefore requires mutual concessions on the part of each interested subject of socio-regional development to achieve this consensus.

The application of the applied approaches to the study of Arctic spatial-economic formations also leads to the conclusion about the need to form a transboundary Russian-American Council of the Bering / Pacific-Arctic Region (BPTR) as an institutional structure in the transboundary sector of the Pacific Arctic. This Council will have a dual purpose and function:

- firstly, as a monitoring institutional body in a transboundary region at the crossroads of two continents - the Eurasian and North American and two oceans - the Pacific and the Arctic;

- secondly, as balancing the development of the Arctic zone of the Russian Federation (AZRF), its East Asian outpost in the system with its Western European outpost - the Barents Council / Euro-Arctic Region (BEAC).

The Bering/Pacific-Arctic region, that is, the Pacific sector of the world Arctic basin, and according to the national classification of the Russian Arctic, and according to the international classification of Arctic territories and waters, includes in the continental part the territory of the Chukotka Autonomous Okrug (ChAO) from Russia and the territory of the state of Alaska from its ridge of the Aleutian Islands on the US side, as well as exclusive (exclusive) national economic water zones bordering these territories in the seas at the junction of the Arctic and Pacific oceans.

But given the existing spatial-systemic and practical economic relations and processes, there are

serious reasons to include the entire Kamchatka Territory in this transboundary North Arctic Pacific sector, although formally this peninsula geographically belongs partly to the subarctic territories and partly to the marine climate area. The territory and water area of the region play a large role in this transboundary zone both in the economic use of its resource potential (for example, in the extraction of marine resources) and in ensuring the functioning of the Northern Sea Route. The creation and development of the East Asian hub port of Petropavlosk Kamchatsky in the Far Eastern sea basin in a system with the Western European hub port in Murmansk creates opportunities for the balanced functioning of the two terminal ports of the NSR on this most important backbone element of the Arctic transport infrastructure, especially in transit international cargo transportation.

This position is confirmed by modern studies of structural-geological and tectonic objects in this zone, carried out according to spatio-temporal hierarchical principles and substantiated by the latest facts of geology and geophysics. They confirm that the Kamchatka Peninsula is an organic part of the geological structure of the Pacific sector of the Arctic. The administrative map of this sector, consisting of the Chukotka Autonomous Okrug and the Kamchatka Territory from Russia and the State of Alaska from the USA, as well as the exclusive economic water zones of both countries is presented in Figure 1.

Despite a number of problems in Arctic policy between Russia and the United States (Konyshov, Sergunin, 2018) and the difficult geopolitical situation, the project of creating the Bering/Pacific-Arctic Region Council (BPAR) as an institutional structure in the transboundary sector of the Pacific Arctic may be of quite high interest to many countries and regions not only of the northern part of the Pacific basin, but also of the European part of the North and Arctic zone and North-East and South-East Asia. At the initiative of the Institute of Economic Research, Far Eastern Branch of the Russian Academy of Sciences, this project was discussed in past years at two very large international wills of scientists and specialists in the field of studying the global Arctic basin.

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Figure 1. Administrative map of the Pacific Arctic sector (in the square is the Bering Strait region).

The first meeting was the 24th meeting of the Russian-American Pacific Partnership (RAPP), held at the end of June 2019 in Khabarovsk and the second meeting was the IX International Forum “The Arctic: Present and Future” of the Association of Polar Explorers (ASPOL), which took place December 5–7, 2019 in St. Petersburg.

The structure of SBTR can be presented graphically in the form of a diagram (Figure 2).

It will consist of more than a dozen working and expert groups, including specialists from regions directly included in the SBTR, “complementary”, mutually complementary regions from both Russia and the United States, as well as regions of observer countries. It is these groups that will make up the institutional infrastructure of the newly created governing body of the SBTR.

Its administrative divisions (Bilateral Bering Secretariat, Bering Regional Committee, Committee of Senior Officials) are aimed at performing organizational and managerial functions, that is, they

will be its institutional bodies, and through its working groups there will be resource and infrastructure support for the activities of the council - information for decisions the main problems that are identified as priorities at this stage. Groups operating under the auspices of the Committee of Senior Officials represent the external elements of the institutional infrastructure that realize the national interests of the member countries of the council. The groups operating under the auspices of the Bering Regional Committee are internal elements of the institutional infrastructure that are aimed at promoting the interests of its regional components. Thus, these working groups are aimed at different levels of monitoring priority problems: external infrastructure - at the level of global international Arctic problems (hierarchical functions), internal infrastructure - at the level of regional problems of a given Arctic sector (heterarchical functions).

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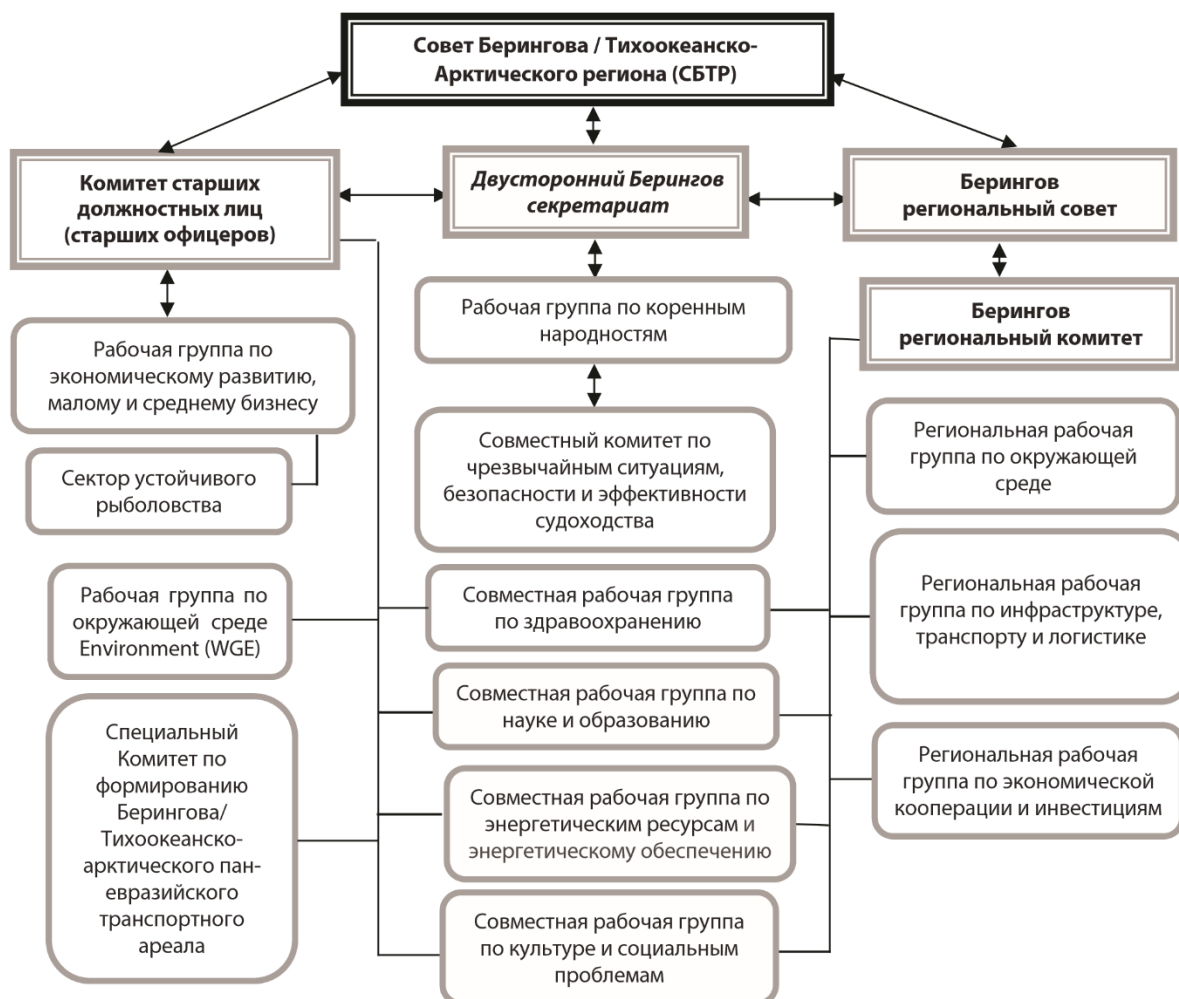


Figure 2. Institutional structure and infrastructure of the Bering/Pacific-Arctic Council (BPTR)

But for more detailed and coordinated work with these problems, working groups can combine their efforts in joint expert teams - joint working groups in which global (hierarchical) and regional (heterarchical) interests of the Council member countries are coordinated.

Established and newly created institutional structures and their infrastructures both at the global and regional levels of the Arctic basin are associated with the solution of one significant issue: are the institutional bodies of the Arctic countries and regions (Arctic Council, Northern Forum, Barents Council) taken into account in this entire pyramid? / Euro-Arctic region - BEAC, Bering Council / Pacific-Arctic region - SBTR), as well as their infrastructures, are not just formal, but real, very close co-evolutionary and coordination ties, sometimes cross-linked, which were discussed above and the need for accounting and regulation of which is dictated the very nature of the spatial formation called the Arctic?

At present, unfortunately, such a clear methodology, tools and mechanization

There is no interaction between institutional bodies of international intergovernmental and regional North Arctic forums and associations, which, naturally, does not make it possible to observe this organic unity of natural and social relations in the Arctic basin at both the regional and global levels.

It is in this regard that there is a need to create a specialized unit that would develop a similar methodology for coordinating the activities of all interstate and macro-regional forums and associations of the North Arctic countries and regions on the basis of the coordinated activities of their institutional structures and infrastructures based on the methodological and methodological approaches proposed in this article.

In this regard, it is possible to propose, as a specialized unit for developing a methodology for coordinating the activities of all institutional structures and infrastructures of the Arctic countries and regions, to create a temporary task force of the Arctic Council (Task Force), which will be entrusted with the execution of this task.

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Upon completion of its work, the task force will cease to exist, transferring the methodology it developed and the corresponding tools for permanent use to the Arctic Council and interregional forums and associations.

As shown in the diagram, the task force of the Arctic Council to develop a methodology for coordinating its activities with macro-regional organizations in the field of institutional structures and infrastructures will implement its functions through constant contacts with the working groups of all major interregional forums and associations, developing tools for this coordination to focus their efforts to solve priority problems of the North and the Arctic.

Conclusion

Arctic communities are dynamic in a variety of ways. Representatives of northern nomadic groups demonstrate dynamism in the perception and development of cultural and technical innovations - new means of transportation, navigation devices, gadgets, tools, technologies, and materials have entered their everyday life. Technological innovations do not destroy, but develop nomadic culture in their own way. The technical and technological equipment of nomadic communities changes the routes of nomads and the material objects used by nomads. Representatives of the indigenous peoples of the North play an important role in producing conditions for vigorous activity and the formation of action potential - the most important condition for creative processes and transformations in the Arctic. The inhabitants of the Arctic are the creators of the things around them. Traditional dwellings, means of transportation, equipment of a reindeer herder, fisherman and hunter, outbuildings and containers filling the space of northern settlements are the result of "fine tuning" - practical debugging, polishing, adjustment to local conditions and landscape features.

Mobility, including nomadism, has historically been the basic principle of the development of vast Arctic territories. At the same time, nomadism should not be perceived as a shadow of the past; it represents the culture of the present and future, which does not disappear, but is transformed. The nomadic tradition itself, including mobile space-time strategies, values and technologies of nomadism, a special form of thinking, and rhythms of environmental and social behavior is the cultural heritage of the Arctic and the heritage of world culture as a whole. The cultural heritage of the indigenous peoples of the North lies, first of all, in the special technologies they use, high adaptability and mobility as a system of control over space and resources. The mobile technologies of the Arctic nomads contain a number of basic principles that make it possible to rationally use available resources. Locally developed technologies, such as grazing strategies, can achieve certain ecological benefits. The most important property of techniques

and technologies developed in the Arctic is their practicality and effectiveness. Mobility also meets these criteria. The Arctic man acts as an active creator of his life and the surrounding materiality, and not only things have an energetic effect, but also the very actions of people, ensuring active interaction with material objects and the environment. With the help of multiple human efforts and practical actions, the Arctic has become a habitable space.

Mobility is a necessary condition for creation and creativity. It is in movement that local residents are able to express and realize themselves. Creativity in the North is the ability to invent and create material objects in conditions of scarcity, a limited amount of resources, implying the maximum use of existing material objects and infrastructure. The logic of transformation and creation of a material object in such conditions is largely determined by the experience of local residents.

Finally, scientific concepts and theoretical constructs themselves are an element of dynamics. They must be constantly tested, built into working schemes, supplemented and thus developed. The design of the approaches to the study of mobility considered in this work allows them to be adapted to the study of specific situations of dynamics and static states. A scientific concept, therefore, is not just a crystallized concept, a tool in the scientist's research arsenal, but a tool directly used in practice, receiving its "cut" and refinement in the context of field research and analysis of collected materials. It is the possibility of application in practice, allowing one to obtain specific new results, that is the most important distinguishing feature of the theoretical developments under consideration.

So, this article examines the influence of institutional infrastructure on the processes of decomposition and transformation of regional spatial formations of the Arctic at its global and macro-regional levels. The proposed and implemented methodological approach of structural functional decomposition to assessing the role of infrastructure as a system-forming element of spatial economic formations, regulating with its external and internal elements the state of chaos and order in the system, its hierarchical or heterarchical orientations and preferences, makes it possible to identify specific types of these infrastructures at different regional levels of the Arctic space.

From the analysis carried out, it follows that at this stage the historically established international decomposition proportions and imbalances in the development of the Arctic basin need to implement a number of transformational changes in its spatial development based on improving its institutional sphere. This, along with other areas for improving the activities of the Arctic Council, is connected, in our opinion, with the creation of the Bering / Pacific - Arctic Council - SBTR as an institutional structure in

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the Pacific sector of the world Arctic with its infrastructure elements, which will significantly improve the balance of the formation of the regional components of the Arctic zone of the world as a whole and avoid emerging imbalances in their development.

Let us emphasize once again that, despite the difficult international situation and proposals from a number of countries to exclude Russia from all international Arctic structures, the implementation of the interests of Arctic states and regions in the global Arctic zone requires coordination of their activities on all natural, environmental and socio-economic problems, which is simply practically impossible to do without the participation of our country. Just a few months ago, some progress was made in terms of relations between Russia and the United States as cross-border countries in the Pacific Arctic sector. In particular, Russian Foreign Minister S. Lavrov, speaking at a meeting of the Council of Heads of Subjects of the Russian Federation on June 15, 2021, said that Moscow is open to the development of interregional cooperation with the United States, and is also interested in creating new regional structures to work on the Pacific dialogue with Washington. The conversation was about the Bering/Pacific-Arctic Council and strengthening our relations within the framework of the Russian-American Pacific Partnership (RAPP). "We are interested in creating new regional structures, including the Bering/Pacific Arctic Council, which involves the participation of a number of Russian Arctic entities and Alaska. While our American partners are thinking about this proposal," S. Lavrov emphasized then.

Also, Arctic problems found a very positive discussion during the meeting in Geneva on June 16, 2021 between the Presidents of Russia and the United States V. Putin and D. Biden. Putin, at a press conference after the summit, emphasized: "...I am deeply convinced that we can cooperate - and must cooperate - in this area. Russia and the United States are one of the 8 members of the Arctic Council, Russia chairs the Arctic Council this year. And moreover, between Alaska and Chukotka, as is known, there is also a famous strait. On one side is the United States, on the other side is Russia. All this together should push us to join forces."

And on the American side, these proposals also found their supporters, at least in the scientific community. One can give an example of a recent publication in the American scientific press by such a

well-known scientist in the field of Arctic issues as Betsy Baker, a specialist in the field of international diplomacy with 25 years of experience, living in Alaska, an employee of the Wilson Center of the Polar Institute, director of the Research Department of the Arctic Pacifica (North Pacific Research Board), Alaska Marine Science Center. In her article, published quite recently - in November last year, she refers to the work of the author of this article and to the proposals prepared by the Working Group of the Russian-American Pacific Partnership (RAPP) for the creation of the Bering / Pacific-Arctic Region Council (BPTR), and very positively characterizes this initiative. The suspension of joint actions between Russia and the United States causes serious damage, first of all, to the solution of natural and environmental problems in such a "corner of the world" as the Pacific sector of the global Arctic, and also sharply reduces its role as the future largest transport and logistics natural channel in the Arctic. maritime communications of the NSR and NWP, which would allow it to become a serious competitor, for example, to the Suez Canal for connections between Asian countries and Europe. Joint ownership of the Bering Strait and rational and safe regulation of navigation in its zone would allow Russia and the United States to receive serious additional economic income, which would be possible only with sufficiently good neighborly relations between both countries. This would be important for all other users of these Arctic sea routes, who highly value the safety and reliability of the passage of their ships through these communications, in contrast to the risks, for example, of the passage of ships due to the same piracy on the route to the Suez Canal (Far Eastern and Pacific Arctic..., 2021).

From 2021 to 2023, the Russian Federation acts as Chairman of the International Arctic Council. Even if in the coming years there will be certain difficulties in its activities, our country will continue to work in accordance with the adopted documents on the development of the Russian Arctic for the future to significantly improve the processes of transformational changes in transboundary Arctic regions at the national level, which, naturally, will be associated with certain proposals for neighboring countries to coordinate the formation of their institutional structures and infrastructures both in the interests of our country and other countries that have their own economic interests in the Arctic zone.

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