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Article



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## THE PHENOMENON OF NEO-TRAMBALISM, TRAMBOLISM AND RE-TRAMBALISM IN THE REGIONS OF THE RUSSIAN ARCTIC DURING THE SELECTION AND PLACEMENT OF PERSONNEL AMONG INDIGENOUS MINORITIES IN THEM

**Abstract:** *In the article, the authors analyzed the experience of two Russian Far Eastern regions - Yakutia and Buryatia - in using the categories of neo-tribalism in political discourse. This is an interesting phenomenon, since we are not simply talking about the use of the concept of "political clan", but about references to local cultural traditions. Tribal identity as a political factor may not be condemned, but rather encouraged. The origins of this phenomenon are usually sought in local specifics, in cultural practices described by anthropologists and ethnographers. This study is an attempt to demonstrate that the language of neotribalism is modern, it appeared in response to current demands, and the state plays one of the main roles in its formation and maintenance. The work is based on the analysis of various content, but its goal is not to describe the language of neotribalism, but to understand the origins of its existence. Studying the situation in two regions made it possible to compare the data obtained and fit the practice of using neo-tribalist language into the socio-political context. Authorities are one of the main actors representing neo-tribalist meanings, which are part of the more general discourse of neo-traditionalism. The content created signifies tribalism as part of valued local traditions. The mass media pick up and replicate the idea of the tribal structure of local society, since this is a rating topic. As a result, the state itself is viewed in a neo-tribalist manner. The popularity of this model of describing politics directly depends on how actively the authorities support the neo-traditionalist discourse.*

**Key words:** neo-traditionalism, neo-tribalism, Asia, culture, politics, power, language, meanings.

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## Introduction

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Neo-tribalism in politics is a phenomenon considered by world science from various points of view. Although there are classic works describing tribes in modern times, the debate about what tribalism and neotribalism are and whether these terms can be used today continues to this day. The authors offer their own approaches and definitions: retribalization, modern tribalism, etc. Each of them focuses on specific aspects of the phenomenon being studied, which is reflected in the terminology used. In the presented work, the term “neo-tribalism” is used, understood as a modern phenomenon of the actualization of artificially archaized relations (tribal, clan, etc.) and the identities corresponding to them. The prefix neo- in this situation emphasizes the presence of innovative practices and ideas that are a response to certain processes in society. In addition, we are interested in tribalism in a political context - as the phenomenon where, under specific circumstances, certain interest groups use parts of their traditional culture to formulate functions for informal organizations that are used in the struggle of these groups for power within formal organizations. However, the object of analysis was not the political actors identifying themselves with the corresponding informal groups, but the neo-tribalist meanings attributed to them and their actions. Studying how tribal life is portrayed as an idealized past or a regressive barrier to development has provided insight into why ideas about the existence of tribes and clans can be cultivated: they are portrayed as part of traditions, valuable or unfavorable in the context of ethnic identity and national consciousness. In other words, neotribalism in this study is viewed in terms of systems of meaning already used to describe politics, and not as actual groups and their relationships. This avoided the danger of accepting neotribalism as a given, a cultural feature that can be described and thereby contribute to the formation and systematization of the language of neotribalism. An earlier study of the manifestations of neo-tribalism in the field of politics of the modern Far East showed that language in this situation is of paramount importance in the context of a formally unified region with many ethnic groups for which tribalism is officially enshrined as part of culture and history, part of traditions that need to be preserved.

The presented study focuses on two republics: Sakha (Yakutia) and Buryatia. They are united by both

the presence in the public sphere of the language of neotribalism as a way of describing politics, and the common features of the historical past, significant in the context of this work, as well as the national character of autonomy. On the other hand, the territorial boundaries are somewhat wider, since the use of the language of neo-tribalism tends to describe local ethnic groups whose borders of residence do not coincide with the official borders of the republics. It is on this scale that the public categorization of politics in terms of tribalism manifests itself most clearly. It allows one to evaluate political phenomena, draw political boundaries, legitimize political decisions, claims to power and resources, and explain ongoing political processes. The language of neotribalism is not the only one in this situation; there are other ways of everyday describing and understanding politics. But it is definitely popular, and in order to see its prospects, it is necessary to put it into context, to understand the origins of this phenomenon.

An attempt to understand the socio-political conditions in which the language of neo-tribalism is formed revealed its close connection with the general neo-traditionalist discourse. Government authorities systematically announce the need to preserve and revive traditions; officials publicly position the study areas as unique spaces where traditions are an integral part of culture and history. This relationship between the general neotraditionalist discourse formed by state institutions and the idea of neotribalism, which becomes the basis for describing the political actors themselves, their relationships and actions, became the subject of this study. Similar processes are recorded everywhere in the modern world, when the revival or construction of ethnocultural and religious traditions and, in general, archaics become an integral and integral part of socio-economic and political discourse.

The purpose of this article is not to record and classify the use of neo-tribalist discourse in political content, but to understand the reasons for this phenomenon. The basis of the study was the concept of representation and the theory of commodification of ethnicity. The concept of “ethnicity industry” made it possible to analyze the motives of authorities in the creation and dissemination of neo-traditionalist discourse, and the concept of representation made it possible to trace the movement of relevant meanings in society and identify the relationship between the actions of politicians and the spread of neo-tribalist discourse about the politicians themselves. The emergence and transformation of the language of

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neotribalism is associated with many factors, but in this situation the study is limited to the sphere of influence of state institutions, therefore it is based on interpretive approaches to policy analysis. Their central characteristic is a focus on meaning, so they are situation specific rather than requiring general laws or universal principles. Typically, they focus on language as well as other artifacts that convey meaning, such as people's actions and any objects they may use in those actions. The interpretive approach offers a wide range of research methods, ranging from observation, interviews, document study, to spatial analysis, each of which was used at a specific stage depending on the data obtained. This allowed us to adjust the study, making its results more relevant. In addition, this made it possible to analyze such a complex concept as “neo-tribalist discourse”, which consists of many heterogeneous meanings. The method of structured focused comparison helped to organize the research techniques used. With its help, you can study a small number of cases in detail and comprehensively and minimize the negative aspects of having a small number of cases participating in the comparison (remember, the study is focused on Yakutia and Buryatia). Formulating a set of general questions that should be applied to each of the cases ensures that the data obtained are truly comparable. A structured, focused comparison allowed for detailed examination of individual cases that differed in both chronological and geographical characteristics. It was important to identify and compare different models of describing politics using neotribalism, and to trace the process of their transformation.

The empirical basis of the study was formed on the basis of the applied research methods. Materials published in the region over the past twenty years dealing with the topic of tribalism and politics were examined. Initially, the selection was carried out using keywords and phrases; the obtained data was grouped by source and ranked by popularity; The materials referenced at the initial stage of the study were examined. Next, a special search was carried out for materials with similar characteristics to conduct a comparative analysis. As a result, the data that was accessed can be divided into three categories: actions (what people do in the analyzed political situation, for example, the practice of government bodies), language (what is said and written about tribalist groups in politics, incl. the language of legislation, various documents, reports, language used in interviews, journalistic articles, statements of politicians, etc.), as well as politically related objects or physical artifacts (for example, items of clothing emphasizing membership in a particular tribal group and etc.). All this made it possible to identify the significant role of state institutions in the emergence and support of the language of neotribalism.

The Krasnoyarsk Territory is one of the most resource-rich regions of Russia: its territory contains

huge reserves of oil, gas, iron ore, coal, non-metallic minerals, non-ferrous and rare metals. Thanks to its unique natural resources, the Krasnoyarsk Territory is one of the supporting industrial regions of the Russian Federation: the basic industries are metallurgy (the share of non-ferrous metallurgy is more than 40%), mining (about 30%), hydropower and solid fuel power (more than 10%), forestry and timber processing industry.

In the Taimyr Dolgano-Nenets municipal region, reserves of platinum, platinum group metals, cobalt, copper-nickel ores are concentrated; these are the Norilsk-1, Oktyabrskoye, Talnakhskoye deposits, united in the Norilsk mining district. On the territory of the largest in Eurasia, the Great Arctic Reserve, there is a natural reserve known since the mid-19th century. Taimyr coal basin. In the 1970s The world's largest deposit of impact industrial diamonds was discovered within the boundaries of the Popigai ring structure. According to the map of distributed resources, more than 40 mining companies operate in Taimyr. The main developer of subsoil on the peninsula is MMC Norilsk Nickel. Over the past few years, oil and gas production companies have been actively entering the area. The flagship project for Taimyr is the Vostok Oil project of the Rosneft company. The development of the peninsula and its resources involves not only mining and processing companies, but also wild reindeer hunters, reindeer herders, fishermen, i.e. indigenous peoples (Dolgans, Nenets, Enets, Nganasans, Evenks). The meaning of the concept of “development” is revealed when identifying resource-user projections, in which various stakeholders and actors appear. It is clear that all residents of Taimyr have common resources that everyone uses, although in different volumes and forms. But they use resources in different ways, and these differences do not occur directly from the location and purpose of the resource (say, pastures or minerals), but in the refraction of traditions, interests, technologies, strategies. The decisive role is played by the motives and attitudes of communities (peoples, villages, corporations) and their leaders. Different views and approaches can give rise to conflicts, or they can serve as the basis for cooperation and the development of multilateral models of interaction. Ultimately, it is not the resources themselves, but the behavioral strategies of their users that create the picture and history of a particular space. Analysis of intersecting motives reveals the existing alignment of interests and possible scenarios for the development of events. The history of the Russian mining and metallurgical company Norilsk Nickel goes back more than eighty years. The earliest mentions of minerals on the territory of Taimyr date back to the 18th century. Geological expeditions in the 1920s. determined the high prospects of the region (Norilsk-1 deposit), and already in March 1935, the Council of People's Commissars of the USSR and the Central



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Committee of the All-Union Communist Party of Bolsheviks adopted Resolution No. 1275198ss “On the construction of the Norilsk Combine” and on the transfer of “Norilskstroy” (full name - “Norilsk Mining metallurgical plant named after A.P. Zavenyagin”) into the NKVD of the USSR. Together with the industrial capacities of the plant, the workers' settlement of Norilsk was built by the prisoners of the Norilsk forced labor camp. By the end of the 1930s. Norilsk has turned into an industrial giant in the Arctic, which has radically changed the economy of the Taimyr National District. November 4, 1989The Council of Ministers of the USSR adopted a resolution on the creation of the “State Concern for the production of non-ferrous metals “Norilsk Nickel”. On June 30, 1993, by Decree of the President of the Russian Federation, the State Concern for the Production of Precious and Non-Ferrous Metals “Norilsk Nickel” was transformed into the Russian Joint-Stock Company for the Production of Precious and Non-Ferrous Metals (RAO) “Norilsk Nickel”. Nowadays, the Public Joint Stock Company “Mining and Metallurgical Company “Norilsk Nickel”” (PJSC “MMC Norilsk Nickel”, since 2016 – MMC “Norilsk Nickel”) is the world’s largest producer of palladium and refined nickel, one of the largest producers of platinum and copper, as well as cobalt, chromium, rhodium, silver, gold, iridium, ruthenium, selenium, tellurium and sulfur. The company unites two main production sites: the Polar Branch operates on the Taimyr Peninsula (in Norilsk, Talnakh, Kayerkan and Dudinka), and the Kola Metallurgical Company JSC operates on the Kola Peninsula (in Monchegorsk, Zapolyarny and Nikel).

Norilsk Nickel has always invested in the Taimyr region - both when it was a “plant” (as the local population continues to call it), and when it became a “master” (a joint stock company and a world-famous industrial giant). In the coming years, the Norilsk Nickel company plans to invest more than \$10 billion in the development of the north of the Krasnoyarsk Territory (an agreement between the Krasnoyarsk Territory, the Ministry of Industry and Trade of the Russian Federation and MMC Norilsk Nickel). Norilsk Nickel's criticism for its irresponsible attitude towards nature and people, especially in connection with the oil spill at CHPP-3 in May 2020, does not prevent us from treating it as the main investor for Taimyr and the Krasnoyarsk Territory, as can be seen in the answers to interview questions: “In Soviet times, bosses from the plant were assigned to each village. Tripartite agreements were signed: the plant – the region – the district.”

“Since perestroika, no one cares about the population. “Norilsk Nickel” is only interested in taking from the region, and live the rest as you want. And now, after the spill accident, there is a desire to crush the people, it won't work!” How to build new relationships between the indigenous population and

the mining company? To ask or demand, to quarrel or to cooperate? Probably, dualism in the “either-or” format is unacceptable for these relationships - they are much more complex, and in their debugging not only strict restrictive settings are possible, but also alternative agreed-upon scenarios.

MMC Norilsk Nickel is the main generator and organizer (sponsor) of project activities in Taimyr. Support for many large-scale events and exciting initiatives testifies to the socially responsible policy of the company as the “chief of the region.” The palette of new and already traditional projects and grants is very diverse. Thus, in 2013, Norilsk Nickel launched a charitable program of social projects “A World of New Opportunities” to support the sustainable development of all regions of the company’s presence: implemented in the Krasnoyarsk Territory (Norilsk, Taimyr Dolgano-Nenets Municipal District) and the Murmansk Region (Norilsk). Monchegorsk, Pechenga district). The program is aimed at solving social problems; the key task is to support and develop intersectoral cooperation of local communities. Each of the nine nominations of the competition represents significant vectors for the development of cities, territories and people: “Pole of Revival”, “Pole of Energy”, “Pole of Growth”, “Pole of the Future”, “Pole of Good”, “Pole of Nature”, “Pole of the North” and etc. In 2021, 208 applications were submitted to the competition from 133 organizations in Norilsk and Taimyr. The winners were 54 projects from 52 organizations. The winning projects covered a large number of areas of public life: from a center for adaptive classes for children with disabilities to teaching digital literacy to older people, from the anniversary of the first house of Norilsk to museum performances, from scientific collaboration between schoolchildren and university teachers to craft workshops for sewing bokars, from robotics tournaments to a digital self-teacher of the Nenets language through VR applications. “The World of New Opportunities is a very strong grant project. Norilsk Nickel is the largest grant giver, distributes grants of up to 5–6 million rubles, creates rehabilitation centers, and supports many projects of various types. The competition is also held in Murmansk, our projects are watched by experts from there, and we watch their projects. In this part of Norilsk Nickel’s policy, I really like their position; they have interesting rules. I can confidently say that the company is responsible.” The World of New Opportunities Program does not have special nominations for the indigenous population, however, among the winners there are projects of an ethnic nature, and not only representatives of indigenous peoples. For example, with grant funds in the summer of 2018, the Turkic holiday “Polar Sabantuy” was organized in Talnakh. The ideological inspirer of the project is the chairman of the board of the public

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organization “Local Nogai National Cultural Autonomy” Kumykbiy Ibragimo.

In general, supporting ethnic festivals and holidays is not new for Norilsk Nickel. With the sponsorship of the company, traditionally, since Soviet times, the main holidays of the indigenous peoples of Taimyr are held - Fisherman's Day and Reindeer Herder's Day. “We are working with Norilsk Nickel to organize holidays – Reindeer Herder’s Day, Fisherman’s Day. They sponsor 5 million annually. We buy gifts on their behalf through a charitable foundation.” In 2021, on Reindeer Herder's Day, nomads from the tundra once again gathered in Tukhard to take part in reindeer sled races and meet with family and friends. 30 men's, 16 women's and 26 youth teams took part in the race, which had to cover a 30-kilometer distance. In the men's group of participants, Alexander Yamkin was the first to reach the finish line, and he received the main prize - a snowmobile. Second place, and along with it the outboard motor, went to Grigory Iaptune. Third place went to Timur Marik, who was also awarded a boat motor. Among the women, Henrieta Tesedo won, Oksana Yarotskaya was second, and Gilda Lyrmina was third. Among the young reindeer herders, Nikolai Yamkin was the fastest, Illarion Naivosedov was in second place, and Pyotr Naivosedov was in third place. In addition to reindeer sled racing, competitions were held in national sports: throwing a maut (lasso) on a trochee (a pole for driving deer), national wrestling and jumping over sleds. Competitions for men's, women's and children's national clothing and festive harnesses were organized for the villagers and guests of the holiday. The winners and runners-up in each of the competitions received gas generators, chain saws, tool sets, and sewing machines.

Reindeer Herder's Day and Fisherman's Day are always awaited in Taimyr, however, according to the population, these holidays are becoming less and less interesting from year to year. Interest in competitions, for example, in the same deer races, is reduced due to prizes - expensive goods purchased through competitive bidding are of such low quality that they devalue the very tradition of holding holidays. Thus, the indigenous residents give the example of transporting a snowmobile donated for winning a race on cargo sleds - it was neither possible to get new equipment nor, as it turned out, to use it for its intended purpose. Of course, direct responsibility lies with the organizers, and not with the sponsors, but the shadow of “disapproval” also falls on the latter. It seems that in order to support the sponsor’s image, it is necessary not only to finance, but also to monitor the progress and results, determine the prospects of supported projects and grants, especially for those that are designated as the strategic direction of the company.

In the development strategy of MMC Norilsk Nickel until 2035, support for indigenous peoples of

the North is included as a separate item. One of its important components is the “World of Taimyr” project competition, launched in 2020 after the events at CHPP-3. The project is aimed at creating conditions for the sustainable development of territories traditionally inhabited by indigenous peoples of the Taimyr Peninsula. Depending on the nominations (and there are four of them in the competition), the amount of grants ranges from 1.5 to 6.5 million rubles. The competition supports socially significant initiatives of non-profit organizations of indigenous peoples of Taimyr, family (tribal) communities, state and municipal institutions registered and operating on the territory of the Taimyr Peninsula. The geography of project implementation is the Taimyr Dolgano-Nenets municipal district of the Krasnoyarsk Territory.

In 2021, the winners of the competition were 6 projects of family (tribal) communities, 2 projects of non-profit organizations and 20 projects of municipal and budgetary institutions. The projects of the competition winners are aimed at solving a variety of issues: reviving national languages, carrying out environmental campaigns, developing infrastructure in the villages of the Taimyr Peninsula, preserving historical memory, etc. Of the four areas of the competition, the leading category was “Ideas of Taimyr” - revival of cultural heritage, support for gifted children, development of national sports. 17 winning projects were presented in this nomination for a total amount of 15.5 million rubles. The largest in terms of the amount requested was the project in the category “Opportunities of Taimyr” - “Ethnopark TYYAKHA”, prepared by the family (tribal) community of indigenous peoples “Tyyakha” (4.5 million rubles). The project team plans to complete the construction of an ethno-ecological settlement, where objects of everyday life and culture of the indigenous peoples of the Taimyr Peninsula will be presented.

Although the overall assessment of the significance of the competition in the development and promotion of initiatives of the indigenous population and popularization of the territory is high, there are obvious shortcomings in the conditions and procedure for its conduct. The stumbling block was the support of a large number of projects from budgetary organizations, and not from the tribal communities themselves. “The Norilsk Nickel grant program “World of Taimyr” appeared after the spill, but out of 45 communities, only five won grants, the rest of the institutions are again budgetary organizations that sit on salaries, on budget funding, but they again took away these grants, and the communities that were promised, for whom this grant program was created, they again gave nothing.”

One of the reasons for this imbalance is the low level of applications completed by communities due to a lack of experience and legal assistance. “Norilsk Nickel was offered to make grants for communities,

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they agreed. A huge number of budget institutions are participating in the competition. Of the 45 communities that applied for grants, only five or six won <...>. The main winners were public sector employees – 22 budgetary institutions. It is not right. It was necessary to at least do it in half, it was necessary to pull out some communities, help and advise, that's why you are experts. After this, there was serious negativity from the communities. I even felt ashamed that I won a grant because I have tourism, my grant was written by professionals, I attract experts because I work as a team player... I apply knowledge, adapt it so that it complies with social norms, grants, and the project is written experts. I'm putting their salary into this project. To win, you need professionals." The imbalance was also noted in the direction of the competition projects: the applications of the community members, due to the specifics of their activities, and also, let's not lie, because of the habit of receiving subsidies, had a "commercial" orientation. "I didn't apply to "World of Taimyr" because I think it's all socially oriented, I applied a few years ago and they also turned me down, they said that I had too much commercial stuff, I was asking for purely material values. I know that it's already clear who wins – the dances, the dancers, the artists." "Nobody gave me a grant to win in the same Norilsk Nickel that I praise. I didn't win - I pledged a million to purchase raw materials. We won dances, dances, and government institutions. Is this normal at all? I'm sitting without a single piece of clothing."

In turn, the organizers of the competition refer to the inactivity of local communities.

"Norilsk Nickel has initiated another grant competition, "The World of Taimyr." Communities benefited little because much depended on the quality of the application. In this case, we fundamentally do not divide "communities - not communities." In general, communities do not really work; in our country, maybe eight out of 100 communities are active."

However, the activity of communities is largely determined by its leaders, and their inertia is associated with a lack of experience and legal literacy, the ability to conduct business and organize work in market conditions.

The competition-grant policy is certainly promising, since competitions are held periodically and openly, which makes it possible to quickly respond on both sides. However, the main instrument of interaction with KMNT MMC Norilsk Nickel calls the quadripartite agreement on interaction and cooperation signed on September 25, 2020 in Moscow between the Russian public organization "Association of Indigenous Minorities of the North, Siberia and the Far East of the Russian Federation" (President G.P. Ledkov), regional public organization of indigenous peoples of the North of the Krasnoyarsk Territory (president A.I. Gayulsky), local public organization of

the Taimyr Dolgano-Nenets municipal district "Association of indigenous peoples of Taimyr of the Krasnoyarsk Territory" (chairman G.I. Dyukarev) and Public Joint Stock Society "Mining and Metallurgical Company "Norilsk Nickel"" (A.M. Grachev). The agreement includes a detailed "List of activities to assist the social and economic development of the Taimyr Dolgano-Nenets municipal district of the Krasnoyarsk Territory for 2020–2024." (in short - "KMNT Support Program") - these are 42 projects of various directions worth 2 billion rubles. Such an agreement with a specific action program for Taimyr is unprecedented. And although the program was proposed as a compensation measure in connection with the accident at CHPP-3 of JSC NTEC, part of the MMC Norilsk Nickel group, in its purpose and scale it clearly went beyond the scope of simple "patronage" (sponsorship).

Undoubtedly, Norilsk Nickel's new large-scale program is an attempt to build partnerships with the indigenous population of Taimyr, evidence of the company's ability to respond and provide assistance to the population in extreme conditions and in a short time frame. Control over its progress and implementation is entrusted to the department for interaction with indigenous peoples of Taimyr, which has been operating at Norilsk Nickel since January 2021, which works directly with local governments, public organizations and family (tribal) communities 14. A number of projects have already been implemented and have a good resonance, however, the attitude towards the program among the indigenous population is ambiguous: "I think as long as they are united and invincible as monopolists, partnerships and cooperation with the plant are impossible. Not only with Norilsk Nickel, but in general. They accepted the 2 billion with a bang and signed an agreement - solve your problems. In Canada, where I was, the villages were united into a corporation. The state pays them money and the oil workers. They have their own shares, their own roads, transport, aviation and river fleet."

Perhaps one of the recently discussed projects initiated by Norilsk Nickel is the construction from scratch of a comfortable village for residents of Tukhard. The Tukhard rotation camp, intended for the builders of the Messoyakha-Dudinka-Norilsk gas pipeline (Zapolyariegaz company, now Norilskgazprom), appeared on the left bank of the Yenisei, not far from the old Nenets settlement of Kisly Mys back in 1968. Due to its location (76 km from Dudinka) and supply, the village quickly grew, including due to the resettlement of Kislomysovites, and turned into a transshipment base for reindeer herders roaming the nearby tundra. The helipad remained a kind of border between the part of the settlement where the shift workers lived, called "Torch," and Tukhard itself (Nenets "fire-city" or "place where fire is made"), where houses for the

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indigenous population were built. The main problem of the village (today there are more than 80 houses in which about a thousand people live, an elementary school, a hospital, a post office, a cultural center, a library and an airfield for small aircraft) is non-compliance with environmental regulations and “safety standards”, since the settlement is located in sanitary protection zone of an industrial enterprise, but most importantly, the quality of housing does not correspond to living conditions in the Far North. As the Tukhard residents themselves say, it is impossible to live in houses due to design miscalculations, lack of full-fledged infrastructure and poor quality of construction (most of them are in disrepair). “Norilsk Nickel’s policy regarding indigenous peoples is actively changing. They allocated 170 million rubles to the same indigenous communities. Subsidizing reindeer herders, grant assistance is quite impressive - about 180 million rubles, of which about 150 million remains in Taimyr (half in Norilsk, half in the region). Norilsk Nickel financed the construction of 27 houses in Tukhard. True, the village is frozen because there is no connection to the electricity grid or to the boiler house. This is a political dispute between the regional authorities and Norilsk Nickel. The authorities are focused on Deripaska, on RusHydro, so they attach debt obligations to Norilsk Nickel. This is bad for us, because while these boyars are fighting, our new village is falling into disrepair.”

In 2021, the Norilsk Nickel company proposed to build New Tukhard with the necessary infrastructure and social facilities (school, kindergarten, hospital, shopping center, visitor center for tourists) one and a half kilometers from the current village. To discuss, accept and agree on the resettlement project, Norilsk Nickel launched the FPIC procedure. To carry it out, the Interregional Public Organization for the Protection of the Rights of Indigenous Peoples created an advisory council, which included international and Russian experts. Representatives of the indigenous population saw this procedure not so much as an act of “free, prior and informed consent”, but rather as a fact of compliance with federal law and the responsibility of residents of the Arctic zone of the Russian Federation.

“This is not FPIC, this is an eviction in accordance with the federal law on the sanitary zone. First, you need to agree on the shore about where the village will be, what buildings will be there, etc. sign a letter of intent.”

At a gathering of residents of Tukhard on November 21, 2021, a Council of representatives of the village was formed, including reindeer herders who do not have a permanent place of residence in the village (chaired by Igor Yamkin), designed to become a link between the residents of Tukhard and the company. At the meeting on March 4, 2022, the Program for the resettlement and development of the village of Tukhard until 2026 was discussed. Based on

the results of the meetings, an agreement “on the implementation of FPOS” was signed between the Council of Representatives of the residents of the village of Tukhard and the General Director of the industrial sites of Norilsktransgaz JSC in Tukhard, M. Shilykovsky. It was developed in accordance with international standards, contains the company’s obligations to the residents of the village, defines the conditions of resettlement, including options for compensation or the purchase of housing in other villages of Taimyr or the city of Dudinka, and provides for monitoring and evaluation of the implementation of the resettlement program at all stages of its implementation. A separate paragraph, albeit very abstractly, spells out the need to take into account the “ethnocultural characteristics of the territory.”

It is obvious that MMC Norilsk Nickel is placing a special emphasis on the construction of New Tukhard. Given the deplorable state of many Taimyr villages with their problems in solving basic life support issues (energy and water supply, heating, housing repairs, waste removal and disposal), with a complex expensive transport scheme and high prices for consumer goods, the lack of digital means of communication and information and unemployment, the construction of a model village would significantly enhance the image of Norilsk Nickel’s programs and projects.

Vice President for Federal and Regional Programs of the company A. Grachev comments: “This joint work and partnership will help us create a comfortable environment for people to live and develop.” According to the legislation of the Russian Federation, obtaining consent for resettlement from the local population in such cases is not required, but Norilsk Nickel emphasizes that the company acts in accordance with the UN Declaration on the Rights of Indigenous Peoples (adopted by the UN General Assembly in September 2007), voluntarily recognizing international standards.

The indigenous population also has some hope for the successful implementation of the resettlement program: “And my opinion on FPIC in Tukhard is that Norilsk Nickel does not need another epic failure, so now everything will be done normally. According to Tukhard’s opinion, everyone living in the village is employees of the administration, post office, culture - what they are told, they will do, they do not have their own opinion. I remember that reindeer herders did come to the meeting, they spoiled the organizers’ mood a little.”

Since the 2000s Oil and gas companies are actively entering the Taimyr Peninsula. At the end of April 2021, the Vostok Oil project alone included 52 license areas, within the boundaries of which there are 13 open fields. The deployment of the project is associated with the construction of a huge oil terminal in Severnaya Bay on the eastern shore of the Yenisei

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Gulf based on the seaport of Dikson (40 km from the city of Dikson), intended for reloading onto oil tankers and transporting oil from fields along the Northern Sea Route to Russian ports, Europe and Asia-Pacific countries. In July 2022, drilling work began at the Payakhskoye field. Oil supplies from the field were planned for 2024. However, in the strategy for the development of the subsoil of Taimyr and the development of the Northern Sea Route, the voices of indigenous peoples are barely heard.

“Almost all of Taimyr has already been marked with licenses. The allocation of licenses is at the federal level. There is no parity. They decided there in Moscow, they marked a square with a pencil, and in it there were villages, wild deer, fish. They come here with all the documents, and in fact they are accepted by the administration. In this, our rights, as indigenous people, are infringed. Well, give us a rent of 1% of the dollar, that’s enough for us. We will build houses ourselves, we will set up young people to study. Now they do everything for us; if they come to build, it will be with their own builders. We would raise our own builders, we know how to build a house for us.”

“Conflicts happen. People are moving here from the east and moving from the west, the locals have nowhere to go... I flew by helicopter last year, it’s just terrible what’s wrong with the land, it’s all cut up for kilometers. Apparently, the administration is giving permission to work... As I understand it, in the future we will have Rosneft working, very big things will happen here, especially along the coast, an entire industrial center will grow here. The people started a race for land in order to shake the oil workers in this way.”

However, the authorities and public organizations of Taimyr are already interacting with oil companies.

“Oil companies are turning around. At the very least, they help somehow. Last year, the Lukoil company commissioned an educational building in Khatanga. Two and a half years ago, the same company helped open a boarding school for 150 children in the village of Nosok. The Surgutneftegas company assisted the rural settlement of Karaul in holding Reindeer Herder Day. Of course, there is help, but I would like a more serious relationship. Especially with the company that will, in essence, run the show – Rosneft.”

With the beginning of the development of oil and gas fields in Taimyr, the problems of using land resources - pastures, water areas, as well as landscape zones of settlements - become increasingly acute. Judging by the reviews, the policies of oil and gas companies and their methods of interaction with the indigenous population do not meet expectations:

“Reindeer herders are looking for lands where the food supply is better than where there is an oil rig or many kilometers of oil pipelines sticking out every kilometer...”

“Due to the occupation of pastures by oil workers and the rapid depletion of the remaining ones, almost all the left bank Noskov reindeer herders will move to the right bank of the Yenisei...”

“It’s easier to pay off with free condensate than to bring in gasoline, and without putting people in a humiliating position.”

Direct dialogue is not easy to build. Indicative in this regard were the public hearings held on May 4, 2021 in the rural settlement of Karaul. By decision of the gathering of village citizens, the unauthorized seizure of the territory by the Yamaldorstroy organization was condemned and suspended; Sibtract LLC (contractor of Vankorneft) was refused to allocate a land plot in the landscape zone of the settlement; distrust was expressed in local authorities in resolving issues regarding the “entry” of oil companies and their subcontractors into the territory of the settlement. The local population was not shy in assessing the actions of the companies and the administration:

“Good company - they came, landed 100 meters away, neither hello nor goodbye. Neither the administration was warned, nor were they met with the population.”

Cases like this demonstrate the ability of a small Arctic community to say “no” to the planned activities of oil companies. In general, the indigenous population of Taimyr is “not against the oil industry,” “not against development,” “not against the Presidential decrees,” but they are outraged that subsoil users behave “like owners.” They do not take into account the residents of the settlements, who, by and large, cannot influence the situation with land use, since the “tundra behind the village” is agricultural land, permission for their use is given by the municipal district, and “these lands together with The guards have long belonged to Rosneft.”

Local communities are especially outraged by the lack of awareness about projects for further development of the Taimyr territory. This applies to both zones near populated areas and distant Taimyr tundras.

“So far, only technical structures come to us to prepare the soil, build bases, sand quarries in order to lay pipelines in the future. Nobody informs us about this, we find information on websites: such and such a company is planning some kind of work in such and such a year. We do not receive information from the district or from the region that, dear guards, you will have such and such Ivanov-Petrov-Sidorov here and will specifically conduct such and such business. Maybe they think that we shouldn’t know about this, that it’s not our interests, but our interests, our lives!”

“Near Karaul and along the tundra there are several industrial points, technical bases, the oil workers themselves are not here yet, companies have come to the territory that are only preparing the soil, building quarries, but before that there were

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geologists. And now I've driven across the tundra, two quarries are ready. What are the plans of Rosneft and other companies? It is clear that they will have several points along the Yenisei, the so-called berths. They have already applied, won certain competitions, and construction has begun. All this is the authority of the district - the coastal part is beyond.

"Information comes, if a hearing needs to be held, then we are provided with a certain package of documents. Resolving land issues outside landscape zones is the responsibility of the district <...>. We used to read news in newspapers and there was radio. But now there are no radio points, the tundra people know absolutely nothing."

On August 10, 2021, public hearings were held in Dudinka on the construction of the Vankor–Suzun–Payakha pipeline, which will run along the banks of the Yenisei. Local residents and public opinion leaders in the region - deputies, bloggers, and leaders of indigenous communities - took part in the hearings. Just before the hearings, Rosneft reported on its support for indigenous peoples in the territories where it operates. They talked about the construction of houses and the development of the infrastructure of reindeer herders' villages, and about the development of the material and technical base of indigenous peoples' families, and about providing assistance to educational institutions where children of representatives of indigenous peoples of the North study, and about the implementation of the "Comprehensive program for training workers and specialists for "RN-Vankor". At the same time, the hearings began with criticism of Rosneft's projects. Particularly pressing issues were the restoration of the whitefish population in the Yenisei basin, the construction of crossings for reindeer herders through the pipeline, and the creation of a normal information infrastructure for the work of Rosneft contractors with the local population. Taimyr deputy Sergei Sizonenko voiced important problems in his speech:

"It's good that our reindeer herders have been heard and additional crossings for herds through the pipeline have been designed. But we need to once again take a balanced approach to all other issues of cooperation with Rosneft and its contractors <...>."

In addition, I return to my proposal to introduce a quota for hiring local people in Rosneft contractors. In villages, a lot of people can work as drivers, welders, cooks, and laborers. There should be a hotline, through which any tundra dweller or village resident can quickly report to Krasnoyarsk or the parent Rosneft about any observed violations - from environmental problems to drunken shift workers."

In an environment of intensive industrial development, the willingness to defend their interests and the active position of the indigenous population and its leaders are very important. The local population sees the prospect of developing dialogue in open cooperation and direct interaction with oil

companies and their contractors. In addition to compensation payments for environmental and economic damage and the provision of various types of social assistance, the local population has special aspirations for the revival of ethnic villages and the creation of jobs:

"We need to provide jobs, why bring our own people on shifts again, they will pump our mineral resources, but what about the residents of Taimyr?"

"Dudinka and the villages of Taimyr should be transformed with the presence of Norilsk Nickel and Rosneft. Residents of Taimyr should be assigned to all jobs. I understand that not all at once, but it should be so. And that's okay."

The trump card of KMNT can be knowledge of its territory, the presence of mechanisms for the development of large spaces, including the possibility of organizing land control (recording facts of destruction of the tundra cover, protocol of violations, etc.) and work on reclamation and nature conservation.

"I proposed that reindeer herders be involved in guarding the pipe along the route. After all, they tolerate harsh climates well and move mobile on their sleds. All they have to do is set a time for contact, give them a walkie-talkie and a salary. Then you can attract less people on an all-terrain vehicle to ride along the pipe and save costs, as well as on the salaries of temporary workers."

So, in the industrial development of Taimyr, priority goes to the Norilsk Nickel and Rosneft companies, which advocate, at least in their official statements, for the preservation of the traditional way of life and ethnic identity, for a constructive dialogue between subsoil users and the indigenous population. These companies have a significant package of projects to support indigenous minorities, but the local population sees a positive future not so much in grant-project activities, but in the development of large-scale joint programs and building partnerships based on simple principles (according to the survey):

"Don't forget that the indigenous population lives on their own land, take into account their opinion."

"Cooperate as equals, transparency in providing assistance, open dialogue in all areas."

"If you shit, use the earth and subsoil, you just need to clean up after yourself, do some landscaping - that's a simple rule."

"Bilateral agreements on the use of natural resources, payment of compensation for damage caused to the landscape and nature."

"There must be not only meetings, but also real action."

"Teaching companies how to work. Otherwise, the indigenous peoples will remain with their hand outstretched. And so the third generation of parasites is growing."

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And what is important, the leaders of the indigenous peoples of Taimyr, aware of the complexity of the situation, have an understanding that in establishing constructive partnerships between indigenous peoples and industrial companies, the state should become a mediator for the next five years, since coordinated decision-making and actions through associations and KMNT unions are complicated by serious contradictions, both between and within public organizations. The development strategy of Taimyr should focus on the formation of a platform for long-term interaction between subsoil users and indigenous northerners, based not on competition, but on cooperation and partnership, which will ensure the efficient use of the region's natural resources. The scenario of coexistence of an industrial cluster and ethnocultural communities, in which three main actors are involved - industrial companies, authorities (federal, regional, municipal) and indigenous peoples, should be determined through monitoring and carrying out ethnological examinations.

### Main part

For the region under study, the popularity of the topic of authentic culture and traditions is a fairly common occurrence. A special contribution to its development is made by political actors who constantly raise the issue of reviving and supporting local culture, history and traditional practices. At the same time, those who have the opportunity to speak on behalf of the state (politicians holding public positions, officials), i.e. those who associate themselves with the state apparatus and speak on its behalf, are able not only to speak out in a neo-traditionalist manner, but also act in this direction. We are talking about various projects aimed at maintaining tradition: support programs, organizing relevant events, etc. And since the beginning of the 2010s. the number of such projects has increased sharply. If we analyze the frequency of appearance of the concept "tradition" in regional legal acts in the post-Soviet period, we can see that in the 1990s and 2000s. these were just rare mentions, most often in documents establishing the procedure for using certain natural resources. Even then, the term "indigenous small peoples" appeared in the new legal system, as well as its connection with tradition. In different variations, it appears in laws, regulations and other official documents in both Buryatia and Yakutia, when it comes to special conditions for these population groups.

From this moment on, the definition of the concept of "tradition" became quite fundamental: the mode of use of certain resources, primarily raw materials, depended on it. This is how a procedure for selecting certain cultural elements that are defined as traditional begins to be created and consolidated. Over time, it became more and more bureaucratized, the

main role began to be played not by invited experts, but by officials and authorities as a whole: for example, in 2000 in Buryatia, when selecting types of economic activities that receive the status of folk artistic crafts (traditions became their defining characteristic), the decision was made by the artistic expert council [Law of the Republic of Buryatia 2000], then in 2010 - by the Government of the Republic of Buryatia [Law of the Republic of Buryatia 2010]. In 2013, new amendments to the law appeared that made it a condition that such products be manufactured in a "place of traditional existence."

In the 2010s the number of references to traditions in official documents increased sharply. In addition, a practice has developed of mentioning traditions and traditions in the speeches of officials: these were policy statements, comments on the actions of authorities, welcoming speeches or speeches at various events, congratulations on holidays. And if in the 1990s. traditional economic activities were mentioned almost only in the context of indigenous peoples (and belonging to them was usually determined by a set of strict rules), then in the 2010s. the concept of "traditional activity" has increasingly begun to be used in relation to the Republic of Buryatia as a whole [Resolution 2011], which is typical for the entire region under study. Over time, the rhetoric changes from discussing the "national and cultural revival of small and endangered ethnic groups" [Decree 1999] and the creation of special conditions for them (from tax benefits to deferment of conscription for military service [Decree 1999]) to positioning a subject of the Russian Federation as a place where "they sacredly honor traditions" [Appeal 2020].

In the first case, traditions were a way to justify the benefits provided, and they themselves acted as an invaluable element of culture, which was not questioned, and therefore did not require justification. The emphasis was not on the traditions themselves, but on the threat of their disappearance, which legitimized state support. This discourse has not disappeared; it has been supplemented by statements about tradition as a value, a strong side of the region in a variety of fields of activity. Gradually, differences in the nuances of this process in Yakutia and Buryatia began to appear. In Yakutia, official discussions about traditions still mostly refer to the topic of indigenous, small peoples, Arctic zones, but most often they are discursively integrated into the idea of modernity, development and the future. When asked about traditions in modern Yakutia, its head, Aisen Nikolaev, replied: "At the same time, we perfectly understand how fragile and vulnerable the Arctic is, how important it is to respect its unique nature and the traditions of the indigenous population. In the Arctic zone of the Republic of Sakha (Yakutia), a large layer of cultural traditions of the indigenous peoples of the North has been preserved. In places of compact

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residence, the Evenks, Evens, Yukaghirs, Dolgans, Chukchis, Northern Yakuts, and the Russian old-timer population (Russian Ustinets and Pokhodchane) - the descendants of the first Russian explorers, Cossacks and polar explorers - conduct traditional economic activities. The strategy provides for the creation of favorable socio-economic conditions for the sustainable development of indigenous people of the Arctic zone, the preservation and development of traditional culture and the stimulation of employment and self-employment of the population in the agricultural sector, the creation of infrastructure (trade and logistics centers, the acquisition of transport for transportation), the modernization of production through creation of complexes for deep processing of reindeer herding and fishing products. We are counting on additional incentives to promote organic food products in the consumer market, including the acceleration of international certification, branding and export of local products.”

Buryatia is characterized by two other trends. Buryatia is presented as a special space where “traditional cultures” coexist. Their list is not constant, but since uniqueness has become the cornerstone, the “Buryat culture”, “culture of the Semeisk (Old Believers)”, and sometimes the Cossacks are most often mentioned. This does not mean that the authorities of the Republic of Buryatia ignore public organizations acting on behalf of various ethnic groups; however, the model of presentation of Buryatia through traditional unique cultures is dominated by Buryat and Semeisk. The head of Buryatia spoke about traditions like this: “The culture of the Buryat people is deep and diverse. Songs, dances, customs, amazing cuisine, everyone who has tried our cuisine comes back, looks for it in Moscow, in other places, but tries again and again to taste our national cuisine and, of course, first of all, our buuzas, which recently took over first place in Russia as a brand in a competition held by the Russian Ministry of Agriculture. In addition, the culture of the Old Believers is very interesting. Here the Semeyskie community <...> is one of the largest communities in Russia. Preserved traditions, songs, prayers, customs, way of life, costumes, jewelry - this is interesting, original, accessible and leaves vivid impressions for everyone who touches it.”

And here we should highlight the second trend in the dissemination of neo-tribalist discourse by the authorities of Buryatia - its close connection with the past. We are talking not just about the continuity of the historical past, but about its transfer to the present in its original form. The purpose of the state’s actions is declared to be “the preservation of values and the transfer of traditions from the older generation to the younger.” The number of texts emphasizing the importance of the past is growing every year. At the same time, unlike Yakutia, the emphasis is not on the need to integrate traditions into modernity, but, on the

contrary, on the revival of something that is declared authentic, and on changing modern life for the sake of traditionality. The question arises: why does this happen?

For several decades, the global trend in public administration has been its rethinking from a business point of view. The reforms that were carried out in various countries were justified by the changing economy, globalization, regional integration, trade liberalization, and the digital revolution. In any case, their outcome referred to the concept of a market for services that the state provides to the population. The idea of identifying state institutions and private companies also came to Russia. Gradually, the state itself became one of the main adherents of the idea of complying public administration with the requirements of the world market, using management techniques, increasing efficiency, and those who spoke on behalf of the state spoke about their activities in management terminology, which did not surprise anyone. An increase in subsidies from the federal budget has become equivalent to attracting new investors, and an increase in economic development indicators has become equivalent to an increase in sales, etc. Against this background, in the narratives broadcast by local authorities, the region itself becomes the main product sold, and, like a certain product in an advertising campaign, it reveals the rarest features needed by the end consumer.

Traditions easily fit into this model, becoming a unique characteristic of the proposed “product”; they are presented as synonymous with local culture and a component of ethnic identity. The region seems to be a special space where many peoples coexist with unique traditions that can be “consumed.” The “ethnicity industry,” as J. and J. Comaroff described it, is strongly supported by government authorities, which produce more and more relevant content year after year. This is especially evident in Buryatia, while in Yakutia, in texts distributed on behalf of the state, they often talk about the traditions of indigenous and small peoples. In Buryatia, the emphasis is on rootedness, which is why Buryat traditions have become the most popular topic. Ultimately, support from above for such discourse led to the general spread of these ideas throughout society. By the end of the 2010s, there was a sharp increase in sales of Buryat ethno products and ethno practices: clothing, dishes, shaman services, etc. However, the final buyer in the end was not tourists, but local residents. The canteens were replaced by poznye (or buuznye), and semi-finished products of Buryat cuisine became an indispensable part of the assortment of grocery stores.

Constantly emphasizing the importance of tradition turns to the past. The very concept of traditions becomes polysemantic, and therefore can justify a combination of ideas between which, it would seem, there is no connection. Social assistance programs are described through traditions and local



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<b>GIF (Australia)</b>	<b>= 0.564</b>	<b>ESJI (KZ)</b>	<b>= 8.771</b>	<b>IBI (India)</b>	<b>= 4.260</b>
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ethnic culture [Decree 2009], and in the era of a pandemic, under the head of the republic, a council on traditional medicine is created, almost entirely consisting not of doctors or scientists, but of officials [Decree 2021]. At the same time, the discussion of such actions still takes place in market categories, i.e., as a supply in response to demand: “Deputy Minister of Health of Russia Oleg Salagai, during a working visit to Buryatia <...> said that the republic sets the tone for the development of traditional medicine in Russia, therefore the ministry is ready to support the initiatives of Buryatia to develop this area. According to Oleg Salagai, the republic’s achievements in the field of traditional medicine are doomed to success. According to the press service of the government of Buryatia, the use of traditional medicine methods is a competitive advantage of the republic; there are prospects for developing the export of such services in the region. According to the head of Buryatia, Alexey Tsydenov, the introduction of methods of traditional folk medicine will improve the quality of health of citizens and provide services to residents of other regions of Russia and other countries.”

Addressing the topic of tradition fits into the current agenda, which can be used to legitimize the new appointment (the interim head answers the question of what traditional sport he is involved in), and to justify the allocation of the budget (for the revival of the original traditional animal husbandry [Resolution 2013]), both for the presentation of the region (the arrival of the delegation of the Republic of Buryatia to the Moscow Kremlin in traditional national clothes), and to justify the effectiveness of government initiatives (explaining the success of the Year of the Volunteer through the provision of mutual assistance, which is part of local traditions [Message 2019]). As a result, no matter how much the historicity and authenticity of everything traditional is emphasized, it becomes a response to modernity; it is inscribed in modernity, in all the processes that characterize it. Even when presenting an ethnic product for sale, the creators offer something average and understandable to everyone, making it mass. Traditions are an absolutely modern element of the cultural industry. They are described as something constant and unique, but each time they are created anew with the characteristics that are currently in demand.

At the same time, the state becomes one of the main initiators of this process. The ethnographic museum in the city of Ulan-Ude has become one of the most popular; The gates of the family estate located here are a recognizable brand, just like the gates of the Ivolginsky datsan. Today, the carefully calculated effectiveness of the most typical products has a clear superiority. At the same time, tradition allows us to rely on mass marketing while simultaneously justifying the permanence of these products.

The difference in the popularity of neo-traditionalist discourse in official publications in Yakutia and Buryatia is obvious, but the nature of the publications is quite similar in content and presents local conditions as a unique brand. At the same time, the Yakut authorities more often talk about the mining industry and related topics: the wealth of the region, improving infrastructure, investments, local characteristics. As for the situation in Buryatia, large industrial enterprises created in Soviet times went bankrupt one after another. Against this background, the authorities of Buryatia prefer to discuss the problems of agriculture, small business and tourism, and the topic of traditions is more appropriate here than discussions about mining.

In order to use the concept of traditions in an ethnic context, it is necessary to introduce boundary markers and corresponding cultural and political “loci”. We are talking about what separates these ethnic communities from all others and what is defined as tradition for them. Those who represent the state filter and select certain elements of the culture they represent as central and important definitions of “tradition”; one of them was the “tribal” structure of society. In Buryatia, in official discourse, it is much more popular than in Yakutia. The division into clans and tribes is here described as a natural, and therefore more authentic and moral form of social organization compared to “modern”, less “spiritual” structures. References to clans and tribes are embedded in the general neo-traditionalist discourse and constantly appear in images disseminated by authorities. The various “unique” themed events organized by or with the support of local authorities actually represent a typical situation where existing common traditional practices - folk chants, physical competitions, shooting - were modernized, ritualized and institutionalized in such a way as to serve new national objectives . Sports competitions, where teams are “representatives of tribes/clans”, theatrical festivals, where references to tribalism make it possible to promote neo-traditionalist discourse - all this provides an opportunity to present an ethnic product. “On this day, the participants in the theatrical performance showed the threads connecting the past and the present, about how important it is to know your tribal composition. Having shown the legend of the past, we returned to the present, where the 5th games of 108 suburgans are taking place and their opening was given to 11 Khorin clans, the elders of the clans, real athletes. Traditionally, 11 Khorin clans greeted those gathered with sky-blue khadaks, and the elders of the Khorin clans performed the “Serjem” ritual. The wrestlers performed the Eagle dance, which was greeted with delight by the audience, the horsemen’s dance was performed by the dance group “Udy”, and the archers performed a ritual goroo. The audience was amazed by the richness of the colorful costumes

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and the performance of the characters in the performance”.

Authorities do not simply disseminate neo-tribalist discourse, they explain it, since interaction with the external environment becomes important. In order for the final recipient of a message to understand it, it is necessary that they belong to the same culture, and culture is shared meanings. Language acts as a representational system that is central to processes of meaning creation. The state, through its official channels of information dissemination, publicly presents the very concept of neo-tribalism, explaining what a clan or tribe is, what place these concepts occupy in local culture, what relation they have to certain ethnicities, and most importantly, to the state itself. And now the official portals of government authorities publish interpretations of tribal symbols on the coats of arms of municipalities [Coat of Arms 2017], explain how to conduct tribal rites, and write local history in a neo-tribalist vein.

The birth and spread of neo-tribalist meanings are associated with various moments and practices in the “circulation of culture” - in the construction of identity and the designation of differences, in their production and consumption, as well as in the regulation of social behavior. Language is the most important medium through which meaning is disseminated. The surge of interest in neotribalism in society, which appeared against the backdrop of the creation and representation by the authorities of neotribalist discourse, in addition to the obvious consequences in the form of the promotion of national languages, “traditional” religions, appeal to the past, and the commodification of national culture, also led to the spread of neotribalist discourse about politics in the mass media. Now the authorities themselves began to be understood through the concept of tribal groups and the struggle between them. Journalists publish articles with detailed neo-tribalist descriptions of the political situation in the region; they theorize and derive their models of tribal identity of politicians, and explain through this the distribution of resources - from appointment to public office to the allocation of budget funds. These models are transformed under the influence of a specific political situation, so belonging to a tribe/clan/clan, i.e., to some group presented in such language, can be understood in both a positive and negative way. The authorities, for their part, tend to ignore these publications, but continue to participate in the creation and representation of neo-tribalist meanings, in constructing identities with their help, include them in everyday rituals and practices of everyday life, and thus give them value and significance. When the speaker of the People's Khural attends the local New Year's celebration for eleven Buryat clans and participates in a "traditional" competition, it becomes a public act charged with neo-

tribalist meaning; all participants in this event use the same language codes and speak the same language.

The use of neo-tribalist language paradoxically helps to achieve greater diversity in the interpretation of the political situation. As such, there is no monopoly on tradition, but there are limits to the range of its interpretation and instrumentalization, which means this also applies to neotribalism. The most important role in this is played by the hierarchy of power, that is, which actors can determine what is considered traditional. The active use of neo-tribalist discourse by the authorities has real consequences when, through modern mass media, a model of understanding politics and the distribution of power through revived communal relations is increasingly spreading and taking root. All this is actually a reaction to modern circumstances, despite the fact that all the actors creating and publicly presenting neo-tribalist discourse emphasize its traditionality. Advances in communications and the globalization of economic life are making differences between people increasingly important and divisive, prompting them to seek a separate space for their own “tribe.” This is not a unique feature of local relationships; the modern world as a whole is characterized by a situation where politics is determined not so much by economic or ideological problems as by issues of identity. Relationships remain modern, but are associated with the past, which is constructed in categories that meet current needs.

The language of neo-tribalism is itself used to construct ethnic boundaries, since in the region under study the concepts of tribalism and tradition in general are closely related to ideas of rootedness. This allows us to declare the degree of legitimacy of politicians' claims to power, to produce ordered descriptions of the political using understandable (in the modern situation) categories. But at the same time, the problem of identity appears as part of cultural circulation. Talking about politics in neo-tribalist terms excludes those to whom they do not apply. This was clearly manifested in Buryatia: the rapid spread of the understanding of the political process as a struggle between tribal groups led to the spread of the concepts of “Buryat clans”, “semeysky clan”, but, judging by the analyzed empirical material, the stable and increasingly popular concept of “Russian clans” never appeared. This allows us to exclude the bulk of the region's population from the discussion, but in this situation we are talking only about a neo-tribalist understanding of politics, which is not the only or dominant way of describing it.

### Conclusion

In modern conditions, using the concept of clan to describe politics is a common practice. All over the world, including in Russia, publications about political clans constantly appear. Most often we are talking about closed shadow groups of businessmen,

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politicians, bureaucrats, law enforcement officials, and sometimes representatives of organized crime, united by common business interests and informal relationships. But there is another group of publications where a clan is a group that is held together by norms and practices traditional for a given culture. Tribalist connotations in this situation make it possible to emphasize certain characteristics of groups described as clans: their closedness, hierarchy, their position in the external environment, etc. In any case, "clanism" is most often contrasted with modern progressive relations and political order. In modern Russia, such a phenomenon as a conscious appeal to the past is widespread, and it includes both ideas, idealization, nostalgia, and practical activities aimed at reviving the traditions of former times.

It should be emphasized that the situation is of greater interest when the language of neo-tribalism is tied to ethnicity and autochthony. Contrasting the local ("indigenous") with everyone else, attributing to them a traditional way of life that is natural for them in the political sphere, allows us to interpret the current political situation in the interests of specific actors. In two republics of the Russian Far East, Yakutia and Buryatia, where there is a concept of a titular nation, an indigenous but not small people, more and more such texts are being produced. The generally accepted status of the indigenous people is important because tribalism is declared one of the markers of regional identity - "traditional culture". And the need to discuss "Buryat politics" or "Yakut politics" opens up the possibility of using neo-tribalist discourse, since tribal identity is presented as an element of the corresponding national culture.

Despite all the similarities in the processes of formation of neo-tribalist discourse on politics in Buryatia and Yakutia, the speed and scale of their spread are different. These differences can serve as a quasi-experiment to evaluate the role of government

in this process. In both cases, officials seek to use the concept of traditional culture as a competitive advantage for the region. They constantly reproduce the discourse about traditions, emphasizing their importance, positive impact and the need for implementation in modern life, which allows increasing the effectiveness of government: planning and implementing projects, attracting funds or promising to attract them, taking on obligations regarding economic growth and improving living standards.

In Buryatia, this process is most obvious, while in Yakutia, the raw materials sector of the economy is most often discussed as a competitive advantage. In Buryatia, both agriculture and medicine are associated with traditions, not to mention tourism or culture. Traditions have become a way of positioning the republic in the modern world: identifying its place in the economy (regional, national and global), in relations with the federal center, and forming an idea about it among the residents of the republic. The spread of neo-traditionalist, and with it neo-tribalist, discourse has led to the fact that the authorities themselves have become the object of its description. As a result, this process manifested itself more clearly in Buryatia. In the media space of the republic, many texts have appeared that interpret what is happening in politics in tribal categories. And although local authorities choose to ignore them, they nevertheless still produce and disseminate neo-traditionalist discourse, in fact encouraging an understanding of politics in terms of neo-tribalism. Of course, the representation of neotribalism in each case is a conscious action of specific actors pursuing their own goals, including political ones. Discourses about clans, tribes and clans in politics ultimately have real consequences, since they create an appropriate norm, but the question of how viable it will be remains open.

## References:

1. Mikhaleva, A. (2020) The language of clans: political imagination and identity in the Russian Far East. *Political Science*. No. 4. p. 269-289. DOI: 10.31249/poln/2020.04.13.
2. Basov, A.S., & Kovalsky, S.O. (2021). Experience in applying an international approach to assessing social impact within the framework of ethnological expertise in Western Taimyr. *Siberian Historical Research*. 2021. No. 3. pp. 171-198.
3. Golovnev, A.V. (2021). Ethnological examination in scenarios for resource development of Yamal. *Ural Historical Bulletin*. 2021. No. 2 (43), pp. 143-153.
4. Golovnev, A.V. (2021). New ethnography of the North. *Ethnography*. 2021. No. 1 (11), pp. 6-24.
5. Golovnev, A.V., Davydov, V.N., Perevalova, E.V., & Kisser, T.S. (2021). *Ethnoexpertise in Taimyr: indigenous peoples and man-made challenges*. St. Petersburg: MAE RAS, 2021.

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6. Kisser, T.S. (2021). Cyberspeed in Taimyr. *Ethnography*. 2021. No. 4 (14), pp. 158-185.
7. Perevalova, E.V. (2022). Wild reindeer: ethnic traditions and the current situation in Taimyr. *Ethnography*. 2022. No. 3 (17), pp. 93-120.
8. (2019). "Resource curse" and social expertise in post-Soviet Siberia: anthropological perspectives / D.A. Funk, V.V. Poddubikov, E.V. Miskova and others; resp. ed. YES. Function. Moscow: Printing house "Demos".
9. Funk, D.A. (2018). Ethnological expertise: Russian experience in assessing the social impact of industrial projects. *Ethnographic Review*. 2018. No. 6, pp. 66-79.
10. (2020). *Ensuring movement towards a green future*. (pp.31-33). Moscow.
11. (2022). *New life of the tundra: voluntary resettlement of residents of the village of Tukhard*. Retrieved from <https://dudinka.city.online/news/2022-03-23-novaya-zhizn-tundry-dobrovolnoe-pereseleniezhitelej-posyolka-tuhard>
12. (2022). *New life of the tundra: voluntary resettlement of residents of the village of Tukhard*. City online. Retrieved 06.16.2022 from <https://dudinka.city.online/news/2022-03-23-novaya-zhizn-tundry-dobrovolnoe-pereseleniezhitelej-posyolka-tuhard>
13. (2022). *Free, Prior and Informed Consent (FPIC) in Tuhard*. Retrieved 06/16/2022 from <https://fpic.kmnsoyuz.ru>

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Article



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## ON THE FEATURES OF RUSSIA'S NEW DEFENSE STRATEGY

**Abstract:** In the article, the authors explored the origins of this phenomenon, which is usually sought in local specifics, in cultural practices described by anthropologists and ethnographers. This study is an attempt to demonstrate that the language of neotribalism is modern, it appeared in response to current demands, and the state plays one of the main roles in its formation and maintenance. A study of the new development policy of the Far East was conducted according to the criteria of compliance with the model of a developing state (developmental state) and an explanation of the identified deviations was proposed. It is shown that the transformation of goals in Far Eastern policy, the expansion of its spatial and content coverage, as well as the growth of the simulation component, are largely caused by the multitasking and structural weakness of the Ministry of the Russian Federation for the Development of the Far East and the Arctic, its struggle to maintain positions among other ministries and departments. The research is based on open sources, archival documents and a series of anonymous semi-structured interviews with representatives of government bodies, municipalities, employees of development institutions and resident entrepreneurs of territories of rapid socio-economic development.

**Key words:** regional development, state, Far East, priority development territories, Far Eastern politics, bureaucracy, development institutions.

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### Introduction

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Far Eastern policy, at least at the level of declarations and formal structures, is taking on an

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innovative character; it is designed to transform the style and content of public administration and create an effective bureaucracy aimed at economic results. The Far East is a field of experimentation with the prospect of spreading successful practices throughout the country. In political terms, Far Eastern politics is acquiring the features of a mass movement (about the similarity of the leader of a development state with the leader of a mass movement. It is personalized, almost a personal project of the president, who in his Address to the Federal Assembly in 2013 declared the rise of the eastern territories a national priority for the entire 21st century. This thesis, along with a photograph of V.V. Putin, is posted on the main page of the website of the Ministry of the Russian Federation for the Development of the Far East and Arctic. In June 2020, the President signed a special decree on the development of the region. The recently approved development program, the only one of all regional programs, has "national" status and was formed with the participation of residents of the Far East. The preamble of this document notes that 230 thousand Russian citizens took part in its formation. Official news content related to the Far East is filled with information about completed and promising projects opening in region opportunities.

Meanwhile, objective data show a contradictory picture. Despite the increase in the number of residents of the territories of advanced socio-economic development (hereinafter referred to as ASEZ/ASED) and the Free Port of Vladivostok (hereinafter referred to as FPV), the economic dynamics here differ slightly from the all-Russian one, and often look even worse. In terms of the share of investments in the country's total, the Far East occupies its usual penultimate place, ahead only of the North Caucasus, and has still not reached the level of 2012, when large-scale construction projects for the APEC summit were completed in the region. The region's share of foreign direct investment in the country as a whole was growing, but this was happening against the backdrop of a dramatic drop in their overall flow to Russia. The growth of exports from the Far East (one of the main priorities of the new policy), according to the Ministry of Eastern Development, amounted to \$11.3 billion in the first half of 2020 (7% of the country's exports). However, simple calculations leave no reason for pride here either: at the end of 2012, exports of goods from the Far East amounted to almost \$27 billion. From 2002 to 2012, this figure doubled every five years.

The experience of special regional development structures is contradictory not only in Russia, but also in the world. Many of them would fit the assessment given by the Brazilian Agency for the Development of the North-East: "It is not that the actions [...] were useless. <...> The crisis would have been even more serious without him." It is hardly a coincidence that our interlocutor, who is involved in the problems of

the Far East, assesses the effectiveness of the management of this region in the same way:

"Politics is still being pursued, a new policy. If she hadn't been there, it would have been even worse."

Without the Ministry of Eastern Development, as well as the corporations and agencies subordinate to it, it would probably have been worse, but they still have not formed into a system that ensures accelerated growth. Why? This is the main question this article aims to answer.

The analysis of the problem formulated above will be carried out through the sequential solution of three problems, namely:

first, we will determine the degree to which Far Eastern policy meets the criteria of a developing state and identify observed deviations from them;

secondly, we reconstruct the logic of transformation of goals and increasing imitation of results in Far Eastern policy;

thirdly, to complete the topic and relying on the analysis, let's move from the conceptual to the practical side of the problem, answering the question of why bureaucratic structures aimed at the accelerated development of the Far East cannot become effective?

Albert Einstein famously said that "the release of nuclear energy changed everything except the way we think." Indeed, major changes, sharp turns, seem to change literally everything around, but people's train of thought often remains the same. February 24, 2022 obviously and powerfully changed our world, but the thinking about where we found ourselves and what to do remained much the same as it was three months or six months ago. This delay in thought must be eliminated as soon as possible. From this point of view, Fyodor Lukyanov's proposal to begin discussing where and how Russia should move in the new conditions is absolutely timely.

The military operation in Ukraine was not caused by Russia's desire to break the world order. It pursued a much more limited goal: to solve by force a number of geostrategic, geopolitical, and humanitarian problems in Ukraine and, more broadly, in the European direction as a whole. Politically, Russia fell out of the West's orbit back in the mid-2000s; The economic integration project of "Greater Europe" was finally buried in the mid-2010s, since then the situation has continued to deteriorate. In February 2022, a qualitative shift occurred: the growing confrontation with the West took the form of a proxy war between Russia and the United States and NATO on the territory of Ukraine.

This war fits into the complex process of changing the world order, which is based on a shift in the center of economic activity and economic power from the Euro-Atlantic region to the Indo-Pacific. Since the global financial crisis of 2008, the West has been gradually losing ground to the Asian giants -

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China and India. Russia's military actions in this context – starting with the war in the Caucasus in 2008 and especially since the Ukrainian crisis of 2014 – played the role of a trigger setting geopolitical shifts. The military operation of 2022 has become a major milestone. The point of no return in Russia's relations with America and Europe has been passed. And this affects the global situation in many ways.

The current break between Russia and the West is much deeper than the denial of the new political thinking of Mikhail Gorbachev or the “shaking of the ashes” of the communist period of Russian history. In fact, we are talking about abandoning part of the legacy of Peter the Great - a three-hundred-year tradition of positioning Russia not only as a great European power, an integral part of the balance of power on the continent, but also an integral part of pan-European civilization. The turnaround is fundamental: Russia has long wanted to “fit in” with Europe, where not everyone was happy about it. Under Gorbachev, it gave up a lot for the mere possibility of this; under Boris Yeltsin, it began to rebuild in a Western European manner, and under the “early” Vladimir Putin, it solemnly proclaimed the “European choice”, put forward the project of “Greater Europe from Lisbon to Vladivostok” based on merging the economies of the EU and Russian Federation and even knocked on the doors of NATO.

It didn't work out. A common house in Europe has already been built and inhabited, under the general patronage of the United States, but without Russia. This is not a mistake on one side or another. The collective West could not include such a large figure into its community without shaking the foundations of its structure; expanding the foundation would mean the US abandoning its sole dominance. Russia, for its part, could not obey the rules developed without its participation and which promised it, in essence, a subordinate position in the pan-European house. Independence and sovereignty are tightly woven into the DNA of Russian statehood, into the consciousness of the people and their ruling layer.

Strictly speaking, the house built is, in fact, not pan-European, but common Western. The fact that there was no place for Russia in it is not surprising. The logical consequence of the divergence, parting, and then complete break with the West that stretched over a decade and a half is the need for Russia to perceive itself not only as a political unit separate from the political unit united on the Western platform of Europe, but also as an independent civilization, primarily in relation to Europe.

This conclusion is of fundamental importance. Modern Russia is no longer an empire, but it is also not a nation-state in the European sense of the word. Officially, our country defines itself as a multinational state. It would be more accurate, however, to call Russia a civilization-power. This civilization has largely European roots, but these roots are Orthodox

Christianity, adopted from Byzantium, along with political culture and openness to Asia; Slavic origin, language and writing belong to the European East. Before our eyes, this most important component of historical Europe - with the exception of Russia, Belarus, Donbass and still partly Serbia - has been completely absorbed by the European West, which has actually replaced the recently two-part Europe. Russia, naturally, is outside of this new formation.

But Russia is not Europe No. 2, an alternative to the European Union. In terms of civilization, it is greater than Europe. Stretching to the Pacific Ocean and occupying the entire north of the Eurasian continent, it included numerous ethnic groups that were culturally and religiously different from Europe and historically weakly connected with Europe. At the same time, these ethnic groups have been integrated into a single Russian state for centuries. This unified state differed in many ways from the classical European empires - whether overseas or continental - and is best described by the word "power".

The concept of power differs not only from the concept of empire, but also from the term “great power” as used in the literature on international relations. A power is not a hierarchy of the metropolis and colonies and not a force that surpasses the potential of rivals, but, above all, the ability to hold heterogeneous elements in organic unity and equality. This retention is possible thanks to the powerful state principle, which plays the role of a rigid rod and a flexible frame. It is no coincidence that during the upheavals of the beginning and end of the twentieth century, practically the entire territory of the modern Russian Federation remained under the rule of Russian governments and was not separated from Russia. In this regard, it is fair to conclude that a single power of such size and with such a degree of internal diversity as Russia is at the same time a separate civilization.

The core of the Russian civilization-power is the Russian people, with their language, culture and religion, but the ethnic aspect within the framework of a single civilization is not decisive. On the contrary, the Russian community is open, freely and equally accepting not only individual representatives of other ethnic groups, but also these entire ethnic groups themselves. Tatars, Yakuts, Chechens, and numerous ethnic groups of Dagestan can and are Russian. Orthodoxy is the religion of the majority, but the tradition of religious tolerance allows for the peaceful coexistence and interaction of the main indigenous faiths: Orthodoxy, Islam, Buddhism and Judaism. A single state ensures peace, prosperity and development over a vast territory from the Baltic to the Sea of Japan and from the Arctic to the Caspian. It is the common power that is the most important value for this complex civilization.

The state, however, is itself based on a system of values, without which it collapses. The Russian

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Empire collapsed not so much under the influence of the hardships of the World War, but because of the loss of faith and trust in the supreme power. The Soviet Union died not so much as a result of a shortage of goods in stores, but because of the falsity of the official ideology, which was increasingly at odds with real life.

Legitimacy for the Russian people is not formal legality, but justice. When these two principles collide, justice is placed higher in the Russian consciousness. This is the most important lesson for the modern Russian Federation. The credit of trust given to the authorities by the people is not unlimited

The sustainability of our current state requires its “re-issue” on the principles of freedom and responsibility, social solidarity, administrative competence, practical participation in governance, including the adoption of major decisions.

In this regard, the people of modern Russia will have to rethink themselves and their country, understand the foundations of self-awareness and worldview, and decide where the Russian path should lead. Only under this condition will it be possible to determine policy goals, as well as strategies and methods for achieving them. The totality of these goals, strategies and methods can be united by the concept of the Russian idea. In short, the Russian idea can be described as Russian truth - the basis of a worldview and a set of fundamental principles, the central support of which is the imperative of justice.

Along with justice, the core of the Russian idea is the principle of equality. Russians do not imagine themselves as the chosen people; they do not have the idea of themselves as an exceptional phenomenon. Russians are not special, they keep themselves on the same level as representatives of other nations, not higher, but not lower. The Russian colonial experience was fundamentally different from that of Western Europeans. In the Russian Empire, Russians in their position did not stand above “foreigners,” and in the Soviet Union, national republics enjoyed various privileges and economic preferences, which the RSFSR was deprived of. At the same time, Russians are not ready to accept someone else’s leadership. There is no place for racism in Russian culture, and anti-Semitism - state and everyday - was considered a shameful, condemned phenomenon. Russian culture itself is open to the outside world, its influences, which are assimilated in Russian creative processing.

Thus, justice, equality, openness and reciprocity - while maintaining internal integrity - make the Russian idea a reliable spiritual guideline in developing a foreign policy strategy, especially during a period of change in the world order. The Russian idea opens up the broadest opportunities for mutual understanding, respectful dialogue and reasonable agreements with mutual goodwill. It can be perceived by other peoples and civilizations as the idea of

internal justice, external sovereignty and peaceful, good-neighborly coexistence.

Here it must be emphasized that the Russian idea is intended specifically for Russian civilization, and not as an export product for the rest of the world. An attempt to formulate one’s idea in a universalist key, as Mikhail Sergeevich Gorbachev’s associates did when developing new political thinking, is initially hopeless and therefore meaningless. The global world, in which the spread of the Western model has reached insurmountable limits, is increasingly diverging into civilizational platforms, where each civilization has its own idea. The Russian idea will influence the rest of the world by the very fact of its implementation in Russian society and in the politics of the Russian state.

The Russian idea does not need to be invented, it needs to be rethought for the modern stage of development. German communism and then American neoliberalism obscured for many generations of Russian people the heritage of Russian philosophers, writers, historians - from Pushkin and Chaadaev to Slavophiles and Westerners to religious philosophers and Eurasians. Nowadays, this legacy of the past, largely unexplored by us, is especially in demand so that our thoughts about the present and future gain depth. This is not about returning in thoughts and actions to a hundred or two hundred years ago, but about finding a reliable point of support in our movement forward.

No less important is the experience of practical politics of the 20th and early 21st centuries, cleared of ideology and political preferences. Rejection of communist ideology and condemnation of crimes of the Soviet period should not interfere with the possible use of certain social practices of the twentieth century. A similar approach applies to historically closer eras. It must be borne in mind that with the consistent denial of each of the main historical forms of the Russian state by its subsequent form (the Russian Federation - the Soviet Union, the USSR - the Russian Empire, the Europeanized empire of Peter the Great - the Russian Empire, and so on), the key elements of the Russian idea were inherited within the framework of this historical continuum. The “reissue” of the current form of Russian statehood will probably not be an exception.

The reissue of the Russian Federation will require, among other things, a serious and objective audit of the country’s foreign policy, taking into account the results of the special operation in Ukraine and in the context of the hybrid war with the United States and Europe. The hot phase of confrontation in Ukraine will end sooner or later, but there is no point in waiting for peace with the West: if Russia holds out - which there is no doubt about - then concrete conditions for such peace will not appear soon. It will also require a critical analysis and understanding of the experience of Russian foreign policy, starting at least from the reign of Gorbachev, and at most,



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covering the imperial period. An important goal of such an analysis is to provide material for developing the theoretical foundations of Russian foreign policy.

During the last century, these foundations were based either on the rather narrow basis of proletarian internationalism as the main form of class struggle in the international arena, or - more recently - on borrowed postulates of various Western theories. Meanwhile, each political theory is created taking into account the values and interests of a particular state or group of states, and other people's theories, even reinterpreted ones, are not enough. A Russian theory of international relations is needed, based on the interests and experience of our country and meeting its needs.

The task of theory is to provide meaningfulness to practice and increase its effectiveness. In the conditions of Russia's unequal confrontation with the united West, foreign policy is obliged to ensure the state's stability in relation to opponents and partners, maintain balance against the backdrop of shocks and promote - even in unfavorable conditions - the development of the country. Exactly how to ensure this should be the subject of quite a wide discussion.

Russian civilization is one of the important components of world civilization. It cannot and should not avoid the world's systemic problems. At the same time, based on the Russian idea as the most important basis of the country's policy, including foreign policy, the establishment of one or another form of world order should not be the main foreign policy goal of Russia, as was declared during the Soviet era. This element, central to Soviet strategy - be it in the Leninist, Stalinist, Khrushchev-Brezhnev or Gorbachev variants - must be abandoned. The world order is created - and changed - as a result of the interaction of many participants in the system, including those more powerful than Russia.

The idea of a civilizing power also differs significantly from the idea of an empire. Economic integration and comprehensive cooperation with a number of former Soviet republics are completely justified, but an attempt to restore a full-fledged center of power within the former Soviet space under Russian auspices is unlikely to be successful, since it is actively opposed by the forces of nationalism in the new states, also supported from outside. The main thing is that Russia does not need increments in order to act as a great power.

The very concept of a great power needs to be rethought. The fact that modern Russia is not a superpower has been officially recognized since the collapse of the USSR. In the modern world, however, a great power is not one that forces others to act according to its will, but exactly the opposite - it does not allow anyone to dictate their will to itself and is able, if necessary, to successfully resist the external pressure of superior power. Russia has this ability, and it also has the necessary resources to implement an

independent path of development and an independent foreign policy course. This is what makes Russia a modern great power.

The break with the West inevitably led Russia to difficult trials, but it, having finally freed it from the complexes of a follower and imitator, opened up the opportunity for the country to redefine its place, role and goals in the world. It is clear that under conditions of massive Western pressure, the priority has become maintaining sustainability by mobilizing resources and releasing the creative energy of citizens. The focus on pressing issues, however, should not distract from the development of fundamental issues that now need to be addressed in a new way.

Geographically, Russia is not part of Europe or Asia. On the contrary, the fact that the eastern part of geographical Europe and the northern part of Asia are part of Russia makes our country an important factor for its immediate and more distant neighbors. At the current stage of Russian history, the balance between the two main directions of the country's foreign policy - Western and Eastern - has obviously and unequivocally shifted in favor of the latter. This situation is likely to continue for the foreseeable future.

To maintain balance in the conditions of a hybrid war with the West, Russia in the foreseeable future will have to rely more than ever on the countries of the East - primarily China, but also India and, if possible, other countries in Asia and the Near and Middle East. These countries - to varying degrees - are becoming Moscow's most important foreign policy and foreign economic resource in the international arena. In order to use this resource to compensate for the breakdown in ties with the West and develop the country, Russia must seriously turn its face to non-Western countries not only in Asia, but also in Africa and Latin America, strengthen existing partnerships and establish new ones.

The recent mass expulsions of Russian diplomats from European and American countries indicate the path to follow.

The end of normal relations with Western countries means a sharp reduction in the need for effort - with the exception of the military and intelligence services - and for related specialists. Instead, a significant increase in expertise and practical competencies is required in neighboring countries - the Transcaucasus, Kazakhstan and Central Asia, Turkey, Iran, the Arab East, South and Southeast Asia - not to mention the world giants China and India. Non-Western organizations and forums of the EAEU and CSTO, SCO, RIC and BRICS should become priority centers of multilateral diplomacy for Russia.

Russia's role in the new international context could consist not only in defending sovereignty in confrontation with the united forces of the West, but mainly in building new models of relations within the

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non-West. A good basis for this already exists - strategic partnerships with global powers China and India, as well as with other important players such as Vietnam. There is a history of difficult, but generally positive relations with regional powers Turkey and Iran. There is experience in interaction with the ASEAN regional organization. A significant amount of cooperation has been created with countries in Africa and Latin America. These recently minor areas should now come to the fore.

Russia, of course, needs to use every opportunity to compensate for the damage caused by sanctions, but its role in the non-Western world should not be narrowly utilitarian, focused on finding ways to circumvent sanctions. It is more important to develop economic, financial, scientific, technical, and cultural cooperation - given that leading non-Western countries are historically on the rise, and also that, in cultural and psychological terms, non-Western societies are in many respects closer to Russian people and national culture than most modern societies Europe and North America.

Cooperation with non-Western countries is of great importance for the formation of joint positions and broad public opinion on a large number of global issues: security, economics, trade, finance, ecology, information, culture and so on. In many of these areas, Russia can make a significant contribution to the overall work. Russia's active and constructive role can make the country one of the world's intellectual and political leaders.

Russia's behavior in the international arena should, to the maximum extent possible, correspond to Russian traditions and values, and not represent a semblance of the policies of European powers in the past, the EU or the United States in the present. Russia does not seek world domination or exploitation of other countries and peoples, does not impose its system of values on anyone, does not interfere in the internal affairs of other states, but at the same time resolutely defends its sovereignty, national interests, is faithful to its international obligations and strives for the harmonious coexistence of various states and peoples, cultures and civilizations within the global community.

In these notes about the need to put foreign policy thinking in order, they spoke, in essence, of only one aspect - the formation of the ideological and intellectual basis of Russian foreign policy. There are many other sides to this problem. We need to learn to adequately look at the rapidly changing world and understand its development trends, including in non-traditional areas of information, technology, climate, and so on for international affairs; carefully study the strategy and tactics of the enemy, as well as partners and neutral states; learn to fight better in the information field, including on your own territory. But with all this, we need to start from the basics: who we are, where we are, what we stand for - and why.

## Main part

Approved on March 31, 2023, the Foreign Policy Concept (FPC) became the sixth in the Russian Federation and the fifth since the beginning of the century. No requirements, including and the validity period in relation to the KVP in Russia is not provided, but in accordance with the Federal Law "On Strategic Planning in the Russian Federation" there is a rule on updating the key strategic document - the National Security Strategy - every six years. The KVP is based on it and develops its foreign policy provisions. The current version of the National Security Strategy was approved at the beginning of July 2021, after which the topic of developing a new KVP was updated.

The legal basis for the CVP is traditionally the Constitution of the Russian Federation, which, due to recent amendments affecting, among other things, certain principles of foreign policy, has created additional prerequisites for updating the Concept. In particular, the approved CVP literally repeats the fundamentally significant constitutional norm of Article 79: decisions of interstate bodies adopted on the basis of international treaties in their interpretation, contrary to the Constitution of the Russian Federation, are not subject to execution in Russia. In addition, the State Council is included among the participants in the formation and implementation of the country's foreign policy as a new constitutional body with powers in the foreign policy sphere.

Immediately after the publication of the KVP, attention was drawn to the norm about the special position of Russia as a unique state-civilization. To a certain extent, this concept stems from a key constitutional innovation: "The Russian Federation, united by a thousand-year history, preserving the memory of our ancestors who passed on to us the ideals and faith in God, as well as the continuity in the development of the Russian state, recognizes the historically established state unity." The mentioned article of the Concept, which defines Russia's role in the world, contains another atypical characteristic of the country as a Euro-Pacific power. On the one hand, this expands the established view of the Euro-Asian or Eurasian nature of the Russian state, on the other, it formulates a new dimension of the Euro-Pacific region with other prospects for building communications and inevitable opposition to the Western idea of the Indo-Pacific space.

The KVP specifies certain provisions of the National Security Strategy, as well as other strategic planning documents, in particular those approved in 2022, the Concept of Humanitarian Policy of the Russian Federation Abroad and the Fundamentals of State Policy for the Preservation and Strengthening of Traditional Russian Spiritual and Moral Values.

First of all, a fundamentally new section has appeared, where the strategic guidelines of foreign policy are concentrated, integrating it into a single

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vector and at the same time distinguishing it from other areas of state policy - “National interests of the Russian Federation in the foreign policy sphere, strategic goals and main objectives of the foreign policy of the Russian Federation.” The concept of national interests is always closely linked to foreign policy activity, however, since previous versions of the KVP did not provide their formulations, the

understanding of Russian national interests often became the subject of speculation. Despite their rather general but clear listing in the National Security Strategy, the different “flanks” and “towers” of the diverse Russian society could afford free interpretations. Today Russian national interests look like this:

**Table 1. National interests of the Russian Federation**

<b>National Security Strategy</b>	<b>Foreign Policy Concept</b> (national interests in the foreign policy sphere, additions to the Strategy norms are highlighted in black)
1) saving the people of Russia, developing human potential, improving the quality of life and well-being of citizens	6) saving the people of Russia, developing human potential, improving the quality of life and well-being of citizens
2) protection of the constitutional system, sovereignty, independence, state and territorial integrity of the Russian Federation, strengthening the country’s defense	1) protection of the constitutional system, sovereignty, independence, state and territorial integrity of the Russian Federation from destructive foreign influence
3) maintaining civil peace and harmony in the country, strengthening the rule of law, eradicating corruption, protecting citizens and all forms of property from illegal attacks, developing mechanisms for interaction between the state and civil society	4) protection of the rights, freedoms and legitimate interests of Russian citizens and protection of Russian organizations from foreign illegal attacks
4) development of a safe information space, protection of Russian society from destructive information-psychological influence	5) development of a safe information space, protection of Russian society from destructive foreign information-psychological influence
5) sustainable development of the Russian economy on a new technological basis	7) promoting sustainable development of the Russian economy on a new technological basis
6) environmental protection, conservation of natural resources and rational use of natural resources, adaptation to climate change	9) environmental protection, conservation of natural resources and rational use of natural resources, adaptation to climate change
7) strengthening traditional Russian spiritual and moral values, preserving the cultural and historical heritage of the people of Russia	8) strengthening traditional Russian spiritual and moral values, preserving the cultural and historical heritage of the multinational people of the Russian Federation
8) maintaining strategic stability, strengthening peace and security, the legal foundations of international relations	2) maintaining strategic stability, strengthening international peace and security 3) strengthening the legal foundations of international relations

It is important that Russia has acquired not only a specific list of national interests, but also a system for their implementation in strategic goal-setting. Nine national interests (detailing and deepening the formulations from the National Security Strategy) are implemented through three strategic goals that integrate and direct the activity of Russian diplomacy from now on:

- 1) ensuring the security of the Russian Federation, its sovereignty in all spheres and territorial integrity;
- 2) creation of favorable external conditions for the development of Russia;
- 3) strengthening the position of the Russian Federation as one of the responsible, influential and independent centers of the modern world.

In turn, the three strategic goals are achieved through the solution of fourteen main tasks formulated

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in the same section. The remaining sections of the CVP, therefore, already represent tools for solving them - priority areas of foreign policy, its regional directions, as well as mechanisms for its formation and implementation.

The structuring of national interests, goals and objectives of foreign policy activities presented in the CVP form a more understandable and logical framework for further actions of the country and its representatives in the international arena. It is impossible not to pay attention to the lack of mention of national development goals, which since 2018 have become a top-level priority for all government bodies and in accordance with which all policy areas should be structured, regardless of the industry and action horizon. However, the fact that the National Security Strategy, in accordance with which the KVP was developed, is directly based on national development goals, allows us to consider the latter as a mechanism for achieving national development goals on the external contour.

The priority directions of foreign policy have replaced the priorities of the Russian Federation in solving global problems, which in the previous editions of the CVP were quite stable. Previously there were six of them, now there are nine, the following have been added:

1. Ensuring the interests of the Russian Federation in the World Ocean, outer space and airspace.
2. Environmental protection and global health (separated from international economic and environmental cooperation).
3. Protection of Russian citizens and organizations from foreign illegal attacks, providing support to compatriots living abroad, international cooperation in the field of human rights (previously, human rights were combined with international humanitarian cooperation).

In addition, the task of “Strengthening international security” has become a priority direction of “Strengthening international peace and security”.

Regional foreign policy directions have also been radically restructured. Instead of the largely Western-centric priorities revealed in the logic of “CIS – West – Arctic and Antarctic – Asia-Pacific – Middle East – Latin America and the Caribbean – Africa,” a fundamentally new sequence was formed, namely:

1. Near Abroad (perhaps for the first time as an official term)
2. Arctic
3. Eurasian continent. China. India
4. Asian-Pacific area
5. Islamic world
6. Africa
7. Latin America and the Caribbean
8. European region
9. USA and other Anglo-Saxon states

## 10. Antarctic

Among the declared regional destinations, only three countries are directly named: China, India and the USA. Otherwise, the regional directions generalize foreign policy vectors and delve much less into the bilateral agenda than previous editions of the Concept.

There is an attempt to truly take a new approach to planning not just diplomatic work, but also international interaction. Here is the already mentioned originality of the state-civilization, and a rethinking of the geography of regional directions, and a closer attention to history, and the final postulate about the need for an ever wider involvement of constructively minded social forces in the foreign policy process in order to form a national consensus regarding foreign policy.

For the first time, making an attempt to comprehensively and scrupulously define Russia’s place in the world, the Concept provides a domestic interpretation of the concept of “great power” - albeit conditional, but invariably in demand in real international relations. The CVP names ten parameters that legitimize not only the status, but also the ambitious priorities of that very state-civilization in the external environment - it is in them that it is easy to grasp the self-perception of a great power, namely:

- 1) the presence of significant resources in all spheres of life;
- 2) status as a permanent member of the UN Security Council;
- 3) participation in leading interstate organizations and associations;
- 4) one of the two largest nuclear powers;
- 5) the state is the legal successor of the USSR;
- 6) decisive contribution to victory in World War II;
- 7) active role in the creation of a modern system of international relations;
- 8) active role in eliminating the world system of colonialism;
- 9) one of the sovereign centers of world development;
- 10) fulfilling a unique mission to maintain the global balance of power and build a multipolar international system, providing conditions for the peaceful, progressive development of humanity based on a unifying and constructive agenda.

On the one hand, as a rule, it is not customary to find added value in focusing on one’s own merits. On the other hand, if you don’t praise yourself, no one will: Russia regularly tries to explain on various platforms on what grounds it claims a place “on the ground”, why on earth is its critical opinion, for example, regarding the “rules-based order”, should be of interest to someone. The answer was often very situational and sometimes incoherent, unable to withstand the weight of fundamental differences with counterparties, whose narratives are notable for their

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coherence. Now Russia is not only not ashamed of its disagreement, but also declares its indisputable right to it.

Another new norm of the Concept eliminates the need for euphemisms and saves time for really necessary communication. Relations with other countries can be constructive, neutral or unfriendly, which will be determined by the attitude of these countries themselves towards Russia. Among the principles on which a just and sustainable world order should be based, the authors of the Concept note a spiritual and moral guideline common to all world religions and secular ethical systems. Previous editions spoke about the common (but not unified) spiritual and moral potential (KVP-2016) or even the denominator (KVP-2013) of the main world religions.

The concept captures the politicization of various areas of international cooperation, which is interpreted as negative trends that Russian foreign policy should counteract. Among these are the politicization of the international payment infrastructure, environmental and climate change activities, cooperation in healthcare, sports, human rights, dialogue and interstate interaction in various areas in the Asia-Pacific region.

Despite respect for the UN as the main platform for coordinating interests and codifying international law, the CVP emphasizes the serious pressure that is being put on the organization, and for the first time does not mention a word about reforming the world's leading structure. All recent editions have placed emphasis on rational reform of the UN, but now they talk about the need to restore its role as a central coordinating mechanism.

Previously, there was usually talk about reforming the executive structures of the OSCE, which would increase the relevance and authority of this largest regional platform. In the current Foreign Policy Concept, Russia no longer addresses the need for such reform, as well as the OSCE itself, which is mentioned sporadically as one of the multilateral formats in the European part of Eurasia.

The current KVP significantly strengthens the ideological principles of Russian foreign policy. Thus, for the first time within the framework of the Concept, the concept "Russian World" is used: the role of Russia in its civilizational community is twice noted. In conditions of active rejection, even outright demonization, of the idea of the Russian World in some Western countries, Russian foreign policy confidently takes up its public defense. For the first time, the concept of Russophobia appears, counteracting which develops certain priority areas of foreign policy. It is obvious that previously, due to the seeming marginality of the corresponding movements, it was not necessary to set such a task separately, but new challenges required a direct diplomatic response to attempts to discriminate against everything Russian.

For the first time in the KVP, the concept of "color revolution" is mentioned. Although the main peak of threats associated with this phenomenon occurred in 2000–2010, it did not fall into the regulatory framework of strategic planning. Rather, it remained a stable marker to designate a special class of practices of interference in the internal affairs of states, as a rule, in the post-Soviet space. After the events of 2014 in Ukraine, the term "color revolution" seemed to have lost its relevance. But against the backdrop of a transition to greater straightforwardness in the designation of political guidelines, as well as a constant return to reflection on the nature of the Ukrainian crisis, Russia now clearly indicates its intention to suppress the instigation of "color revolutions" and other attempts to interfere in the internal affairs of its allies and partners. In other words, there will no longer be any recognition of the "free choice" of the people if there is a conviction that it is not free and not a choice at all.

For the first time and immediately, the Concept speaks very extensively about the problem of neocolonialism. The active role of Russia in the elimination of the world system of colonialism and the ongoing process of the irreversible retreat into the past of the model of accelerated growth of colonial powers due to the appropriation of resources is pointed out. The priority of any state renouncing neocolonial ambitions is noted, and solidarity is expressed with African countries seeking to eliminate the inequalities that are worsening due to sophisticated neocolonial policies.

The idea of uniting efforts around countering neocolonialism has been actively penetrating domestic foreign policy discourse in recent months - after President Vladimir Putin's landmark speech at a meeting of the Valdai International Discussion Club in the fall of 2022, where he emphasized the neocolonial essence of the Western model of globalization.

Among the main tasks of foreign policy, the formation of an objective perception of Russia abroad is again mentioned. And within the framework of priority areas for promoting international development and humanitarian cooperation, goals are outlined for the formation and strengthening of a positive perception of Russia in the world. International humanitarian cooperation itself no longer appears simply as a linear type of activity, but is divided, in fact, into two areas. One is related to the goals of creating a positive perception and strengthening Russia's role in the global humanitarian space, a separate aspect of which remains the development of public diplomacy mechanisms. The second is aimed at strengthening the moral, legal and institutional foundations of modern international relations: countering the falsification of history, the spread of neo-Nazism, racial and national exclusivity. Particularly noteworthy are changes in the goal-

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setting of parliamentary diplomacy. All previous versions were limited to the universal formulation that the Federation Council and the State Duma contribute to increasing the effectiveness of parliamentary diplomacy. In the new edition, they contribute to the fulfillment of the tasks of parliamentary diplomacy.

A more symbolic innovation should be the absence of any mention of soft power in the text of the CVP. All 2010s in key foreign policy documents it was placed among the integral components of international politics and permeated domestic political rhetoric regarding the desire for a more effective self-positioning of the country. Russia actively encouraged the use of soft power tools, developed relevant institutions, and even occupied not the worst positions in various ratings and indices. For many reasons, but most importantly, probably due to the foreignness of the term “soft power” for Russian soil, interest in it began to fade at a certain point.

Along with the rejection of soft power, the Concept emphasizes the factor of power in its traditional understanding. The thesis about increasing its role reproduces the norms of previous editions, but for the first time the realities of the formation of new spheres of military action and the unleashing of a hybrid war against Russia are analyzed in detail, and the directions of foreign policy response are formulated.

For the first time, the possibility of Russia using armed forces is allowed. Noting its commitment to Article 51 of the UN Charter on Self-Defense, the CVP lists the following grounds for the use of armed force, namely:

- 1) repelling and preventing an attack on Russia and (or) its allies;
- 2) crisis management;
- 3) maintaining (restoring) peace in accordance with the decision of the UN Security Council and other collective security structures with the participation of Russia in their area of responsibility;
- 4) ensuring the protection of its citizens abroad;
- 5) combating international terrorism and piracy.

It is emphasized that in relation to the West, where the bulk of unfriendly states are located, Russia has no hostile intentions, it does not isolate itself from it and does not consider itself its enemy. She simply expresses an attitude in response to the attitude towards herself. Reciprocity becomes not so much a part of politics as such, but a form of implementation of the spiritual and moral guideline “an eye for an eye,” proposed as the basis of a multipolar world. Reciprocity is a continuation of genuine sovereignty, where there is always a place for the good will of an independent player who does not experience worries because of obstacles put in front of him and leaves a chance for the resumption of relations, but at the same time - where there is a place for a forceful response in the case when “they don’t want to -good.”

Regional areas of foreign policy form a marked list of ten regions, mentioned in order reflecting the degree of their priority. For the first time, the minimum number of states is mentioned directly - there are 18 of them in the text, and in this case it is no longer correct to talk about priority, since the mention occurs precisely within the framework of different regional areas, namely:

1. Belarus
2. Abkhazia
3. South Ossetia
4. People's Republic of China
5. Republic of India
6. Mongolia (mentioned within the Russia-Mongolia-China economic corridor)
7. Afghanistan
8. Iran
9. Syria
10. Türkiye
11. Saudi Arabia
12. Egypt
13. Israel
14. Brazil
15. Cuba
16. Nicaragua
17. Venezuela
18. USA

For the first time, the European Union does not appear among regional priorities; it is mentioned only once, along with NATO and the Council of Europe in the context of unfriendly European states. The European region itself (precisely this wording) is predictably viewed as the third from last direction of foreign policy and through the prism of individual European countries. The condition for relations is “the awareness by European states that there is no alternative to peaceful coexistence and mutually beneficial equal cooperation with Russia, increasing the level of their foreign policy independence and the transition to a policy of good neighborliness.”

For the first time, the KVP introduces the concept of Anglo-Saxon states, which are included in the cohort of “and others” in the context of interaction with the United States and together with them form the penultimate regional direction. In relation to the United States, a “combined” nature of relations is formulated, including the perception of both one of the influential sovereign centers and as “the main inspirer, organizer and executor of aggressive anti-Russian policy.” There is essentially nothing to talk about with other Anglo-Saxon states: everything will again be determined by their attitude towards Russia.

For the first time, Africa is becoming not just an independent direction of foreign policy, but also a clearly expressed priority. Russia stands in solidarity with the anti-colonial aspirations of African states, and Africa itself is defined as a distinctive and influential center of world development. The CVP expresses support for the principle of “African

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problems - African solutions”, and in addition to strengthening bilateral relations, a number of multilateral structures with which Russia intends to deepen interaction are noted: the African Union, the Russia-Africa Partnership Forum, the African Continental Free Trade Area, the African Export-Import bank, etc.

The emphasis on multilateral formats is traditionally placed in the context of Latin America and the Caribbean as a separate regional area of foreign policy. Here, however, on the contrary, the number of priority associations for cooperation has been reduced from seven (in previous versions) to six (the Union of South American States has been excluded due to internal disagreements). Among other things, for the first time, support for Latin American states under pressure from the United States and its allies is noted in ensuring sovereignty and independence.

### Conclusion

The modern system of governance of the Far East contains all the basic elements of a developing state. At the same time, each of them is marked by significant transformations, leading in total to the actual degeneration of Far Eastern policy. The case of the Far East enriches the very theory of the developing state, since it allows us to focus on the main reasons for these transformations. We can identify three reasons, namely:

- 1) multitasking, covering not only economic but also broad social goals (the most controversial of which in terms of achievability is ensuring population growth in the Far East);
- 2) lack of autonomy (since we see the dependence of the new policy on large commodity corporations and regional authorities in providing quantitative performance indicators);
- 3) structural weakness of the Ministry of Eastern Development (struggle to maintain positions in the government hierarchy, lack of administrative powers and formally established opportunities to influence key decisions in the economic sphere).

The study also gives grounds to recognize that new instruments for the development of the region have become a means of increasing the political capital of the Ministry of Eastern Development to compensate for its inherent weaknesses and deficits. Behind the facade of the information campaign is the traditional approach to the development of the region through large government programs and corporate projects. The task of building a new economy, outlined in 2013, through the creation of an institutional infrastructure that ensures new relations between the state and investors, has faded into the background in front of large raw materials and image projects promoted with the help of undeniable strategic arguments. And here we return to questions closely related to practical politics: is this still a

process of transformation of a developing state or is it already the result of the process? Will the accumulation of political capital contribute to a return to the original goals or will it lead to their further erosion? The answer to these questions requires further research, but the analysis carried out in the article made it possible to identify three main directions for applying efforts to correct the course.

The innovative nature of the Foreign Policy Concept does not negate the inconsistency of such documents. On the one hand, due to their regulatory nature, they become a direct guide to action for the entire diplomatic vertical and any related departments in the medium term. On the other hand, since life does not stand still and changes the situation described in the Concept in the very next moment after its approval, the document still turns out to be, as a rule, insufficient to reflect the needs and intentions of the country in such a complex and turbulent world. Entering the operational space of the state-civilization allows us to acquire a new quality of political-spatial thinking, in which there is no place for discrete parameters: all directions become potentially major, and all paradigms become conditional and fleeting.

The task of the new Concept of foreign policy, as, indeed, of any other plan in conditions of permanent chaos, is to gather together the elements of the previous order scattered by the global storms that have already passed, to reckon with “friend or foe” and step fully armed towards new cataclysms. The ability not only to survive, but also to turn the situation to one’s advantage is a skill, the mastery of which becomes a test for everyone, and the formulated foreign policy priorities are designed to contribute to this.

Aid initiatives for Ukraine in 2022 demonstrate a number of unprecedented changes due to the current geopolitical situation: donor states use aid as a tool for foreign policy and national interests.

**First.** The speed of response of Western donor countries at the very beginning of the conflict. Reliance on the experience of interaction with the recipient country and logistics networks built in previous decades, coupled with the atypical unity of Western countries, which acted as a united front against the start of the Russian special operation, ensured increased response speed. The main thing that spurred donors to action was the stated foreign policy goal of keeping Kyiv in its sphere of influence in the face of a serious geopolitical threat, that is, the forceful return of Moscow’s control over Ukraine. If the West, when providing assistance in 2022, was guided, as donors claim, by humanitarian motives, it remains unclear why Brussels and Washington ignored Kiev’s requests to help vaccinate the population during the second wave of the pandemic (asking for a vaccine from Moscow was impossible for political reasons).

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**Second.** The leading role of donor states, not NGOs. Donor states presented the unfolding scenario as exceptional, unique in its kind. This narrative reinforced the relationship between aid and foreign policy goals. Aid was perceived as an effective tool to counter Russia's special operation in Ukraine. Values and narratives of political intervention took precedence, overshadowing the pacifism and neutrality that dominated scenarios where non-governmental donors played a leading role.

**Third.** Volume and diversification of mobilized assistance. The combination of political intervention and the resources available to the public sector ensured a significant flow, which is unusual for the initial phase of the conflict. The intervention was carried out in areas (financial, political-institutional, military) that go beyond the scope of traditional humanitarian activities. All this created ideal conditions for negative phenomena: from the dispersion of aid to corruption, duplication, and the inability to coordinate the activities of donors and keep records of their interventions.

**Fourth.** Anticipatory post-conflict planning. As soon as the conflict began, two initiatives were proposed that were ideal for the post-war phase: reconstruction of the country and Ukraine's path to EU membership. In the first case, the technical problem was the inability to estimate the resources and amount of assistance required. Politically, the question was whether donor states would be able to cope with the problems we have already seen in the recovery phase in other countries (Bosnia, Afghanistan, Kosovo), without a detailed assessment of the reasons for the limited effectiveness of the support that the West provided to Ukraine from 1991 to 2021. Regarding Ukraine's membership in the European Union, the technical aspect is obtaining candidate status regardless of the completion of the complex process of harmonization with European Union legislation. The political aspect is associated with the unity of the bloc in assessing the compliance of candidate countries (as in the case of the admission of Romania and Bulgaria) and member countries (disagreements with the Visegrad Four) with appropriate standards.

**Fifth.** "Sanctions for the enemy, help for friends." The evolution of sanctions is one of the main

innovations in the Ukrainian scenario. In recent decades, sanctions have already transformed from "the last step before war" to "the best remedy instead of war." Therefore, they began to be used more often - sanctions wars broke out, becoming a favorite tool of diplomacy in the post-bipolar world. In the context of the Ukrainian crisis, sanctions, as opposed to an instrument of assistance, have undergone further radical changes, turning into a tactical and strategic resource in the confrontation. Now they began to be used not only to strike one of the warring parties, but also to provide advantages to the other side. Sanctions have become weapons, and weapons are now promoted as a legitimate form of aid, so sanctions aimed at an enemy inevitably become aid to a friend.

**Sixth.** Food as a weapon, weapon as help. One of the main intricacies of the Ukrainian crisis is the use of food and weapons by Russia and the West, respectively. On the one hand, Moscow has turned access to raw materials into a tactical tool of pressure, on the other, the European Union has made weapons a central element in assisting Kyiv.

The impact of these disruptive trends in care practice is likely to be long-lasting. Due to politicization, previously apolitical food aid has been transformed into an instrument of tactical confrontation. Western donor states, by openly supplying arms to Ukraine, approved two new political principles. First of all, the provision of weapons has acquired full legitimacy as a form of assistance. In other words, the tendency to consider only "good" aid as "real" aid – humanitarian or development – has been overcome for the sake of the idea that interstate aid can be any transfer for the benefit of the recipient. Moreover, and this is the most important thing, the right to self-defense, in fact, is now recognized as a basic need, therefore, the need for weapons is humanitarian.

As with the US "preventive intervention" in Iraq in 2003, the risk is that a rhetorical formula imposed today for the sake of short-term political considerations may become a precedent that will later be turned against the very actors who introduced it. – precisely because of its inherent contradictions and weaknesses of definition.

## References:

1. Ageeva, A. F. (2019). Analysis of approaches to assessing socially significant investment projects in the Russian economy. *Bulletin of the Academy*, 2019, pp. 40-51.
2. Bakharev, V.V., & Demina, V.A. (2019). Participation of network communities in the formation of social capital in the process of participatory design of the architectural and



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- landscape space of the city. *Regionalology*, 2019 (107), pp.354-381.
3. Bederson, V. D., Zhelnina, A. A., Zaporozhets, O. N., Minaeva, E. Yu., Semenov, A. V., Tykanova, E. V., Khokhlova, A. M., Chernysheva, L. A., & Shevtsova, I. K. (2021). *Cities of diverging streets: trajectories of development of urban conflicts in Russia*. M.; SPb.: FNISC RAS.
  4. Borisova, N. V., Sulimov, K. A., & Kovina, O. V. (2021). Coalitions in the cities of the Kama region: factors in the formation and preservation of urban political regimes. *Bulletin of Perm University. Series: Political Science*, 2021, pp. 5-14.
  5. Galustov, K. A., & Khodachek, I. A. (2021). Beyond statistics: a qualitative study of the transformation of the primary sector of the economy in the post-Soviet Russian Arctic. *Arctic and North*, 42, 60-80. <https://doi.org/10.37482/issn2221-2698.2021.42.60>
  6. Zamyatina, N.Yu. (2022). *Models of political space. In: Political Geography: Modern Russian School: Reader*. (pp.512-527). Moscow: Aspect Press.
  7. Zakharova, E. E. (2019). Public spaces as factors in the sociocultural development of local territories. *Bulletin of Culture and Arts*, 2019 (50), pp. 22-127.
  8. Ivanova, V.V., & Zykova, M.A. (2019). Urban architecture as a way of constructing and deconstructing the social practices of citizens. *Bulletin of NSU. Series: Socio-economic sciences*, 2019, pp. 150-159.
  9. Klyukanova, L. G. (2019). Sustainable cities: integrated development of urban areas and legal mechanisms to ensure the implementation of citizens' rights to a favorable environment. *Eurasian Legal Journal*, 2019, pp. 213-219.
  10. Koroleva, M. N., & Chernova, M. A. (2023). Tactics for implementing urban projects in the context of modern management practices and legislation. *Urban Research and Practice*, 2023, pp. 28-41.
  11. Koroleva, M. N., & Chernova, M. A. (2019). Urban activism: management practices as a resource and barrier to the development of urban projects. *Sociological research*, 2019 (9), pp.93-101.
  12. Petrov, A. A. (2021). Analysis of priority factors for the development of the construction sector in Russia and identification of possible directions for neutralizing influences. *Current problems of economics and management*, 2021. (18), pp.56-62.
  13. Pustovoit, Yu. A. (2023). "Land" and "freedom": urban regimes and protest communities in Siberian cities. *Power and elites*, 2023, pp. 295-330.
  14. Samataryova, K. A. (2022). Methodology for studying the urban political regime. *Political Conceptology*, 2022, pp. 252-256.
  15. Ter-Voskanyan, O.Sh. (2023). Patterns of formation of the pedestrian environment in the city. *Academia. Architecture and construction*, 2023, pp. 94-99.
  16. Tkachenko, S. B. (2021). Development concepts for Zaryadye: from a hotel to a park. News from universities. Investments. Construction. *Real estate*, 2021 (28), pp.196-213.

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Article



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## GENERAL THEORETICAL AND METHODOLOGICAL TECHNIQUES FOR STUDYING THE RELATIONSHIP OF ETHNICITY AND NATURE IN THE ANCIENT BASHKIR EPIC «URAL-BATUR» (ON THE BASIS OF «GROWTH POINTS» ASKINO SECONDARY SCHOOL №1 REPUBLIC OF BASHKORTOSTAN)

**Abstract:** The article discusses new approaches to the theoretical study and understanding of the ancient Bashkir epic "Ural-Batur". Methodological techniques for deeper knowledge of Bashkir folk tales are presented to teachers of rural secondary schools. The concept of the relationship between the ethnic group and the nature around us is considered. A close connection has been established and presented between the modern nature of the Republic of Bashkortostan and the Bashkir folk epic "Ural-Batur". A theoretical study of famous Bashkir legends was carried out; the reflection of nature in the culture of the ethnic group was shown. Possible influences of ethnic traditions on attitudes towards nature in general are identified and presented. A detailed analysis of the legend was carried out in

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the light of a powerful source of knowledge of the worldview of the modern ethnic group. The relationship between man and nature in ancient Bashkir legends is shown. Examples of manifestations of kind attitude towards animals in Bashkir oral folk art are given. The synthesis of the epic shows the main character Ural-Batur as a true representative of the Bashkir people. Separately from the epic, Living and Dead Water are highlighted as the source of life and the strength of the Bashkir bators. When studying the epic, students are presented with the protagonist's testament to future descendants about preserving nature. The etiological animistic motives in the epic "Ural-Batur" are described in literature. For modern humanity, environmental problems of natural places of the Republic of Bashkortostan are presented based on legends. The historical and environmental significance of the "Ural-Batur" epic is priceless for world culture. The article has enormous educational significance for modern youth and the younger generation. The work was written within the framework of "Growth Points", a structural unit of a rural secondary school within the framework of the "Modern School" for digital, natural science and humanities profiles.

**Key words:** education, upbringing, rural educational institution, UNESCO, Republic of Bashkortostan, Yamantau, Kapova cave, Ural mountains, Shulgan-Tash, Growth point, modern school, final essay, Unified State Exam, Russian language, literature, Bashkir language, Federal state educational standards of the new generation, legend, epic, Ural-Batur, nature, ethnos, myth, fairy tale, water, computer game.

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## Introduction

### UDC 373.1

In our time, man has achieved brilliant discoveries in the field of astronautics, technology, and nuclear energy. Daily complex medical operations are not an unusual event for doctors, and easy operation of a computer is no longer a sensation for the average first-grader.

Every person has many opportunities and desires to change the world. By understanding the laws of nature, we try to make it better. Numerous machines and various devices make it possible to understand the world, learn the rules and patterns, and influence the processes occurring in nature.

"You must have not only an eye, but also an inner sense of nature, you must hear its music and be imbued with its silence", – wrote the great artist I.I. Levitan [1].

Nature is something that is not created by man. Nature is a boundless world filled with mystery, magic and wonder.

Of course, since ancient times the world existed according to the same basic laws that still apply now, only these laws had yet to be discovered, and since then man has been interested in how nature works. And the first hypotheses about the origin of the world and man, about the laws of life turned out to be so interesting, beautiful, poetic, plausible that people still turn with surprise and joy to the wisdom of the ancient people who created these hypotheses, which were later rejected by science, but became endless, inexhaustible a source of art and literature, an indicator of the *relationship between ethnicity and nature* [2].

Naturally, we asked a reasonable question: how, by learning the laws of nature, do we try to change our attitude towards it?

To answer all these and other questions, we decided to conduct our own theoretical research and comparative analysis of the relationship between the Bashkir ethnic group and nature in the ancient epic "Ural-Batur" on the basis of "Points of Growth" Askino Secondary School №1 Republic of Bashkortostan [3].

## 2. Purpose of the study.

In this regard, the *purpose* of this work is to establish a connection between the current nature of the Bashkir region and Bashkir folk tales, as well as to show that Bashkir tales are of great educational importance for youth and the younger generation.

We considered the research *problem* in the article to be how exactly the concept of nature is reflected in the famous Bashkir folk epic "Ural-Batur", and how are ethnicity and nature connected in ancient Bashkir legends.

The *object* and *subject* of the study is the Bashkir folk epic "Ural-Batur" itself.

The *objective* of the study was to conduct a study of Bashkir legends to determine the relationship between the ethnic group and nature, the reflection of nature in the culture of the ethnic group, the influence of ethnic traditions on the attitude towards nature and environmental management.

As a research *hypothesis*, we made the assumption that in the image of the Ural-Batur and other Bashkir bators, typified features of the mentality of the Bashkir people appeared.

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Research *methods* within the literature available at our school are analysis of the texts of Bashkir legends, systematization, and generalization.

This work has *scientific* and *practical significance*, namely, it is a study devoted to the study of the history of the relationship between the Bashkir people and nature, the reflection of nature in the culture of the Bashkir people, the influence of Bashkir traditions on the attitude towards nature and environmental management.

### 3. Tales as an inexhaustible source of knowledge of the worldview of an ethnos.

In the fight against nature, modern man has armed himself with science and technology. All kinds of machines and instruments allow him to understand the phenomena occurring in the world, sometimes even influence them.

When studying the epic in the lessons of the Russian language, Bashkir as the state language, literature, and native language, we pose a number of motivational questions to students. Here are just a few of them that run like a red thread through the entire "*Ural-Batur*" epic.

But what instrument can measure the depth and strength of an individual's feelings? Which meter will warn of a growing human tragedy or environmental disaster? As of today, none!

Therefore, according to [4], it is possible to convey to junior, middle and senior students that in relation to themselves, a person has one of the great means of knowledge – art and literature. They do not reveal absolute, infallible truths, but they are the ones who explain to a person what he is and what he should become. Filling our hearts with light and beauty, they help find solutions in difficult moments of life, illuminate people with ideas, helping to understand ourselves and the world around us.

In those distant years, when people still had no idea about the causes of various natural phenomena (storm, hurricane, thunderstorm, flood), different peoples began to develop their own *legends* [5]. And also, through *myths* [6] and *legends* [7], people tried to understand the universe, the nature and place of man in this world.

Next, we will dwell in more detail on some Bashkir legends, which will give an idea of the "*kamil keshe*" (heroic personality), and will try to show not only the value for world culture, but also the enormous historical and environmental significance of the epic "*Ural-Batur*" [8], which represents is an original translation from Bashkir, Russian into English.

When translating fragments of the epic into English, we provide students with a literal translation of each line separately in order to try to convey the true meaning of the plot being studied. However, our literal and line-by-line translation will be very different from the academic [9] and literary [10] versions of the translation.

### 4. The relationship between man and nature in Bashkir legends.

The Bashkir people are rich in their fairy tales, legends and tales, in which the reader is presented with a wide range of views of the Bashkir people as an ancient ethnic group, rooted in the depths of the primitive communal system [11].

Having reached us from the depths of centuries, they embody the social, moral, aesthetic worldviews of our distant ancestors and reflect nature in the culture of the Bashkir people.

The Bashkir folk epic "*Ural-Batur*" is the most striking and monumental monument of the spiritual culture of the Bashkir people. Its popularity and enormous value lie in the fact that it reflects with high poetic skill the eternal themes of the relationship between man and nature.

The palette of artistic means of the work itself is colorful; its figurative system is rich and original, reflecting the peculiarities of the pagan consciousness of ancient man. He was part of nature, a child of nature, who did not know fire, living only by hunting wild animals.

For example, this is clearly shown in the following fragment of the epic "*Ural-Batur*", which we present in a literal translation of each line.

...An old man named Yanbirhe,  
With Yanbikah, his old woman,  
Adapted for yourself  
Lion Arslan to carry them,  
A falcon to kill the birds,  
A leech to suck blood,  
Pike to catch fish...

Here we inform the students that for *Yanbirhe* and *Yanbikah*, *Arslan* acts as a cab driver, which in translation from Bashkir means lion.

If we consider the fairy tale "*Khylubika and Yarkei*" [12], we will see that it is permeated with subtle feelings of love for nature, which united people and pristine nature. Therefore, *Arslan*, who is also a lion, also means the desire to be strong, brave, courageous, which reflects the desire of the Bashkir people themselves.

For example, animals served *Yarkei*, were devoted to him, and were always ready to help: "*Going out into the field, he burned a hair from the mane of his war horse, and he, along with the dog and animals, was not slow to appear before the owner*".

### 5. Attitude towards animals in Bashkir legends and oral folk art.

A kind attitude towards animals and all living things is another distinctive quality of the Bashkir mentality, which is reflected in many works of oral folk art. A striking example of the manifestation of kindness is *Umys* [13] in the fairy tale of the same name.

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It is very important to show students what we can observe at the very beginning of the work, when he, as a child, gives his last money in order to buy a small donkey. Here is a fragment of the dialogue between the old man and the boy in a literal translation.

*"...He met an old man on the road who was leading a two-year-old foal. Umys really liked the foal. And he asked: Will you sell the foal, old man? I'll sell, – he answered, – the price is so many rubles. Umys was delighted: And I have just that much money. Here you go..."*

In another fairy tale, "*Alpamsha-Batur*" [14], the main character loved animals with all his heart. At the very beginning of the work, the story is told about his main find, which he was incredibly happy about. Here is a fragment from the fairy tale, taking into account the literal translation.

*"...One day in early spring Alpamsha found a sick gosling on the shore of a lake and was very happy about his find. He came out with a gosling, fed it, and by the end of summer the little gosling turned into a big goose..."*

Here we clearly and specifically focus the attention of students on the fact that *Alpamsha-batur* is not alone in performing feats, he is helped by his beloved and main assistant – *Akbuthat* (winged horse), together with him they resist evil and win. In general, according to Bashkir ancient writings, *Akbuthat* is literally translated as "*white-gray*", the name of the famous winged horse from Bashkir legends.

When the hero whistles, *Akbuthat* is ready to fly to him at any moment, support and help him, no matter how difficult his request. Devotion and loyalty to the batur is reflected in the lines, which we give in literal translation.

*"...Alpamsha got off his horse and, before parting with him, agreed that if he needed the horse, he would whistle, Akbuthat would hear the whistle and come running to the cal..."*

Students should understand that the image of a faithful friend, *Akbuthat*, also occupies a special place in the epic "*Ural-Batur*", with the help of which the main character accomplishes feats, fighting dragons, divas, devils, and snakes. It should be clarified that a dev is a popular creature from the epic legends and fairy tales of the Near and Middle East, which is a rather ugly, huge, hairy, fabulously strong monster, capable of flying in the air and capable of magic. Therefore, the natural source of strength and courage of the batur was the rich, virgin, untouched nature of their native land.

If we consider the plot of these works, we will see a lot in common, a lot of similarities in the characters, actions and behavior of the main characters. And, most importantly, you can be sure that the secret of their strength was given by nature. It was she who enriched her inner world, illuminated her with the light of new ideas, forced her to perform great feats and fight for justice.

The idea of the immortality of the feat of heroes fighting against the forces of evil, the glorification of an ever-living and renewing nature – this is the humanistic essence of the epic, passed on to the younger generation from school.

### 6. Ural-Batur as a prominent representative of the Bashkir ethnic group.

The epic "*Ural-Batur*" tells the story of the indivisible unity of the Bashkir people with their Motherland, with their native land, with their Land.

The main character of the epic is the *Ural-Batur*, who is a prominent representative of the Bashkir ethnic group, who has absorbed the best features of his people, faith, customs, the desire for justice, their love for nature, for trees, for everything that surrounds them.

Before analyzing the main character, it is necessary to convey to students that the batur is the hero of Turkic epic tales; a brave, reckless man. This word is derived from the Mongolian word *bakhatur* (*batur*), probably with the stress on the final syllable, but in a literal English translation, due to the phonetic structure of English words, it should be pronounced armor.

Let us give a line-by-line literal translation of a fragment of the epic that describes the connection between the traits of the Bashkir people and nature.

*...Father, come to your senses, look  
On the stick you hold in your hands,  
Run your eyes over it:  
She sang young in the branches.  
Today she is all planed,  
All beaten up, damaged,  
Turned into a naked club...*

Studying the epic in each parallel of classes, we emphasize that the image of the *Ural-Batur* reflects the moral, ethnic and aesthetic values, norms of behavior, preferences and priorities that have developed in the popular consciousness of the Bashkir's.

The epic most clearly characterizes the national mentality – the concept of "*yakshylyk*" – "*good*", which is combined with such national character traits as "*baturlyk, irlek*" – "*masculinity*". This means sacrificing one's life for the sake of life on earth, doing good in the name of the people, honesty, humanity, filial piety, that is, everything that makes the hero, according to the Bashkir's, an integral personality – "*kamil keshe*". On the other hand, it is patriotism, responsibility, endurance, benevolence, and nobility.

The youngest son *Yanbirhe* was also distinguished by kindness. His love for the world around him is manifested in everything: for the bird girls, for the snake, that is, for everything good and bad. Here we show students that the *Ural-Batur* still stands out among other heroes in that his path is a search for absolute goodness, the preservation of all life on earth.

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As a distinctive characteristic of our hero, we present a literal translation of a fragment of his courage from the epic.

*...If one is stronger on those who are weaker,  
We would never hunt.  
If born from mothers,  
Without dying, they always lived;  
Kohl grass stems and tree crown  
Did not obey such a law,  
The rivers stopped flowing altogether,  
The banks are completely dilapidated;  
If only the streams would stop babbling  
What would be the use then?...*

As we see, *Ural-Batur* loved his land and all living things around him very much. Naturally, I wanted to make it even more beautiful, we understand this from the very beginning of the text, because the epic begins with a dispute: is it possible to destroy *Death* [15]?

Is it really impossible to remove one pattern from the eternal cycle in nature? *Ural-Batur* suggests that the animals stop hunting each other, suggesting that this would lead to the end of *Death*.

But *Raven* [16] gives our hero a detailed answer. He is against the proposal of *Ural-Batur*, linking the fight against *Death* with a change in the cycle of life. *Raven* explains that there is no benefit in stopping the extermination of the weaker. Animals and birds silently agree with the *Wise Raven*. This means that no one has the right to change the *Laws of Nature*.

Therefore, while studying the ancient epic and analyzing its lines with students, we clearly explain to them that it is in the image of the *Raven* that we are shown the true, deep connection between ethnicity and nature. It is also noteworthy that the crow here does not appear as an ordinary bird, but represents a wise and sacred image of one of the chains of the animal world.

### 7. Water as a source of life, energy and strength of batur.

Water as a source of life and energy plays an important role in nature. The tales of the Bashkir people contain many descriptions of natural phenomena, as well as the ability of water to both kill and revive.

For example, the source [13] cited above in the text describes the following: *"...Then she sprinkled Dead Water from the first bubble on the cut-up body of Umys. The cut parts of the body were joined together, and the body took on its original appearance. She poured Living Water from another bottle into Umysa's mouth. Then Umys came to life and stood up..."*

Here is another example from source [12], also given above in the text: *"I went out into the street and shot in different directions. As the old man predicted in his dream, one of the arrows hit the well. Yarkei washed himself with water from that well, and his eyes*

*immediately returned to their place, and he began to see better than before..."*

And in the ancient Bashkir epic, our hero *Ural-Batur* also went for living water, which gives immortality to man and nature, and destroys death. Let's consider a detailed translation of each line of a fragment of the epic, showing the life-giving power of water and one of the ways to achieve immortality, which all humanity has been striving for centuries.

*...Death is such a villain! She  
Not visible to the human eye.  
There is only one way here:  
There is a living spring.  
Someone will drink from it – and instantly  
He will immortalize himself, they say.  
Death will retreat, they say...*

As a detailed analysis of the fragment shows, *Ural-Batur* is the conqueror of *Death*; he becomes a cultural hero of the Bashkir people, bringing people an understanding of goodness and beauty. For students, we convey that the main feat of *Ural-Batur* is that he overcame countless obstacles, discovered the secret of the immortality of life on earth, and saves all living things from *Death*.

Let us give a line-by-line literal translation of a fragment of the epic in which our hero wishes to drink the *Living Water* from a healing spring.

*...Don't want to be forever  
Drink from the Living spring!  
What remains on earth?  
How all the best is created,  
Garden beauty and fragrance –  
This is goodness and beneficence...*

On the way to the *Living Spring*, our hero *Ural-Batur* meets an ancient elder, from whom he learns that the law of eternity is good. The old man, who drank the *Living Water* and suffered from immortality, associates the concept of "*immortality of people*" only with their good deeds [17]. In his opinion, if a person leaves behind noble deeds, he will be immortal and will live forever in the hearts of people. Do well and you will be immortal!

### 8. Ural-Batur's legacy to his descendants about preserving nature.

*Ural-Batur* achieves his goal – he finds the *Living Spring*, but without using it, which he himself won from dragons for people, he sprinkled everything around so that nature would become immortal, and it, fading, would become even greener and more beautiful. Students must understand what this means – a person does not need immortality, only he should not violate the laws of nature.

Let's consider the literal translation of the next fragment from the epic, taking into account line-by-line analysis.

*...Here in front of him is the Living Spring –  
He filled his mouth with water,  
To the mountains that raised to heaven,*

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*Sprinkled it with that water, they say:  
"Let the bare thickets be green,  
May they acquire the color of immortality?  
Let the birds chirp louder and sweeter,  
Let people sing funny songs!  
Let the people love this land,  
Let her bloom in a beautiful garden!"...*

The hero accomplished another feat for the people – he cleared *Lake Shulgenovo* [18] from evil spirits. Having drunk water from the lake, where dragons and snakes swarmed, of course, *Ural-Batur* died.

Let us present two fragments from the epic, taking into account literal translation without loss of meaning, showing the heroism and courage of the hero who sacrificed himself for the sake of the life of the Bashkir people.

*... "I'll drink the lake completely,  
I'll dry you up to the very bottom,  
From the divas who survived,  
Who doesn't give people peace?  
From Shulgen and other bastards  
I will deliver the people forever!"...*

After this, *Ural-Batur* appeals to his people not to make mistakes.

*... "Don't drink water from those lakes –  
Illness and pestilence await you there,  
Don't give the villains any favors  
Don't get stuck near the lake"...*

We believe that the words of *Ural-Batur*, addressed not only to the Bashkir people, are still relevant today. It is important here to show not only school students, but also all of humanity that he called for clearing rivers and lakes of all dirt; otherwise they pose a danger to life and health.

The courageous *Ural-Batur* is the personification of spirituality, morality, the desire to live and die for the sake of others. Despite immortality [19], our hero makes a tough decision between life and death, showing us, modern inhabitants of the earth that one of the central ideas of this epic is that the meaning of human life is not in eternal longevity, but in his good deeds for the benefit of the world. The last words – a testament to the people – were the words of the batur in the literal translation of each line of the fragment of the epic.

*... "Children, listen to my words:  
On the earth, purified by me,  
Bring earthly happiness to people.  
Let kindness be your mother  
High honesty and purity;  
Don't let filth come to your doorstep,  
And open the way for kindness!"...*

The hero of the epic, *Ural-Batur*, from the very beginning entered into the struggle for the eternal life of all people, sacrificing him for the sake of liberation from the evil forces of all mankind. Here it is important to explain to students that, despite the fact that the epic is permeated with the idea of universal

human destiny, it arose in a specific place, in a specific ethnic environment, and therefore is inextricably linked with the history, culture, and worldview of the Bashkir people.

As a follower of the glorious Bashkir family, *Ithel*, the son of *Ural-Batur*, continued his father's work and obtained clean water for his people. Here is what is said about this in the epic, taking into account the literal translation of the fragment of the address.

*... "Can I leave people without water?  
If I have a name – batur,  
If I don't knock out the sources of water –  
Who will call me a man?" –  
So said Ithel... And so  
He cuts down a mountain with his sword;  
Waters white as silver  
Flowed, ringing from the mountain  
The transparent ones carried gifts...*

We, the descendants of the *Ural-Batur*, must also follow his behests: cleanse our rivers and reservoirs of pollution, preserve the pristine purity of our Bashkir nature, leave the Earth as beautiful and green for new generations!

We must cultivate in ourselves a sense of responsibility for everything that happens around us, to become the same as our hero. He is for us an example of attitude towards nature, life, people, and the future of his people.

Nature gives birth to living and beautiful things, teaching us all a bright lesson. And the main component of the power of nature is water – a miracle, magic that can create incredible things!

## 9. Etiological animistic motives in the epic "Ural-Batur".

To this day, much of what is described in the epic exists on the territory of the modern Republic of Bashkortostan. One of the leading places in "*Ural-Batur*" is occupied by etiological animistic motifs that existed in the minds of the ancient Bashkir's.

We consider this issue closer to grades 8-9, during extracurricular activities. Although, seniors in grades 10-11 usually find motives on their own when studying the epic.

As described in the epic, the *Ural Mountains* [20] are the road of the *Ural-Batur*, which he walked on his winged horse *Akbuthat*, fighting with the divas, and the highest peak of the *Ural Mountains* is the batur's grave. Popular fantasy claims that the remains of the beloved hero turned into gems and precious metal, and his blood is oil, the black gold of the Republic of Bashkortostan.

The content of the epic shows how everything connected with *Ural-Batur* serves the people. For example, his wife *Homai* [21] remained a bird and hatches beautiful chicks for the joy of people; she also brought various animals and birds to the *Urals*. Here we give an analogy for students that *Homai* is the legendary bird of good luck in the sagas and tales of

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some peoples of the East, which is said to bring good luck to anyone who manages to see it.

Artiodactyl animals originated from the bull that *Ural-Batur* defeated in a duel, but *Akbuthat* brought his herd and made friends between horses and humans. And the picturesque rivers of the Bashkir people, according to the above source [18], arose thanks to the sons of *Ural-Batur* and were named in his honor: *Yaik*, *Ithel*, *Nugush* and *Shulgen's* son – *Sakmar*.

Mount *Yamantau* in the south of the Republic of Bashkortostan arose from the dead body of *Azraki* (evil diva), defeated by the *Ural-Batur's*, and means *Bad Mountain* or *Evil Mountain*. Among the local population, she always enjoyed disrepute and inspired fear. It is still believed that if a person climbs to its top, he can bring disaster upon himself.

The famous *Kapova Cave* [22] still preserves the name of the elder brother of the *Ural-Batur's* – *Shulgen*. The drawings on the walls of the cave tell about the life of ancient people on the territory of modern Bashkortostan.

### 10. Environmental problems of places in the Republic of Bashkortostan filled with legends.

*Kapova Cave* or *Shulgan-Tash*, named after the brother of *Ural-Batur*, is very famous for its historical value; many traditions and legends are associated with it. At one time, this cave was a real mythological center, since it was believed that the spirit of *Ural-Batur* lived here in the guise of a huge rider on the winged horse *Akbuthat*. Anyone who sees it will have good luck.

Like any cave, *Shulgan-Tash* has its own macro- and micro-nature, its own characteristics. Previously, the cave was known for sinter formations [23], such as stalactites, stalagmites, flags, calcite flowers, baths, cave pearls and other cave formations.

Despite the restrictions imposed, it is not possible to regulate the flow of tourists into the cave, as well as to force them to respect cultural monuments and not litter in the cave. The reserve's workers have to regularly spend "*preventive days*" in the cave, raking out from the ancient sanctuary what the "*grateful*" tourists left behind.

We are concerned that, without thinking about the fact that the cave is home to rare animals, visitors spoil the atmosphere of their habitat. They do not appreciate the gift of nature and scatter garbage, which has a detrimental effect on the internal environment of the cave.

Few people think about the fact that if you throw a twig, a rag, a piece of paper and other garbage, then organic matter will appear in the cave, and therefore microbes, and the cave will cease to be the way nature created it.

*Shulgan-Tash* still remains the center of attention of tourists from all over the world, which has the most negative impact on the condition of the rock paintings.

Scientists believe that in order to preserve the drawings, it is necessary to maintain a constant microclimate of the cave, which is incompatible with visits to the cave by people.

In an ideally clean cave there is not a single microbe in the air, and the very atmosphere of the cave, twilight, ancient stone vaults and the incessant melodic splashing of drops, relieves all stress from the overloaded nervous system of a tired inhabitant of the techno genic world, in the same way here people seek salvation from allergies and other diseases.

Recently, the drawings have begun to fade; scientists fear that they may disappear completely and forever. We believe that our cave has also been subjected to the harmful influence of people who do not appreciate the beauty and rarity of nature, which were formed over many millions of years.

The rivers that *Ural-Batur* bequeathed to preserve and protect also came under the negative influence of man: *Sakmar*, *Nugush*, and especially *Ithel*; a large number of enterprises were built on its banks. But *Ithel* is the pearl of the Republic of Bashkortostan. There is nowhere else where you can feel the majesty of the beautiful mountains of the Southern Urals, feel the spirit of the times and feel the power of wonderful legends and tales.

**11. Conclusion.** Thus, we believe that the culture, history and worldview of the Bashkir people are reflected in the epic "*Ural-Batur*". We recommend that the study of the ancient epic be included in the curriculum of secondary schools of the Republic of Bashkortostan, and possibly the whole country. The legend is a living spring for the moral and environmental education of the younger generation.

We believe that in any school in the world, children should learn about the Ural Mountains not only casually in geography lessons, but also in literature, culture and history lessons, studying the epic of the Bashkir people "*Ural-Batur*", so that the name of the ancient hero becomes known to millions of residents of our planets.

These mighty mountain peaks are an eternal monument to the exploits of the *Ural-Batur*, who forever gave the Bashkir land and all people incredible beauty of nature, inexhaustible wealth of mineral resources and great history.

We are confident that by studying Bashkir legends and learning the relationship of the ethnic group to the environment, you can cultivate responsibility for the state of nature as a whole.

Finally, for a detailed study of the entire epic, we have developed a computer educational game "*Ural-Batur*", which is interesting not only to school students, but also to the adult generation. The program is written in the C# programming language, which is studied in some schools and universities in the country.



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The computer game was developed on the eve of the International Mother Language Day, established by UNESCO [24]. We presented our work at the XII International Competition "*Bashkir folk epic "Ural-Batur" – the heritage of mankind*" in the nomination "*For the best game based on the epics of the peoples of the world*".

The international competition of young storytellers and performers of the Bashkir folk epic "*Ural-Batur*" in the languages of the peoples of the Russian Federation and foreign languages was organized and supervised by the Ministry of Education and Science of the Republic of Bashkortostan [25].

Due to the fact that we have presented only fragments of a huge research work, we are sure that many schoolchildren will be seriously interested in the

history of the Bashkir people, folk art and environmental problems of their native land. This will allow you to prepare more seriously for the Unified State Exam and present compelling arguments when writing an essay.

Today, the morality of children is sharply declining, but in legends questions of morality and human responsibility for the state of the environment are always raised. Therefore, reading folk tales, every person is able to rethink his attitude towards nature.

We strongly recommend that modern schoolchildren study not only history, but also the folk art of their indigenous people, participate in competitions that require knowledge of the culture and traditions of their ancient ancestors, do not stop at achieved goals, always try to go further and gain new knowledge.

## References:

1. Filippova, O.N. (2022). *Nature in the works of Isaac Levitan*. Fundamental science and technology: Collection of scientific articles based on the materials of the X International Scientific and Practical Conference, Part 4, Ufa: Publishing House "Limited Liability Company Scientific Publishing Center Bulletin of Science", 2022, pp.7-11, EDN WFQUFC.
2. Shazhinbatyn, A. (2015). Ethnicity and human nature. *Scientific journal "Philosophical Thought"*, Moscow: Publishing House "OO NB-Media", 2015, №7, pp.47-75, EDN UGQRDR.
3. (2024). *Askino Secondary School №1, Republic of Bashkortostan, Russian Federation. Official website of the educational organization*, Retrieved 10.01.2024 from <https://askino.02edu.ru>
4. Dragulenko, N.L. (2003). Art and literature. Textbook for university students studying in the specialty 35.07.00 – "Advertising", Khabarovsk: Publishing House "Khabarovsk State Academy of Economics and Law", 2003, 216 p, EDN QXPBLN.
5. Nadrshina, F.A. (1995). *Nature in the mythological legends of the Bashkir's. The scientific heritage of Bashkir emigrant scientists and contemporary issues* ("Second Validov Readings"): Conference Abstracts, Ufa: Publishing House "Bashkir State University", 1995, Part 1, pp.62-64, EDN TIOGIJ.
6. Losev, A.F. (2008). *Dialectics of myth. Monograph. Series "Philosophical Technologies"*, Moscow: Publishing House "Academic Project", 2008, 303 p., EDN KDGEJR.
7. Davletkulov, A.Kh. (2014). Picture of the world in the epic poetry of the Bashkir's. *Scientific journal "World of Science, Culture, Education"*, Gorno-Altai: Publishing House "LLC Editorial Board of the scientific international journal World of Science, Culture, Education", 2014, №6(49), pp.512-514, EDN TJLOHJ.
8. (2005). *Ural-batur. Bashkir folk epic. Monograph. 2nd edition, stereotypical, multilingual (Bashkir, Russian, English)*, Ufa: Publishing House "Informreklama", 2005, 468 p., EDN YLYQFJ.
9. (2024). *The epic "Ural-Batur" in Russian (academic translation). Information portal about the Bashkir folk epic "Ural-Batur"*, Retrieved 20.01.2024 from <https://ural-batyr.pf/epos-ural-batyr-na-russkom-yazyke-aka/>
10. (2024). *The epic "Ural-Batur" in English (translation by Shafikov S.G.). Information portal about the Bashkir folk epic "Ural-Batur"*, Retrieved 20.01.2024 from <https://ural-batyr.pf/epos-ural-batyr-na-anglijskom-yazyke/>
11. Bulyakova, G.M., & Ueldanova, R.V. (2011). Unity of ideas in the epic "Ural-Batur" and other Turkic-language epics. *Scientific journal "Bulletin of the Bashkir University"*, Ufa: Publishing House "Ufa University of Science

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- and Technology", 2011, T.16, №3-1, pp.1062-1063, EDN OQILWN.
12. Akhmetshina, B. (1989). Khylyubika and Yarkei (translation from the Bashkir language). *Bashkir folk art*. Volume IV. "Magic tales and tales about animals", Ufa: Bashkir Book Publishing House, 1989, pp.307-322.
  13. Rakhimkulova, M. (1996). Umys (translation from the Bashkir language). *Bashkir fairy tales and legends*. Part 4. "Magic Tales", Ufa: Publishing House "Bashkir Book Publishing House Kitap", 1996, pp.89-92.
  14. (1999). Alpamysha (Alpamsha-Batur). *Bashkir folk art (in Bashkir language)*. Volume IV. "Epos", Ufa: Publishing House "Bashkir book publishing house Kitap", 1999, pp.35-68.
  15. Bajmurzina, V.I. (2023). Pansophical ideas and their embodiment in the Bashkir epic "Ural-Batur". *Scientific journal "Pedagogy"*, Moscow: Publishing House "OOO Pedagogika", 2023, T.87, №2, pp.61-66, EDN ZXYQZU.
  16. Kupriyanova, E.S. (2011). The symbolism of the image of a raven in the texts of the Yakut and Bashkir epics (based on the olonkho "Buduruybet Myldyu the Strong" and kubair "Ural-Batur"). *Scientific journal "Young Scientist"*, Kazan: Publishing House "OOO Publishing House Young Scientist", 2011, №6-2, pp.25-27, EDN OFZJNN.
  17. Yuldybaeva, G.V. (2018). The motif of water in Bashkir folk art. *Scientific journal "Horizons of Civilization"*, Chelyabinsk: Publishing House "Chelyabinsk State University", 2018, №9, pp.435-445, EDN XOUKJV.
  18. Nikolaenko, V.V. (1966). *Surface water resources of the USSR. Hydrological knowledge*, Leningrad: Publishing House "Gidrometeoizdat", 1966, T.11. "Middle Urals and the Urals", Issue 1. "Kama", 324 p.
  19. Akhtyamova, L.E., & Rafikov, S.Sh. (2017). The meaning of human life according to the epic "Ural-Batur". *Scientific journal "Bulletin of the Bashkir State Medical University"*, Ufa: Publishing House "Bashkir State Medical University", 2017, №5, pp.80-83, EDN YYKFXF.
  20. Aminev, Z.G. (2021). *Reflection of the cosmogonic ideas of the ancestors of the Bashkir's in the epic "Ural-Batur"*. Materials of the Interregional Scientific and Practical Conference "Folklore of the Peoples of the Volga Region and the Urals: Genres, Poetics, Problems of Study", Cheboksary: Publishing House "Chuvash State Institute of Humanities", 2021, pp.99-108, EDN GCTTGI.
  21. Ilimbetova, A.F. (2023). The image of the mythical bird Homai in the traditional worldview of the Bashkir's. *Scientific journal "News of the Altai State University"*, Barnaul: Publishing House "Altai State University", 2023, №3(131), pp.61-67, EDN DCIUUN.
  22. Lyakhnickij, Yu.S. (2002). *Shulgan-Tash. Album*, Ufa: Publishing House "State Unitary Enterprise Bashkir Publishing House Kitap", 2002, 200 p., EDN TVOMVH.
  23. Chervyacova, O.Ya., & Potapov, S.S. (2020). Modern cryogenic mineral formations of the Shulgan-Tash (Kapovoy) cave associated with seasonal ice dams. *Scientific journal "Mineralogy of Techno genesis"*, Miass: Publishing House "South Ural Federal Scientific Center of Mineralogy and Geoecology of the Ural Branch of the Russian Academy of Sciences", 2020, №21, pp.42-56, EDN LCQFOR.
  24. Sulejmanov, A.M. (2015). *About the importance and necessity of nominating the entire complex of the national epic of the Bashkir's to the UNESCO list*. Collection of articles of the All-Russian scientific and practical conference with international participation "Prospects for the development of the Bashkir people: understanding history, preserving traditions, models of nation-state building", Ufa: Publishing House "Bashkir Encyclopedia", 2015, pp.438-447, EDN VUKEIB.
  25. (2024). *Ministry of Education and Science of the Republic of Bashkortostan*. Official website, Retrieved 20.02.2024 from <https://education.bashkortostan.ru>

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## THE LIFE CYCLE, DAMAGE, AND BIOCONTROL OF THE CABBAGE MOTH

**Abstract:** *Mamestra brassicae*, also known as the cabbage moth, is a polyphagous defoliator that consumes 70 plants from 22 families, including cabbage, sweet pepper, tomato, strawberry, lettuce, beetroot, onion, and rhubarb. Found in Europe, Japan, sub-tropical Asia, India, and North Africa, it has forewings ranging from grey-brown to black and a kidney-shaped white bordered marking in the center. The moth hides in crops during the day and only flies at dawn and evening. The caterpillars lay clusters of 20–100 eggs on the underside of leaves or in greenhouse construction a few days after emerging from their pupae. They are gregarious and feed on the margins of the leaves they land on, spreading across the entire plant starting with the third instar. Large caterpillars mostly consume the youngest leaves, skeletonizing them and leaving holes and frass in their wake. The commercial value of infested crops is lowered due to the caterpillars' massive leaf destruction and the accumulation of their frass inside the cabbage plant.

**Key words:** cabbage, moth, life, damage, cycle, plant types, massive leaf.

**Language:** English

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### Introduction

*Mamestra brassicae*, the cabbage moth, is an extremely polyphagous defoliator. In addition to being a significant pest of cabbage, it consumes 70 plants from 22 families, including chrysanthemum and carnations as well as crops such as sweet pepper, tomato, strawberry, lettuce, beetroot, onion, and rhubarb. This species can be found in Europe, Japan, sub-tropical Asia, which includes India, and North Africa (Libya, the Canary Islands).

The adult *Mamestra brassicae* cabbage moth has forewings that range in color from grey-brown to black and have a kidney-shaped white bordered marking in the center. The middle of the light brown hindwings has a small, barely noticeable patch. The abdomen has a delicate, greyish brown color, while the head and thorax are grey-brown with white dots. The moth hides in the crop during the day and only flies at dawn and evening. The female moths lay clusters of 20–100 eggs on the underside of leaves or

in other places within the greenhouse construction a few days after emerging from their pupae. The eggs are translucent and pale at first, but they gradually darken to a brown-black or perhaps even purple color. They feature a thin marking network and are ridged.

The cabbage moth (*Mamestra brassicae*) first instar larvae are gregarious and feed on the margins of the leaves they land on. They spread across the entire plant starting with the third instar. The larvae have six instars, the youngest of which is clear yellow to grey-green in color and has a distinctive brown-black head capsule. The caterpillar is green with a dark back and a thick, longitudinal stripe running down its side that is yellow after its third moult. The color of the fully grown caterpillar ranges from green to brown to black. The comparatively big head capsule is noticeable in younger instars. Older instars have a distinctive ringed appearance due to the lighter color of the bands connecting the body segments. Pupation occurs beneath the surface.

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**Fig. 1 Mamestra brassicae - Cabbage Moth larva and damage (L. Abduvasiqova)**

Large caterpillars mostly consume the youngest leaves, skeletonizing them and leaving holes and frass in their wake. The commercial value of infested crops is lowered as a result of the caterpillars' massive leaf destruction and the accumulation of their frass inside the cabbage plant.

In southern and eastern Australia, cabbage white butterflies, or *Pieris rapae*, are among the most frequent garden visits. The butterfly has two black spots on each forewing for females and one spot on

each for males, giving it an attractive appearance in white with black dots. However, their silky green caterpillars are ferocious creatures that feed on brassicas, a plant family that includes popular vegetable crops like bok choy, kale, cauliflower, and cabbage.

In 1929, the species was inadvertently brought from Europe to Melbourne. After that, cabbage whites became popular throughout Australia, eventually making their way to Perth in 1943.



**Fig. 2 Mamestra brassicae - Cabbage Moth monitoring (L. Abduvasiqova)**

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Its caterpillars are addicted to eating brassicas, which makes it one of the most common pests of any crop in the world. There have been a lot of cabbage whites lately due to favorable conditions.

Up to 800 eggs can be laid by one female. The caterpillars prefer warm, humid environments with thickly planted hosts once they hatch. These caterpillars are among the quickest growing cabbage-feeding caterpillars, with a biomass that can double every day.

One of the most significant agricultural pests, *Agrotis segetum* Denis and Schiffermaller (Lepidoptera: Noctuidae), is extensively distributed over Europe, Asia, and Africa. Cutworms, or *A. segetum* larvae, are a type of soil pest that injure crops by feeding on or "cutting" seedling stems at or below the growth point. *A. segetum* can infest a wide range of significant crops and vegetables, including wheat, corn, potatoes, peas, sorghum, cabbage, and beets. Many studies have focused on biological control and monitoring of *A. segetum* in order to establish successful management measures. These studies have included the use of bacteria, viruses, and traps.

An important cause of crop pest sudden outbreaks is migratory movements of insect populations, which occur seasonally and involve adaptations for escaping from ecological and environmental stresses such as climatic conditions, food sources, etc. These movements occur between regions where conditions are alternately favorable or unfavorable. A thorough grasp of insect movement makes it easier to create forecasting tools and create effective management plans. On the one hand, it is widely acknowledged that *A. segetum* is extensively distributed because of its strong ability to migrate across great distances, and new radar data have further supported this theory.

It is yet unknown, though, (1) whether this species' migration is a regular ecological habit and, if

so, (2) what seasonal migration pattern this species would display in the event that it were. However, Kennedy was the first to identify the "oogenesis-flight syndrome," which states that the commencement of oogenesis results in the cessation of migratory behavior. Johnson then thoroughly evaluated and characterized this theory as a universal concept. In migration studies, the oogenesis-flight syndrome concept is a commonly recognized model. It is unclear if the "oogenesis-flight syndrome" restricts *A. segetum*'s movement.

All species overwinter in the UK, with the exception of the migrant diamondback and silver Y moths, either as larvae or as pupae (turnip moth). Though this species lacks a distinct overwintering stage, there is mounting evidence that small populations of diamondback moths may be able to survive the winter in warm climates (such as South West England). Every year, two generations are produced by all save the migrant species (see table). Based on when it reaches the UK, the diamondback moth may complete two or more generations. At least one generation will be completed by the silver Y moth.

Every species of caterpillar can contaminate harvested produce and inflict direct feeding damage (see table above for information).

It's critical to conduct routine crop walking to spot pest issues in your crops. The timing of treatment is especially important for the diamondback moth because of its potentially quick life cycle.

Sticky traps or yellow water traps can be used to monitor adult tiny and large white butterflies, just like with cabbage root flies. All moth species' adult males can be caught in particular pheromone traps. When female moths are most likely to be laying eggs in the crop is indicated by the male moths that are caught in the traps.

## References:

1. Macharia, I., Löhr, B., & De Groote, H. (2005). Assessing the potential impact of biological control of *Plutella xylostella* (diamondback moth) in cabbage production in Kenya. *Crop Protection*, 24(11), 981-989.
2. Lytan, D., & Firake, D. M. (2012). Effects of different host plants and rearing atmosphere on life cycle of large white cabbage butterfly, *Pieris brassicae* (Linnaeus). *Archives of Phytopathology and Plant Protection*, 45(15), 1819-1825.
3. Embaby, E. S. M., & Lotfy, D. E. S. (2015). Ecological studies on cabbage pests. *International Journal of Agricultural Technology*, 11(5), 1145-1160.
4. Bommarco, R., Miranda, F., Bylund, H., & Björkman, C. (2011). Insecticides suppress natural enemies and increase pest damage in cabbage. *Journal of Economic Entomology*, 104(3), 782-791.
5. Cartea, M. E., Soengas, P., Sotelo, T., Abilleira, R., & Velasco, P. (2014). Determining the host-plant resistance mechanisms for *Mamestra*

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- brassicae (Lepidoptera: Noctuidae) pest in cabbage. *Annals of applied biology*, 164(2), 270-285.
- Talekar, N. S., & Shelton, A. M. (1993). Biology, ecology, and management of the diamondback moth. *Annual review of entomology*, 38(1), 275-301.
  - Waiganjo, M. M. (1996). *The biology and ecology of the diamondback moth plutella xylostella (L.) with special reference to susceptibility of six cabbage varieties grown in Kenya* (Doctoral dissertation, University of Nairobi).
  - Vasquez, D. L. L., Sabado, E. M., & Bangi, J. C. (2016). Insect pests of red cabbage (Brassica oleracea L.) and life cycle of the cabbage worm, *Crociodolomia pavonana* (Fabricius), in Lanao del Sur Province, Philippines. *Philippine Entomologist*, 30(2), 149-158.
  - Gautam, M. P., Singh, H., Kumar, S., Kumar, V., Singh, G., & Singh, S. N. (2018). Diamondback moth, *Plutella xylostella* (Linnaeus) (Insecta: Lepidoptera: Plutellidae) a major insect of cabbage in India: A review. *J. Entomol. Zool. Stud*, 6, 1394-1399.
  - Saeed, R., Sayyed, A. H., Shad, S. A., & Zaka, S. M. (2010). Effect of different host plants on the fitness of diamond-back moth, *Plutella xylostella* (Lepidoptera: Plutellidae). *Crop protection*, 29(2), 178-182.

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## COMPARATIVE ANALYSIS OF THE UZBEK TRANSLATIONS OF "IMĀM BUKHĀRĪ'S "AL-JĀMI' AL-ŞAĤĪĤ"

**Abstract:** This study presents a comparative analysis of Uzbek translations of "Imām Bukhārī's "Al-Jāmi' al-Şaĥīĥ", focusing on the translations by six Uzbek Islamic scholars, Shaykh 'Abdulazīz Mansūr, and the "Golden Chain" series. It evaluates the methodologies applied in translating Ḥadīth narrations, including the handling of the chain of narrators, book and Ḥadīth numbering, and jurisprudential perspectives. The paper underscores the translations' contributions to the accessibility and understanding of Ḥadīth sciences in Uzbekistan, reflecting on the scholarly efforts to bridge Islamic heritage with contemporary Uzbek society.

**Key words:** society, Islamic, Uzbek.

**Language:** English

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### Introduction

In Uzbekistan, among the translations of ḥadīth collections carried out, Imām Bukhārī's work 'Al-Jāmi' al-Şaĥīĥ' stands out for its significance and scope. The first translation of this work was conducted by six Uzbek Islamic scholars. This translation, published in four volumes, was released by the Dictionaries chief editorial office (currently the "National Encyclopedia of Uzbekistan" State Scientific Publishing House) with a foreword by Muftī Shaykh Muḥammad Şādiq Muḥammad Yūsuf [1]. The contributions of the translators in this translation are as follows: Volume 1 by Zokirjon Ismā'il; Volume 2 by Khōjā Muzaffar Nabīkhān's ūghli and Khōjā Bakhtiyōr Nabīkhān's ūghli; Volume 3 by Rahmatulloh Qōrī Qōsim's ūghli and Khōjā Bakhtiyōr Nabīkhān's ūghli; Volume 4 by 'Abdulghanī 'Abdullāh. Muftī Shaykh Muḥammad

Şādiq Muḥammad Yūsuf's 4-page foreword provides brief information about ḥadīths and ḥadīth scholars.

The second translation was carried out by Shaykh 'Abdulazīz Mansūr and was published in two volumes in 2008 [6]. The first volume of this translation begins with the "Kitāb al-Waḥy" and ends with the chapter "Faḍā'il al-Anşār", containing translations and brief explanations of 3,948 ḥadīths. This volume combines the contents of the first and second parts of the first translation. The second volume, which includes the third and fourth parts of the first translation's publication, starts with "Kitāb al-Maghāzī" and ends with "Kitāb al-Tawḥīd", featuring translations of a total of 3,615 ḥadīths. The publication systematically numbers the ḥadīths from 1 to 7,563, facilitating the comparison and study of them against the original text.

This publication was printed with an introduction by Muftī Usmonkhān Alīmov, which

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discusses the role of ḥadīths in Islam, their types, the stages of development as a science, famous collections of ḥadīths, the life of Imām Bukhārī, the first translation of his work “Al-Jāmi‘ al-Ṣaḥīḥ” into Uzbek, and the unique features of this translation. The introduction also notes that the first edition is not free from certain shortcomings in translation and editing. It is mentioned that some ḥadīths have been commented on in the second edition.

The collection's third – a complete translation and commentary – was published in eight volumes from 2013 to 2018 by a group of translators led by Shaykh Muḥammad Ṣādiq Muḥammad Yūsuf [7]. This edition begins with a brief overview of the “Golden Chain” (“Oltin silsila”), endorsements by ‘Alī Gomaa, the Mufti of the Arab Republic of Egypt, the World Council of Muslim Scholars, Shaykh Muḥammad Sa‘īd Ramaḍān al-Būṭī, Dr. Wahbah Zuhaylī, and others. It discusses the role of ḥadīth in Islam, the formation and development of its science, the “Golden Chain” project, the life and scientific legacy of Imām Bukhārī, and the source criticism of “Ṣaḥīḥ al-Bukhārī”. Considering the project aims to encompass nine reliable collections, it is natural for the introduction section to span 115 pages. The introduction specifically notes the naming and order of the project: “As we begin translating the ḥadīths of the Prophet Muḥammad, peace be upon him, with good intentions and seeking help from Allah the Almighty, we deemed it appropriate to name this collection, comprising nine of the most respected ḥadīth books, the ‘Golden Chain’. We embarked on translating it based on scientific principles, in accordance with international standards, and with the participation of qualified specialists, aiming to create a unique encyclopedia”.

The first six of these books are the most authentic ḥadīth collections with the highest chain of narration. These are the six original books that have gained great fame within the Islamic community. The Islamic community unanimously recognizes them as the most authentic and respected collections for compiling the noble ḥadīths, because they encompass the most fundamental and valuable information of Sharia. As Imām Nawawī has emphasized, “the entirety of Sharia is in these”. Very few ḥadīths of the Prophet Muḥammad (peace be upon him) are left out of these six original books. Without a doubt, these books contain all that is needed for the well-being in both worlds. The next three books added to these six ḥadīth collections are no less significant. Many scholars have emphasized that each of these three books rightfully deserves a place alongside the six authentic books. These books support and supplement the previous six books with additional content” [11].

Through a comparative analysis of these editions, it is possible to assess the work done on the study of ḥadīth science and the scientific legacy of ḥadīth scholars in Uzbekistan during the years of

independence. For this purpose, a comparative analysis of these three editions will be conducted.

**A) Presentation of the chain of narrators in the editions.** In this regard, the first and second editions are the same, where, as the authors have emphasized, only the names of the most famous narrators in the chain of narration (isnād) have been retained. However, it has not been indicated on what criteria the popularity of the narrators in the isnād was based. As a result, this has caused difficulty for readers in understanding which generation a narrator in the isnād belongs to. In the “Golden Chain”, however, the practice of mentioning the origin of the isnād (whether the narrator is a Companion or a Successor) has been preserved. This facilitates convenience for the reader and rectifies the shortcomings found in the first and second editions. For example,

حَدَّثَنَا الْحُمَيْدِيُّ عَبْدَ اللَّهِ بْنُ الزُّبَيْرِ، قَالَ: حَدَّثَنَا سَعِيدٌ، قَالَ: حَدَّثَنَا يَحْيَى بْنُ سَعِيدٍ الْأَنْصَارِيُّ، قَالَ: أَخْبَرَنِي مُحَمَّدُ بْنُ إِبْرَاهِيمَ النَّيْمِيُّ، أَنَّهُ سَمِعَ عَلْقَمَةَ بْنَ وَقَّاصِ اللَّيْثِيِّ، يَقُولُ: سَمِعْتُ عُمَرَ بْنَ الْخَطَّابِ رَضِيَ اللَّهُ عَنْهُ عَلَى الْمِنْبَرِ قَالَ: سَمِعْتُ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ يَقُولُ: «إِنَّمَا الْأَعْمَالُ بِالنِّيَّاتِ، وَإِنَّمَا لِكُلِّ امْرِئٍ مَا نَوَى، فَمَنْ كَانَتْ هِجْرَتُهُ إِلَى دُنْيَا يُصِيبُهَا، أَوْ إِلَى امْرَأَةٍ يَنْكِحُهَا، فَهَاجَرَتْهُ إِلَى مَا هَاجَرَ إِلَيْهِ

In the Arabic editions of the work, the chain of narration for the first ḥadīth is as follows: narrated by Ḥumaydī ‘Abdullāh ibn Zubayr, from Sufyān, from Yahyā ibn Sa‘īd al-Anṣārī, from Muḥammad ibn Ibrāhīm al-Taymī, from ‘Alqama ibn Waqqās al-Laythī.

In the first edition: “Yahyo ibn Said rivoyat qildilar: Umar ibn al-Xattob minbarda turganlarida “Rasululloh sollallohu alayhi va sallamning bunday deganlarini eshitganman”, — dedilar: “Darhaqiqat, barcha amallar niyatga yarasha bo‘lg‘usidir. Kimki hajratdan niyati dunyo topmoq ersa, dunyoga erishgusi, kimki hijratdan niyati xotin olmoq ersa, xotinga nikohlangusidir. Demak, ne niyatda hijrat qilganlig‘i e‘tiborga olingusidir” [1, p. 1].

**Translation:** “Yahyā ibn Sa‘īd narrated: When ‘Umar ibn al-Khaṭṭāb was standing on the pulpit, he said, “I heard the Messenger of Allah, peace and blessings be upon him, say: “Indeed, actions are judged by intentions. Whoever’s migration was for worldly gain or to marry a woman, then his migration is for what he migrated for. So, his intention for migration is what should be considered”.

In Shaykh ‘Abdulazīz Mansūr’s translation: “Yahyo ibn Said rivoyat qiladilar: “Umar ibn al-Xattob minbarda turganlarida: “Rasululloh sollallohu alayhi va sallamning bunday deganlarini eshitganman”, -dedilar: “Darhaqiqat, barcha amallar niyatga qarab bo‘lur. Har kimning niyati bor. Kimning niyati hijratdan dunyo topish bo‘lsa, dunyoga erishadi, kimning niyati xotin olish bo‘lsa, unga nikohlanadi. Demak, ne niyatda hijrat qilgan bo‘lsa, o‘sha e‘tiborga olinadi”[6, p. 7].

**Translation:** “Yahyā ibn Sa‘īd narrated: “When ‘Umar ibn al-Khaṭṭāb was standing on the minbar, he



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said: "I heard the Messenger of Allah, *ṣallā Allāhu ‘alayhi wa-sallam*, say: "Indeed, actions are dependent on intentions. Everyone has their intention. Whoever's intention in migrating is to gain worldly benefits, they will achieve it, and whoever's intention is to marry a woman, he will marry her. Thus, whatever one's intention in migrating is, that will be taken into consideration".

In the "Golden Chain", Alqama ibn Vaqqos aytdi: "Umar ibn Xattobning minbarda turib shunday deganlarini eshitdim: "Men Rasululloh sollallohu alayhi va sallamning "Amallar faqat niyatga ko'radir. Har kimga niyat qilganigina bo'ladi. Kimning hijrati erishmoqchi bo'lgan dunyosi uchun yoki uylanmoqchi bo'lgan ayoli uchun bo'lsa, demak, hijrati o'sha hijrat qilgan narsasi uchundir", deganlarini eshitdim" [7, p. 117].

**Translation:** "Alqama ibn Waqqās says: 'I heard 'Umar ibn al-Khattāb, while standing on the minbar, say: "I heard the Messenger of Allah, *ṣallā Allāhu ‘alayhi wa-sallam*, say: "Actions are but by intention. And every man will have only what he intended. If anyone's migration is for some worldly gain he seeks or for a woman he intends to marry, then his migration will be for what he migrated for".

The complete or partial omission of the chain of narrators or the exclusion of certain narrators in the first and second translations compromises the integrity and continuity of the isnād. In the above Uzbek translation, Yahyā ibn Sa'īd did not see 'Umar ibn al-Khattāb. Rather, he conveyed a narration that reached him through the route of Muḥammad ibn Ibrāhīm al-Taymī and 'Alqama ibn Waqqās al-Laythī. Moreover, between Imām Bukhārī and Yahyā ibn Sa'īd, there are two narrators, Ḥumaydī 'Abdullāh ibn Zubayr and Sufyān. Although the translation does not indicate that Imām Bukhārī heard it from Yahyā ibn Sa'īd or that he saw 'Umar ibn al-Khattāb, a reader not knowledgeable in Arabic might mistakenly believe so. It is also unclear why Yahyā ibn Sa'īd is considered more notable than other narrators in the chain. This arrangement is maintained throughout all four volumes. The arrangement in the 'Golden Chain,' however, creates convenience for the reader.

**B) Numbering of the book, chapters, and ḥadīths.** In the Arabic edition of the work, the books (e.g., Kitāb Bad'u al-Wahy, Kitāb al-Īmān) are numbered, while the chapters are not. The ḥadīths are sequentially numbered from 1 to the end of each book.

In Shaykh 'Abdulazīz Mansūr's translation, the books (chapters) are not numbered. However, the chapters within each book are individually numbered, and the ḥadīths are sequentially numbered from the beginning to the end of the book in a cumulative count.

In the "Golden Chain," each book, chapter, and ḥadīth is numbered. While the chapters within each book are individually numbered, the ḥadīths are

sequentially numbered in a cumulative count from the beginning to the end of the book.

For example, in the Arabic edition, "Kitāb al-Īmān" is marked with number 2, consisting of 40 unnumbered chapters and ḥadīths numbered from 8 to 58. In the first translation of the four-volume set, "Kitāb al-Īmān" is not numbered, but the chapters are numbered from 1 to 43. No numbers are given for the ḥadīths. In Shaykh 'Abdulazīz Mansūr's translation, "Kitāb al-Īmān" is also not numbered, but its chapters are numbered from 1 to 42. Unlike the first translation, the ḥadīths are numbered from 8 to 58. In the "Golden Chain," "Kitāb al-Īmān" is recorded with number 2, the chapters are individually numbered from 1 to 43, and the ḥadīths are numbered from 8 to 58. Therefore, among the translations, the "Golden Chain" is the closest to the Arabic edition, with only differences in the titles of the chapters. This facilitates the reader's understanding of the Arabic edition alongside the Uzbek translation.

**D) Translation and commentary of the ḥadīths.** To identify the characteristics of these translations and commentaries, the following ḥadīth can be examined. In the Arabic text, the first chapter of the second book, "Kitāb al-Īmān", is titled "The Prophet (*ṣallā Allāhu ‘alayhi wa-sallam*) said, "Islam is built upon five things". Afterwards, Imām Bukhārī explains faith as "it is both qawl (speech) and 'amal (action)", and as proof of this statement, he presents 11 āyāt and their interpretations in the form of narrations.

بَابُ قَوْلِ النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ: «بُنِيَ الْإِسْلَامُ عَلَى خَمْسٍ... وَهُوَ قَوْلٌ وَفِعْلٌ، وَزَيْدٌ وَيَنْقُصٌ...»

In the first translation, it is stated: "Rasululloh sollallohu alayhi va sallam bunday deganlar: "Islom 5 dalil asosiga qurilgan. (Islomdan murod iymon demakdir). Iymon so'zda ham, amalda ham bo'lmog'i kerak. Iymon kuchaygaydir va susaygaydir" [1, p. 6].

**Translation:** "The Messenger of Allah, *ṣallā Allāhu ‘alayhi wa-sallam*, said: "Islam is built on five pillars. (By Islam, it means faith). Faith must be both in speech (qawl) and in action ('amal). Faith may increase and decrease." After this, the translations of the verses into Uzbek are provided.

In Shaykh 'Abdulazīz Mansūr's translation, it is stated: "Rasululloh (s.a.v.)ning so'zlari bo'yicha, Islom 5 rukn (ustun) uzra qurilgan. Imon so'zda ham, amalda ham bo'lishi kerak. Imon ko'payadi va kamayadi" [6, p. 11].

**Translation:** According to the words of the Prophet (*ṣallā Allāhu ‘alayhi wa-sallam*), Islam is built upon five pillars. Faith must exist in both speech (qawl) and action ('amal). Faith increases (yazīd) and decreases (yanqūṣ).

The author elaborates on this issue separately, noting, "According to Ḥanafī and Māturīdī creed, faith is affirming with the heart and professing with the tongue. It is not the essence itself that increases or decreases, but its light or strength.

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In the "Golden Chain," the chapter title is named "Faith and the words of the Prophet, ṣallā Allāhu 'alayhi wa-sallam, 'Islam is built upon five things,'" with the text from the Arabic edition presented. Following this, the translation of the text notes, "It (faith) is speech (qawl) and action ('amal), it can increase (yazīd) and decrease (yanqūṣ)." After the translation of the verses, it is stated, "Imām Abū Ḥanīfa, may Allah have mercy on him, said about this matter: 'This debate is about terminology. Because if faith meant only affirmation, then it would not accept increase or decrease. If it includes acts of obedience, then it does accept them.' He then said, 'Acts of obedience perfect the affirmation. All evidence brought to the statement 'faith does not accept increase or decrease' returns to the affirmation, which is the basis of faith. Everything that indicates the statement 'faith does accept increase and decrease' pertains to complete faith, which is made of affirmation and deeds'" ("Umdat al-Qārī, Commentary on Ṣaḥīḥ al-Bukhārī," "Kitāb al-Īmān").

These words are also relevant to chapter 34, "On the Increase and Decrease of Faith." According to Bukhārī and other ḥadīth scholars, a person's faith increases with perseverance in religious acts and decreases with consistent shortcomings. Imām Abū Ḥanīfa also states that faith can increase and decrease. However, it is not the essence of faith itself, but rather its quality that possesses this characteristic [7, pp. 128-130].

In the above translations and commentaries of the same ḥadīth across three editions, it becomes clear that the first edition's translator attempted to explain in line with the Ḥanafī-Māturīdī creed by rendering the phrase **وَهُوَ قَوْلٌ وَفِعْلٌ** as "Faith must be both in speech (qawl) and in action (fi'l)." Additionally, translating its increase or decrease as strengthening or weakening also serves this purpose. Shaykh 'Abdulazīz Mansūr first translated the text literally and then, to avoid potential misunderstandings in interpretation, noted how this issue is viewed within the Ḥanafī-Māturīdī teachings in a footnote. In the "Golden Chain," along with translating the commentary from "Umdat al-Qārī, Commentary on Ṣaḥīḥ al-Bukhārī," the views of Abū Ḥanīfa on this matter are also presented.

E) Presentation of Madhḥab Perspectives in the Translation and Commentary of Ḥadīths. In arabic text:

بَابُ رَفْعِ الْيَدَيْنِ إِذَا كَبَّرَ وَإِذَا رَكَعَ وَإِذَا رَفَعَ

736 — حَدَّثَنَا مُحَمَّدُ بْنُ مِقَاتٍ، قَالَ: أَخْبَرَنَا عَبْدُ اللَّهِ، قَالَ: أَخْبَرَنَا يُونُسُ، عَنِ الزُّهْرِيِّ، أَخْبَرَنِي سَالِمُ بْنُ عَبْدِ اللَّهِ، عَنْ عَبْدِ اللَّهِ بْنِ عُمَرَ رَضِيَ اللَّهُ عَنْهُمَا، قَالَ: "رَأَيْتُ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ إِذَا قَامَ فِي الصَّلَاةِ رَفَعَ يَدَيْهِ حَتَّى يَكُونَ حَذْوَ مَنْكِبَيْهِ، وَكَانَ يَفْعَلُ ذَلِكَ جِئًا بِكَبْرٍ لِلرُّكُوعِ، وَيَفْعَلُ ذَلِكَ إِذَا رَفَعَ رَأْسَهُ مِنَ الرُّكُوعِ، وَيَقُولُ: سَمِعَ اللَّهُ لِمَنْ حَمِدَهُ، وَلَا يَفْعَلُ ذَلِكَ فِي السُّجُودِ"

In the first translation, it is stated: "Ibn Umar raziyallohu anhu takbiri tahrira aytib namozni boshlayotganlarida qo'llarini yelka barobarida ko'tarar erdilar. Ruku' qilganlarida ham, «Sami'allohu liman hamidah» deganlarida ham, ikkinchi rak'atdan turganlarida ham shunday qilar erdilar (Ibn Umar raziyallohu anhu buni Rasululloh sallallohu alayhi va sallamga nisbat berg'aydirlar)" [1, p. 147].

**Translation:** "Nafi' reports that Ibn 'Umar, may Allāh be pleased with him, would raise his hands to the level of his shoulders when saying the opening takbīr of the prayer. He would do the same when bowing, when saying "Sami' Allāhu liman ḥamidah", and when standing up for the second unit of prayer (Ibn 'Umar attributed this practice to the Prophet Muḥammad, peace and blessings be upon him)".

Shaykh 'Abdulazīz Mansūr translates the ḥadīth as follows: "Nofe' (rz.) rivoyat qiladilar: "Ibn Umar (rz.) takbiri tahrira aytib namozni boshlayotganlarida qo'llarini yelka barobarida ko'tarar edilar. Ruku' qilganlarida ham, "Sami'allohu liman hamidah" deganlarida ham, ikkinchi rak'atdan turganlarida ham shunday qilar edilar (Ibn Umar (rz.) buni Rosululloh (sav)ga nisbat beradilar)".

**Translation:** "Nafi' reported: 'Ibn 'Umar, may Allāh be pleased with him, would raise his hands to the level of his shoulders when saying the opening takbīr of the prayer. He would do the same when bowing, when saying 'Sami' Allāhu liman ḥamidah,' and when standing up for the second unit of prayer (Ibn 'Umar attributed this practice to the Prophet Muḥammad, ṣallā Allāhu 'alayhi wa-sallam)".

In the explanation of this ḥadīth, it is recommended to refer to explanation 735, where it states: "According to this and the following four ḥadīths, in the Shāfi'ī school of thought, hands are raised to the level of the ears. In contrast, according to other ḥadīths, in the Ḥanafī school of thought, hands are raised to the level of the shoulders (al-Ḥidāya). The fact that in Abū Dāwūd's Sunan and other ḥadīth collections, it is mentioned that the Prophet (ṣallā Allāhu 'alayhi wa-sallam) raised his hands once when beginning the prayer, serves as a basis for the Ḥanafī school of thought ('Umda)".

Although no separate explanation is provided in the translation, the translation of the mentioned 738th ḥadīth serves as an explanation. In it, 'Abdullāh ibn 'Umar states: "I saw the Prophet (ṣallā Allāhu 'alayhi wa-sallam) performing the prayer: they started the prayer with the takbīr. Those who said the takbīr raised their hands to the level of their shoulders. When saying 'Sami' Allāhu liman ḥamidah,' they did the same. And when saying 'Rabbana lakal-ḥamd,' they said so. Neither when prostrating nor when raising their heads from prostration, they did so" [6, p. 122].

In "Golden Chain", the mentioned ḥadīth is translated as follows: "Nofe' dan rivoyat qilinadi: "Ibn Umar namozni boshlashda takbi aytar va ikki qo'lini

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ko'tarar edi. Ruku' qilganda ham ikki qo'lini ko'tarar, "Sami'allohu liman hamidah", deganda ham ikki qo'lini ko'tarar hamda ikkinchi rakatdan turganda ham qo'llarini ko'tarar edi. Ibn Umar buni Nibiyulloh sollallohu alayhi vasallamga nisbat berar edi" [7, p. 569].

**Translation:** "It is narrated from Nafi': "Ibn Umar would say the Takbīr when commencing the prayer and raise his two hands parallel to his shoulders. When he bowed, he would also raise his two hands and when saying 'Sami' Allāhu liman hamidah,' he would also raise his two hands, and when rising from the second rak'ah, he would also raise his two hands.

Ibn Umar attributed this to the Prophet (ṣallā Allāhu alayhi wa-sallam)." Following this translation, reference is made to commentary 736, where it is recommended to look into this ḥadīth. In the commentary of this ḥadīth, it is mentioned: "Shāfi'ī and Ḥanbalī scholars understood and practiced this ḥadīth accordingly. However, Ḥanafīs preferred not to raise their hands in any other place than the Takbīr Taḥrīma. Because they found it stronger to narrate the ḥadīth reported by Abū Dāwūd, Ibn Abū Shaybah, and Ṭaḥāwī from Barā' ibn 'Āzib, which states, 'When the Prophet (ṣallā Allāhu alayhi wa-sallam) said the Takbīr for entering the prayer, he would raise his hands, even his fingertips would come

close to his earlobes, then he would put them down differently.' In 'Bādāye', Ibn 'Abbās is quoted saying, 'Ten people, who were given the glad tidings of Paradise by the Prophet (ṣallā Allāhu alayhi wa-sallam), used to only raise their hands at the beginning of the prayer".

Among the translated collections of ḥadīths carried out in Uzbekistan, the significance and prominence of Imām Bukhārī's "al-Jāmi' al-Ṣaḥīḥ" stands out. This work has been fully translated three times to date, with the first translation being carried out by six Uzbek Islamic scholars. The second translation, on the other hand, was undertaken by Shaykh 'Abdulazīz Mansūr and was published in two volumes in 2008. This translation is considered a revised version of the initial translation with some annotations added. In the publication, which includes an introduction by Mufti Usmonhon Alimov, the importance of ḥadīths in Islamic religion, their types, stages of development as knowledge, famous collections of ḥadīths, Imām Bukhārī's life, the first translation of his "Al-Jāmi' al-Ṣaḥīḥ" into Uzbek, and the unique aspects of this translation are elucidated. The third part of the collection, comprising a complete translation and commentary, was published between 2013 and 2018 in eight volumes by a group of translators led by Shaykh Muḥammad Ṣādiq Muḥammad Yūsuf.

## References:

1. Bukhari, M. I. (1997). *Trustworthy Collection* (Vol. 1). (Z. Ismoil, Trans.). Tashkent: Main Editorial Office of Encyclopedias.
2. Bukhari, M. I. (1997). *Trustworthy Collection* (Vol. 2). (Kh. B. Kh. Muzaffar Nabixon's Son, Trans.). Tashkent: Main Editorial Office of Encyclopedias.
3. Bukhari, M. I. (1997). *Trustworthy Collection* (Vol. 3). (Kh. B. Rahmatulloh Qori Qosim's Son, Trans.). Tashkent: Main Editorial Office of Encyclopedias.
4. Bukhari, M. I. (1997). *Trustworthy Collection* (Vol. 4). (A. Abdulloh, Trans.). Tashkent: Main Editorial Office of Encyclopedias.
5. Bukhari, M. I. (2001). *al-Jami' al-Sahih*. Beirut: Dar al-Tuq al-Najat.
6. Bukhari, M. I. (2008). *Sahih Bukhari: al-Jami' al-Sahih (Trustworthy Collection)* (Vol. 1). (S. A. Mansur, Trans.). Tashkent: "O'zbekiston Milliy Ensiklopediyasi" State Scientific Publishing House.
7. Bukhari, M. I. (2016). *Golden Chain: Volume 1: Sahih al-Bukhari* (Vol. 1). (S. M. Yusuf, Trans.). Tashkent: Hilol-nashr.
8. Eshonjonov, B. (2001). *Imam al-Bukhari's Position in the Cultural Life of the 9th Century Movarounnahr and the Juridical Issues in His Work "al-Jami' al-Sahih"*. Tashkent.
9. Mirmahmud, N. (1998). Imam al-Bukhari and al-Jami' al-Sahih. *Sharqshunoslik*, 4, 42-49.
10. Rahimjonov, D. (1999). Imam al-Bukhari and the Ḥadīth Schools of Movarounnahr. *Sharqshunoslik*, 9, 44-48.
11. (n.d.). Retrieved from <http://oltinsilsila.uz/site/posts?id=4>

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## PATHOGENICITY OF SPECIES OF ALTERNARIA ON POTATOES AND TOMATOES

**Abstract:** Early blight is a dangerous disease affecting potatoes, primarily caused by *Alternaria alternata* and *Alternaria solani* in Western Europe. In Russia, it may also be caused by *A. tomatophila*, *A. tenuissima*, *A. infectoria*, and *A. arborescens*. *A. grandis* has been identified as the causative agent in Brazil. Different perspectives exist on the *Alternaria* species' significance in Early Blight, with some believing only *A. solani* is pathogenic, while others consider both species or a pathogen complex involving *A. alternata* and *A. solani*. Early blight symptoms include tiny, 1-2 mm black or brown lesions on leaves, concentric bands of dark pigmentation on stems, and "collar rot" on seedlings. Lesions can grow to significant sizes and infect both green and ripe tomato fruit. Potato tuber symptoms are irregular, sunken lesions, often encircled by a raised purple border.

**Key words:** tomatoes, fruit, alternaria, pathogenicity, potatoes, causative, complex.

**Language:** English

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### Introduction

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In many areas where potatoes are grown, early blight is a dangerous illness. The illness can be managed with strategic fungicide sprays. *Alternaria alternata* and *Alternaria solani* are the two *Alternaria* species that are primarily regarded as causative infections in Western Europe. According to Russian studies, the Early Blight disease may also be caused by the species *A. tomatophila*, *A. tenuissima*, *A. infectoria*, and *A. arborescens*. *A. grandis* has been identified as the Early Blight's causative agent in Brazil. Spores from *A. solani*, *A. tomatophila*, and *A. grandis* are larger than those from *A. alternata*, *A. tenuissima*, *A. arborescens*, and *A. infectoria*. Different perspectives exist regarding the *Alternaria* species' significance in the Early Blight. It is debatable if small spored species-primarily *A. alternata* have an

impact. Some studies believe that just *A. solani* is pathogenic, while others consider both species to be causative agents or describe a pathogen complex involving *A. alternata* and *A. solani*. The last scenario involves *A. alternata*, which is a saprophyte and a secondary invader that colonizes leaf lesions wherever they originate (e.g., ozone damage, variety specific, produced by *A. solani*, etc.). There is general agreement amongst the differing viewpoints that *A. solani* is pathogenic. A variety of tests were conducted in an effort to clarify the role that *A. alternata* plays in the Early Blight disease.

The fruit, stem, and foliage of tomatoes, as well as the stem, foliage, and tubers of potatoes, exhibit signs of early blight. The first signs on leaves are tiny, 1-2 mm black or brown lesions that get larger and frequently have a golden halo surrounding them in favorable environmental circumstances. In lesions larger than 10 mm in diameter, concentric bands of

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dark pigmentation are common. This lesion, known as a "bullseye" variety, is quite typical with early blight. Entire leaves may become chlorotic and dehisce as lesions grow larger and new lesions form, resulting in severe defoliation. On stems, lesions frequently exhibit the characteristic concentric rings and are deep, lens-shaped, and have a bright core.

Lesions on early tomato seedlings may completely girdle the stem; this is a stage of the disease called "collar rot," which can cause the plant to become less vigorous or even die.

Lesions can occasionally grow to a significant size and are typically transmitted by the calyx to infect

both green and ripe tomato fruit. The lesions may have the recognizable concentric rings and have a leathery appearance. Fruit that is infected will often drop before its time. Potato tuber symptoms are typified by irregular, sunken lesions, frequently encircled by a raised purple border. The tuber tissue has a dark hue and is leathery or corky beneath the lesion's surface. Compared to lesions caused by other tuber rots, early blight lesions on tubers are often dry and less vulnerable to invasion by secondary organisms. Severely infected tubers may shrivel after extended storage.



**Fig. 1 Symptoms of early blight disease caused by *Alternaria solani* in tomato plants. a Development of concentric rings in tomato leaves due to early blight disease. b Early blight on tomato stem showing**

*Alternaria solani* is the fungus that causes early blight. Since no sexual stage is known, it is categorized as a Deuteromycete. Numerous serious diseases are caused by a vast and major group of pathogenic fungus belonging to the genus *Alternaria*. The fungus grows easily on synthetic media like V 8 juice, where it forms a densely pigmented, hairy, grayish-black colony. The septate, haploid mycelium darkens in color as it ages. Fluorescent light exposure can promote sporulation in culture. On separate conidiophores, the asexual conidia are carried singly

or in pairs. Normally, the beaked conidia have nine to eleven transverse septae.

Mostly on contaminated agricultural waste, *Alternaria solani* overwinters. The mycelium's dark coloration boosts resistance to lysis, allowing it to survive in the soil for several years. Although they are rare, thick-walled chlamydospores have been reported. In temperate regions, the disease can endure season to season on weedy Solanaceous hosts like horsenettle and nightshade, as well as volunteer tomato and potato plants.



**Fig. 2 Symptoms of *Fusarium* wilt disease caused by *Fusarium oxysporum* f. sp. *lycopersici*. a Field view of infected tomato plants; note the yellowing of the oldest leaves. b Discolouration of vascular tissue in *Fusarium* infected tomato plants**

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Conditions that are warm and humid (24–29°C/75–84°F) are favorable for infection. Conidia will germinate in about 40 minutes at an ideal temperature of 28–30°C (82–86°F) with free moisture present. Because desiccated germ tubes can regrow when rewetted, infection may happen in environments with cyclical wet and dry spells.

The length of time between the first infection and the onset of foliar symptoms depends on the climate, the age of the leaves, and the susceptibility of the cultivar. The primary cause of early blight is a disease of aged plant tissue. Lesions typically show up on older foliage within 5–7 days of infection, especially in warm, humid conditions.

Sporangulation needs a prolonged wet period, although it can also happen when there are intermittent wet and dry periods. Wet nights result in the production of conidiophores, which are then stimulated by light and dryness the next day to create spores that emerge on the second wet night.

Conidia are mostly transported by wind, although they can also occasionally be dispersed by splashing rain or overhead irrigation, leading to secondary transmission of the disease.

Using effective cultural methods to keep tomato and potato plants healthy will often prevent early blight losses below commercially significant levels. Reducing the initial inoculum in future crops by in-field sanitation measures is important since the disease overwinters on infected crop debris. Removing potentially infectious materials from the area around producing fields, such as rotting fruits and vines, should be taken into consideration. The likelihood of disease transmission can be decreased by

removing weeds and volunteers before planting the new crop, such as nightshade and horsenettle, which act as alternate hosts for the illness.

Fungicides that possess both curative and preventive qualities are authorized for use in the fight against tomato and potato early blight. The majority of early blight management regimens were built around the less expensive protectant fungicides like mancozeb and chlorothalonil. Reapplication of these fungicides is required every 7 to 10 days in order to preserve newly emerging growth and prevent weathering from gradually removing the chemical from the leaf surface. These compounds have the advantage of being both multi-site and efficacious, which lowers the possibility of resistance isolates forming in the pathogen population. As a result, they can be employed in rotation with other fungicides or as tank mix partners. The requirement for frequent applications and their comparatively high use rates are drawbacks.

When it comes to inhibiting fungal respiration, fungicides classified as Quinone Outside Inhibitors (QoI) (FRAC code #11) are quite effective against *Alternaria* species. This significant class of fungicides includes molecules such as azoxystrobin, pyraclostrobin, trifloxystrobin, fenamidone, and famoxidone that are registered for controlling *Alternaria* in potatoes and/or tomatoes. Generally speaking, QoIs are easily absorbed into plant tissue and function as a preventive measure to halt infection by preventing spore germination. Although the cost per acre is usually higher, they are not as effective as traditional protectant solutions and have far lower application rates.

## References:

1. Stammer, G., Bohme, F., Philippi, J., Miessner, S., & Tegge, V. (2014). Pathogenicity of *Alternaria*-species on potatoes and tomatoes. *PPO special report*, 16, 85-96.
2. Mamgain, A., Roychowdhury, R., & Tah, J. (2013). *Alternaria* pathogenicity and its strategic controls. *Research Journal of Biology*, 1, 1-9.
3. Droby, S., Dinooor, A., Prusky, D., & Barkai-Golan, R. (1984). Pathogenicity of *Alternaria alternata* on Potato in Israel. *Phytopathology*, 74(5), 537-542.
4. El-Ganainy, S. M., El-Abeid, S. E., Ahmed, Y., & Iqbal, Z. (2021). Morphological and molecular characterization of large-spored *Alternaria* species associated with potato and tomato early blight in Egypt. *Int. J. Agric. Biol.*, 25, 1101-1110.
5. Ayad, D., Aribi, D., Hamon, B., Kedad, A., Simoneau, P., & Bouznad, Z. (2019). Distribution of large-spored *Alternaria* species associated with early blight of potato and tomato in Algeria. *Phytopathologia Mediterranea*, 58(1), 139-150.
6. Adhikari, T. B., Muzhinji, N., Halterman, D., & Louws, F. J. (2021). Genetic diversity and population structure of *Alternaria* species from tomato and potato in North Carolina and Wisconsin. *Scientific Reports*, 11(1), 17024.
7. Zhao, L., Cheng, H., Liu, H. F., Gao, G. Y., Zhang, Y., Li, Z. N., & Deng, J. X. (2023). Pathogenicity and diversity of large-spored *Alternaria* associated with three solanaceous vegetables (*Solanum tuberosum*, *S. lycopersicum* and *S. melongena*) in China. *Plant Pathology*, 72(2), 376-391.

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**OAJI (USA) = 0.350**

8. Weber, B., & Halterman, D. A. (2012). Analysis of genetic and pathogenic variation of *Alternaria solani* from a potato production region. *European Journal of Plant Pathology*, 134, 847-858.
9. Rodrigues, T. T. M. S., Berbee, M. L., Simmons, E. G., Cardoso, C. R., Reis, A., Maffia, L. A., & Mizubuti, E. S. G. (2010). First report of *Alternaria tomatophila* and *A. grandis* causing early blight on tomato and potato in Brazil. *New Disease Reports*, 22, 28-28.
10. Kumar, V., Haldar, S., Pandey, K. K., Singh, R. P., Singh, A. K., & Singh, P. C. (2008). Cultural, morphological, pathogenic and molecular variability amongst tomato isolates of *Alternaria solani* in India. *World Journal of Microbiology and Biotechnology*, 24, 1003-1009.
11. Avazov, S. E. (2018). "Pathogens of onion diseases during cultivation and storage." *Bulletin of science and practice* 4.2 (2018): 183-185.
12. Sodikov, B. S., Kholmuradov, E. A., & Avazov, S. E. (2018). "White rot disease of sunflower plant and its control." *Journal of agrochemical protection and plant quarantine*.-Tashkent 5 (2018): 54-55.
13. Sulaymonova, G., Sattarova, R., Xakimova, N., & Avazov, S. (2021). Antagonistic interactions of soil saprophyte bacteria with pathogens of cotton diseases. *EPRA International Journal of Multidisciplinary Research (IJMR)*, 7 (5).
14. Rayxonovich, G. R., Erkin o'g'li, A. S., Orziqul O'g'li, O. B., Zokir o'g'li, U. U., & Fayzulloyevich, G. B. (2022). Identified composition of entomopathogenic micromycetes on cotton and tomato crops and determination of their pathogenicity and toxicity. *EPRA International Journal of Agriculture and Rural Economic Research (ARER)*, 10(10), 20-24. Volume: 11, Issue: 6, June 2023, Journal DOI: 10.36713/epra0813 Impact Factor SJIF(2023): 8.221, ISSN: 2321 - 7847 2023 EPRA ARER, <https://eprajournals.com/>
15. Xurramov, A.G., & Avazov, S.E. (2022). "Prevalence, harm of mildew disease of ornamental trees and the effectiveness of fungicides used against them." *EPRA International Journal of Agriculture and Rural Economic Research (ARER)* 10.10 (2022): 14-19.
16. Hurrarov, A. G., & Avazov, S. Je. (2022). "Mery bor'by s kornevymi gnijami dekorativnyh kul'tur." informacionnye tehnologii kak osnova jeffektivnogo innovacionnogo razvitija. 2022.
17. Irgasheva, Ch., & Avazov, S. E., & Melnik, T. (2022). "Root rot diseases of ornamental crops measures against them." Informacionnye tehnologii kak osnova jeffektivnogo innovacionnogo razvitija. 2022.
18. Sattarova, R. K., Kamilov, S. G., Khakimova, N. T., & Avazov, S. E. (2022). The most dangerous diseases found in watermelon and the effect of biological and chemical preparations against them (in the example of Tashkent region). *EPRA International Journal of Agriculture and Rural Economic Research (ARER)*, 10(11), 57-59.
19. Turebekova, G.Z., Shapalov, S.K., Yunussov, M.B., Zharkinbekov, M.A., Zhumabayev, S.A., Butaev, M.D., & Avazov, S.E. (2018). The disease of wheat leaf rust. *Bulletin of the national academy of sciences of the republic of kazakhstan*. 2018 Jan 1(3):102-6.
20. Shapalov, S. K., Kalybekova, N., Syrlybekkyzy, S., Zhidebayeva, A. E., Altybayev, Z. M., Dosbayeva, G. A., & Avazov, S. E. (2018). Vulnerability of foreign varieties of spring wheat to brown rust (*Puccinia recondita* f. sp. *tritici* Rob. ex Desm.) In the conditions of southern kazakhstan. *Bulletin of the national academy of sciences of the Republic of Kazakhstan*, (3), 118-120.
21. Shapalov, Sh K., Syrlybekkyzy, S., Kalybekova, N., Yunussov, M. B., Koibakova, S. E., Altybaev, Zh M., & Avazov, S. E. (2018). "Effect of brown rust disease on photosynthetic activity of spring wheat varieties." *Bulletin of the national academy of sciences of the republic of kazakhstan* 3 (2018): 113-117.
22. Avazov, S.E. (2017). "The basic rot diseases in onion during storage-intensity of their development and damages." *Bulgarian Journal of Crop Science* 54.4 (2017).

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## EVALUATION OF THE CAPACITIVE PROPERTIES OF CARBONATE RESERVOIRS BY LATERAL LOGGING CURVES AND THE INFLUENCE OF CLAY CONTENT ON NEUTRON GAMMA LOGGING DATA

**Abstract:** Due to the low porosity of deep-lying reservoir rocks, the requirements for the accuracy of determining reservoir parameters from geophysical materials are significantly increasing.

This paper summarizes the results of experimental and methodological studies conducted over a number of years in Turkmenistan. It describes methods for determining porosity by lateral logging and taking into account the influence of clay, as well as methods for isolating and evaluating reservoirs of complex structure. These techniques and methods of interpretation are intended for the study of carbonate deposits of the Jurassic and Cretaceous oil and gas fields of Turkmenistan and are recommended for testing in all geophysical organizations conducting research on complex carbonate reservoirs.

**Key words:** Geophysics, solution, opening, acoustic, lateral, water saturation, lithology, inflow, clay, carbonate, rock.

**Language:** English

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### Introduction

To study the electrical parameters of well sections in the geological conditions of Turkmenistan, the method of three-electrode lateral logging has received the greatest application. The method for studying carbonate sections is especially important when the layers are opened using highly mineralized harsh solutions, while the effectiveness of other electrical methods is sharply reduced.

In most of the known methodological recommendations for the identification and assessment of complex reservoirs by field geophysics methods in sections of deep wells, it is assumed that block porosity, determined by relative resistance, is practically independent of lithology, i.e. it is assumed

that the established relationship  $P_p = f(K_p)$  is valid for any lithological differences of carbonate rocks.

However, a comparison of the porosities determined by neutron-gamma logging (NGL) and acoustic logging (AL) and relative resistance of water-saturated granular reservoir formations shows that in most cases the porosity determined by relative resistance is significantly lower than for NGL and AL. Especially large discrepancies are observed for dolomites and their differences. This in some cases led to errors in determining the nature of reservoir formations [1, 2, 3].

We have carried out works that are the first attempts to establish a connection  $P_p = f(K_p)$  for various lithological differences of reservoir rocks



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found in sections of Turkmenistan.

A graphical method of joint processing of acoustic and lateral logging data is used according to a well-known technique used to refine the values of the interval time of the elastic wave path through the rock skeleton of the section under study.

The results of the determination of lithology by core, geophysics, reservoir testing and analysis of reservoir water samples were used in the construction. The layers were selected, from which tributaries of reservoir waters were obtained during testing, and the layers that, according to geophysical data, are confidently characterized as water-saturated [4, 5].

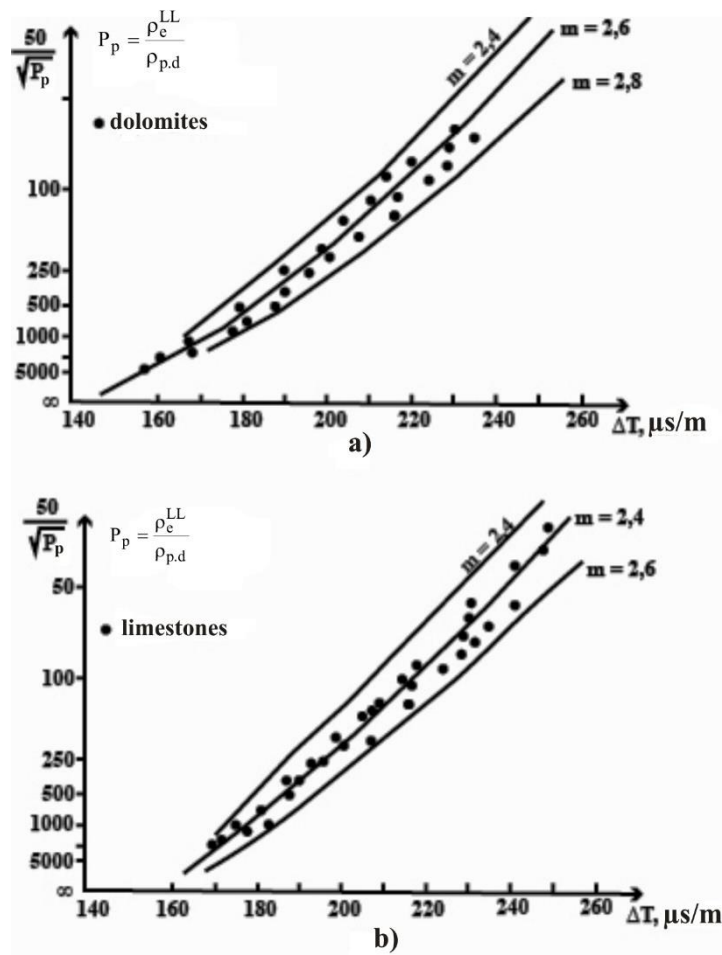
Fig. 1 (a, b) illustrates the results of studies for dolomites, limestones of water-saturated, slightly clay. At the same time, the relative resistances of the layers were assumed that the lateral logging AR (apparent resistivity) corresponds to the specific

resistance of the part of the formation unaffected by penetration - in this case,  $\rho^{LL}/\rho_{p,d}$ . The side logging AR was corrected for the influence of the well diameter, reservoir capacity and the resistance of the host rocks. The scale of the abscissa axis ( $\Delta T$ ) is assumed to be linear, the scale of the ordinate axis ( $P_p$ ) obeys the law  $\sqrt{\frac{1}{P_p}}$ .

Fig. 1 (a, b) shows graphs of the dependence of  $P_p = f(\Delta T)$ , corresponding to different values of the structural coefficient  $m$ , characterizing the features of the structure of the pore space of the rock and included in the well-known Archie equation:

$$P_p = \frac{\rho_f}{\rho_f} = \frac{1}{K_p^T} \quad (1)$$

(in the accepted coordinate system, such a graph is straightforward only for the case when  $m=2$ ).



**Fig. 1 (a, b). Determination of the structural coefficient  $m$  of the Archie equation for carbonate rocks of the Central part of Turkmenistan**

As can be seen from the above figures, the structural coefficient  $m$  for dolomites is by ratio  $P_p = \frac{\rho_c^{LL}}{\rho_{p,d}}$  it is in the range of 2.4-2.8 (on average 2.6).

For limestones,  $t$  varies in the range of 2.3-2.6 according to the  $\rho_{p,d}$ .

With an increase in the accuracy of determining the resistivity of the formation, the range of changes in the structural coefficient will decrease. For

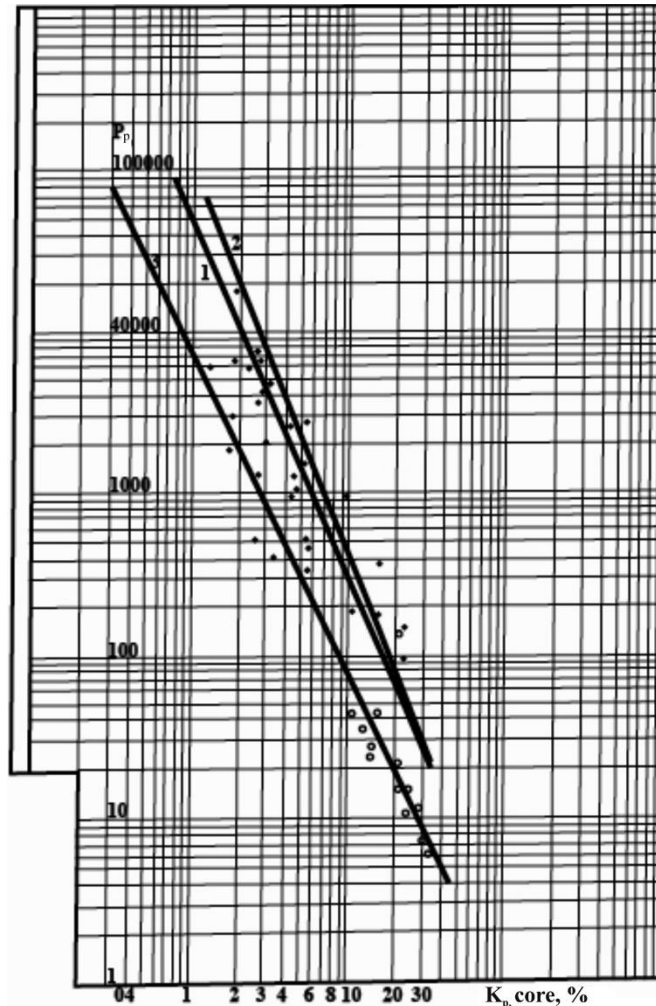
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dolomites,  $m$  will tend to 2.6, and for limestones to 2.4, which corresponds to the structural coefficients of similar rocks [6,7].

It follows from the above figures that when determining porosity by the relative resistance of the formation, it is advisable to use the dependence for dolomites and limestones (Fig. 2).

Despite the fact that the established structural coefficients are approximate, they are of great practical importance in the complex interpretation of NGL, AL and LL data, since so far there is no definition of  $P_p$  by core for carbonate deposits in the Central and Southwestern part of Turkmenistan [8,9].



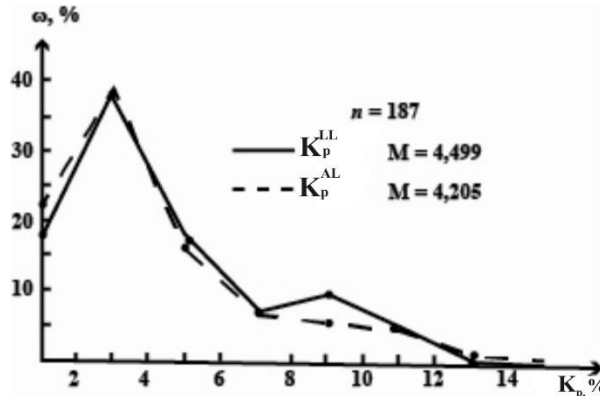
**Fig. 2. Dependence of the porosity parameter ( $P_{p\text{ geof.}}$ ) on the porosity ( $K_{\text{Core}}$ ) for limestones (1), dolomites (2), sandstones and siltstones (3) of the Mesozoic of Turkmenistan.**

According to the obtained dependencies, the coefficients of open porosity were determined for a large number of water-saturated (by testing through an operational column) layers. A comparison of the results of the  $K_p^{LL}$  definitions for layers with granular

porosity shows that for a sample of 187 formations, the mathematical expectations  $M$  are 4,499 and 4,205, respectively (Fig. 3). The high similarity of the results indicates a high reliability of the coefficients of open porosity determined by lateral logging data [10,11].

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**Fig. 3. K and K<sub>p</sub> distribution curves of rocks with granular porosity**

Consideration of the influence of clay on neutron gamma-ray logging data. Known methods for determining the porosity of carbonate rocks by the NGL method are applicable only in cases where the bulk clay content of rocks does not exceed units of percent. With a higher clay content, a significant part of the hydrogen content will be accounted for by clay material. Therefore, making amendments to  $K_p^{NGL}$ , taking into account the influence of clay, is of great practical importance.

The initial data for the quantitative assessment of porosity can be used diagrams of GL, NGL. Their use is due to the fact that the first mainly characterizes the bulk clay content of rocks, the second - their total hydrogen content [12-15].

The proposed method of accounting for the clay content of carbonate rocks is as follows:

- the curves of GL and NGL are compared in a semi-logarithmic coordinate system. As a result, a field of points will be obtained (Fig. 4) with coordinates  $J\gamma$  - GL readings in mcR/h and  $Jn\gamma$  - NGL readings in conventional units. All points (layers) are located in a right-angled triangle, the hypotenuse of

which is drawn along the points characterizing the layers in which the hydrogen content is due only to the presence of clay material, i.e. inefficient porosity (non-collector layers). When comparing  $J\gamma$  -  $Jn\gamma$ , layered processing of GL and NGL diagrams is carried out, i.e. all layers in the study interval are highlighted. The position of the non-collector line is controlled by the readings of NGL and GL in dense limestones, dolomites and clays;

- the NGL readings are translated to  $K_p^{NGL}$  using

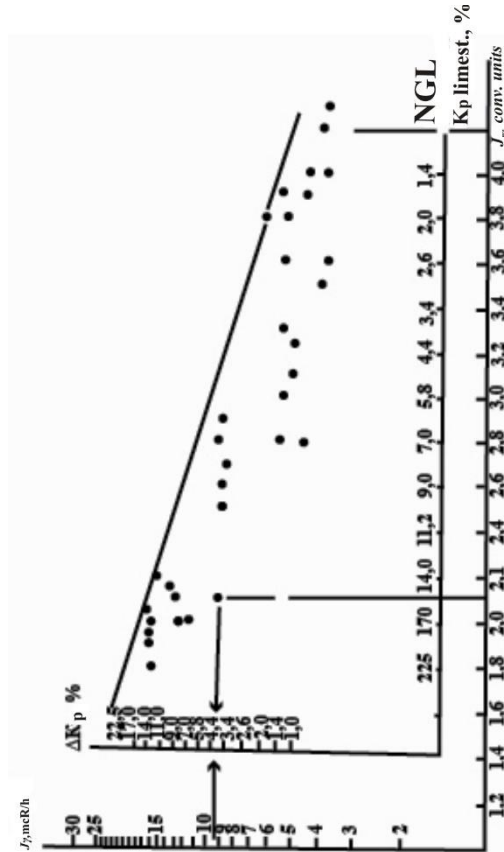
the  $\Delta Jn\gamma = f(K_p)$  dependence (the method of two support layers);

- using the line characterizing the layers where the hydrogen content is associated only with the presence of clay material, transfer the NGL porosity scale to the  $J\gamma$  scale, thus we obtain the values of  $\Delta K_p$ , i.e. the porosity attributable to the clay material [16,17];

- the difference between the total porosity determined by NGL and the porosity of the  $K_p$ , which falls on the share of clay material, will give the porosity value corrected for the influence of clay. The sequence of determining  $\Delta K_p$  is shown in Fig. 4.

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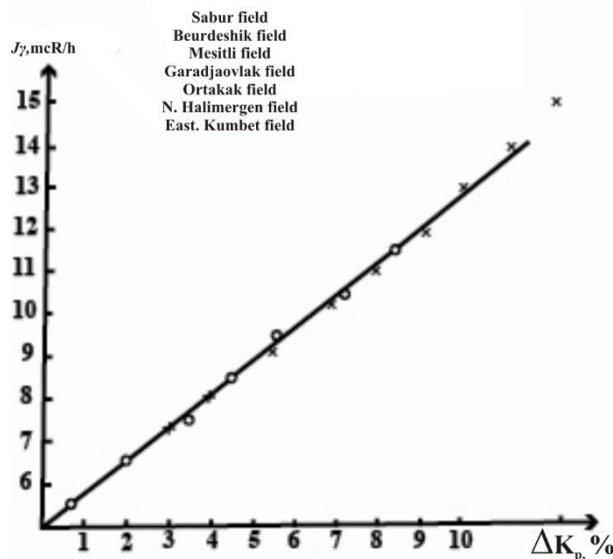
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**Fig. 4. Determination of the  $\Delta K_p$  correction for the influence of clay content (well X1 - East. Kumbet, interval 4200-4690m)**

The  $J_y - K_p$  comparison was carried out based on materials from more than ten wells. Figure 5 shows the resulting graph of the dependence of  $J_y - \Delta K_p$ , which is recommended to be used for quality control of GL materials [18, 19].

The long-term practice of using GL diagrams for quantitative definitions of  $K_{cl}$ ,  $C_{gl}$  shows the stability and reliability of the SP-62 (TEKU) equipment in the geological and technical conditions of the Central part of Turkmenistan.



**Fig. 5. The relationship between the readings of GL ( $J_y$ ) (and porosity ( $\Delta K_p$ ), which falls on the share of space occupied by clay material (carbonate rocks). Central Karakum Mountains**

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Porosity coefficients determined by NGL diagrams, taking into account the influence of clay content, more reliably reflect the real capacitive properties of clay reservoirs.

The above graphical construction  $J_y = f(J_{ny})$  can also be used to determine the maximum values of HA in cases where there are no layers of pure clays in the section. The maximum value of GL corresponding

to a layer of pure clays is determined as follows. The point corresponding to 30-40% of porosity - depending on the depth of the section under study - on the NGL scale, using the "hypotenuse" line of dependence)  $J_y = f(J_{ny})$ , is transferred to the GL scale. It is recommended to take the obtained value as the maximum [20, 21].

## References:

- (1984). *Litofizika i neftegaznosnost' triasovykh otlozhenij zapada Turanskoj svity*. (p.130). M.: Nauka.
- Deryaev, A.R. (2022). Metody opredeleniya tekhnologicheskikh pokazatelej effektivnosti odnovremennoj razdel'noj ekspluatatsii. *Nauchnyj zhurnal Metod Z №1(3)* – Sankt-Peterburg: Izdatel'stvo: GNII «Nacrazvitiye». pp.8-10.
- Geldimyradov, A. G., & Deryaev, A.R. (2022). *Razrabotka gazokondensatnykh mestorozhdenij metodom odnovremennoj razdel'noj ekspluatatsii*. «Instrumenty i mekhanizmy ustojchivogo innovacionnogo razvitiya» Monografiya vypusk №67. (pp. 22-37). Ufa: Nauchnoe izdanie: NIC «Aeterna».
- Deryaev, A.R. (2023). *Harakteristika produktivnykh gorizontov i opredelenie fiziko-himicheskikh svoystv produkcii dlya razrabotki mestorozhdenij metodom odnovremennoj razdel'noj ekspluatatsii*. Sbornik stat'ej mezhdunarodnoj nauchno-prakticheskoy konferencii. CHast' 1. (pp.31-43). Kazan': Izdatel'stvo «Omega Sajns».
- Deryaev, A.R. (2022). Zadachi issledovaniya dlya metoda odnovremennoj razdel'noj ekspluatatsii mnogoplastovykh mestorozhdenij. *Innovacionnye nauchnye issledovaniya №2-2 (16)* – Ufa: Nauchno-izdatel'skij centr «Vestnik nauki». pp. 43–51.
- Deryaev, A.R. (2022). *Vskrytie produktivnykh gorizontov burovym rastvorom na uglevodorodnoj osnove dlya odnovremenno-razdel'noj ekspluatatsii*. Sbornik statej Mezhdunarodnoj nauchno-prakticheskoy konferencii «Nauka v sovremennom obshchestve: zakonomernosti i tendencii razvitiya». (pp.35-39). Ufa: Izdatel'stvo OOO «Omega sajns».
- (1982). *Interpretatsiya rezul'tatov geofizicheskikh issledovaniy razrezov skvazhin*. - M.: Nedra.
- Deryaev, A.R., & Orazklychev, K. (2015) *Sposob odnovremenno-razdel'noj dobychi nefiti i gaza iz mnogoplastovoj zalezhi odnoj skvazhinoj*. Patent № 644 ot 08.06.2015. (nomer zayavki 15/101320).
- Deryaev, A.R., & Orazklychev, K. (2015) *Sposob odnovremenno-razdel'noj i sovmestnoj ekspluatatsii neskol'kih produktivnykh gorizontov odnoj skvazhinoj i ustrojstvo dlya ego osushchestvleniya*. Patent № 643 ot 08.06.2015. (nomer zayavki 14/101317).
- Deryaev, A.R. (2022). *Opredelenie harakteristiki kollektorskih svoystv produktivnykh plastov (gorizontov) i ih neodnorodnosti dlya odnovremenno razdel'noj razrabotki mestorozhdeniya*. Sbornik statej Mezhdunarodnogo nauchno-issledovatel'skogo konkursa «Nash vybor - nauka», (pp.8-12). Petrozavodsk: Nauchnoe izdanie: MCNP «Novaya nauka».
- Deryaev, A.R. (2022). *Osobennosti bureniya naklonno-napravlennykh skvazhin i tekhnologiya ih odnovremennoj razdel'noj ekspluatatsii*. «Fundamental'naya i prikladnaya nauka: sostoyanie i tendencii razvitiya». Monografiya – (pp. 76-96). Petrozavodsk: Nauchnoe izdanie: MCNP «Novaya nauka».
- Gurbanov, V.Sh., Sultanov, L.A., Valiev, S.A., & Babaev, M.T. (2015). Litologo-petrograficheskie i kollektorskie harakteristiki mezokajnezojskikh otlozhenij severo-zapadnoj chasti YUzhno Kaspijskoj vpadiny. *Vestnik Permskogo nacional'nogo issledovatel'skogo universiteta. Geologiya. Neftegazovoe i gornoe delo*. №17, pp.5-15.
- Deryaev, A.R. (2022). Provedenie promyslovykh ispytaniy kompleksnoj ingibirovannoj dobavki KAIR-T na neftegazovykh ploshchadyah Turkmenistana. *Problemy sovremennoj nauki i obrazovaniya №1(170)* – M: Izdatel'stvo «Problemy nauki». pp.11-17.
- Deryaev, A.R. (2022). Osnovnye perspektivy razvitiya i inzhenernoe planirovanie burovnykh rabot dlya rezul'tativnosti gorizontalnogo bureniya. *Nauka, tekhnika i obrazovanie №1 (84)* – M: Izdatel'stvo «Problemy nauki». pp.33-38.

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**IBI (India) = 4.260**  
**OAJI (USA) = 0.350**

15. Gurbanov, V.Sh., Gasanov, A.B., Narimanov, N.R., Sultanov, L.A., & Ganbarova, Sh.A. (2017). Fizicheskie karakteristika i fil'tracionno-emkostnyye svoystva perspektivnyh neftegaznosnyh gorizontov v nizah produktivnoj tolshchi na suhoputnyh ploshchadyah Azerbajdzhana (Na primere mestorozhdeniya Kalamaddin), *Vestnik Permskogo nacional'nogo issledovatel'skogo universiteta. Geologiya. Neftegazovoe i gornoe delo*. T.16, №3, pp.204-214.
16. (1979). *Metodicheskie rekomendacii po provedeniyu issledovaniy i interpretacii dannyh nejtronnogo karotazha s serijnoj apparaturoj RK*. M.: VNIYAGG.
17. (1982). *Interpretaciya rezul'tatov geofizicheskikh issledovaniy razrezov skvazhin*. M.: Nedra.
18. Deryaev, A.R. (2022). *Sovremennoe sostoyanie izuchennosti bureniya napravlennyh i mnogoabojnyh skvazhin s razdel'noj ekspluataciej odnovremenno neskol'kih gorizontov (zarubezhnyj opyt)*. Sbornik statej mezhdunarodnogo nauchno-issledovatel'skogo konkursa "Akademicheskaya nauka na sluzhbe obshchestvu". (pp.170-178). Petrozavodsk: Nauchnoe izdanie: MCNP "Novaya nauka".
19. (1972). *Metodicheskie rekomendacii po kolichestvennoj interpretacii dannyh karotazha*. - M.: VNIIGeofizika.
20. Basin, Ya.N., Kuharenko N.K., & Tyukaev, Yu. V. (1968). *Metodika opredeleniya poristosti karbonatnyh plastov po dannyh nejtronnogo karotazha s serijnoj apparaturoj radioaktivnogo karotazha*. – M.: VNIYAGG.
21. Deryaev, A.R. (2022). Rekomendacii po kompleksnomu vnedreniyu s razdel'noj ekspluataciej odnovremenno neskol'kih gorizontov na gazovyh mestorozhdeniyah Turkmenistana. *Problemy nauki* №1 (69) – M: Izdatel'stvo "Problemy nauki", pp.16-21.
22. Deryaev, A.R. (2022). Ohrana nedr i okruzhayushchej sredy pri razrabotke gazovyh mestorozhdenij metodom odnovremennoj razdel'noj ekspluatcii. *Nauchnyj zhurnal Metod Z* №2 (4) – Sankt-Peterburg: Izdatel'stvo: GNII «Nacrazvitie». pp.12-14.
23. Deryaev, A.R. (2022). Treatment of drilling mud with "PACS-T" additive. "Innovative approaches in the modern science" Proceedings of CXV international scientific – practical conference. *International scientific journal* №7 (115) – M.: pp. 74–77.
24. Deryaev, A.R. (2022). *Rekomendacii po burovomu rastvoru dlya bureniya sekcii 295,3 mm otkrytogo stvola naklonno-napravlennoj skvazhiny*. Sbornik statej II Mezhdunarodnoj nauchno-prakticheskoy konferencii "Nauka, obshchestvo, tekhnologii: problemy i perspektivy vzaimodejstviya v sovremennom mire". (pp.7-11). Petrozavodsk: Nauchnoe izdanie: MCNP "Novaya nauka".
25. (1974). *Spravochnaya kniga po dobyche nefi*., pod.red.SH.K. Gimatudinova. (p.704). M.: Nedra.

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## INTERPRETATION OF HUMANISTIC IDEAS IN THE PHILOSOPHICAL VIEWS OF ALISHER NAVOI

**Abstract:** The article analyzes the specific aspects of the formation of a person's personality and worldview in the philosophical and didactic work of the great thinker Alisher Navoi "Khairat ul Abror". The fact that the principles of goodness and justice, truth and beauty underlie the idea of humanism is revealed through philosophical analysis.

**Key words:** humanism, social life, perfect man, worldview, social relations, nature.

**Language:** Russian

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## ИНТЕРПРЕТАЦИЯ ГУМАНИСТИЧЕСКИХ ИДЕЙ В ФИЛОСОФСКИХ ВОЗЗРЕНИЯХ АЛИШЕРА НАВОИ

**Аннотация:** В статье анализируются специфические аспекты формирования личности и мировоззрения человека в философско-дидактическом произведении великого мыслителя Алишера Навои "Хайрат уль Аброр". Тот факт, что принципы добра и справедливости, истины и красоты лежат в основе идеи гуманизма, раскрывается с помощью философского анализа.

**Ключевые слова:** гуманизм, социальная жизнь, совершенный человек, мировоззрение, социальные отношения, природа.

### Введение

Подготовка кадров с необходимым набором поведенческих представлений и знаний является решающим фактором в сохранении национальных традиций и развитии достигнутых успехов в обществе целом. Начиная с элементарных ячеек, которыми являются отдельно взятые семьи, и на более высоких структурных уровнях общества в зависимости от поставленной цели формируется

поведение и мировоззренческой мышление грядущих поколений. Сегодня все более становится ясным, что современное научное мировоззрения не соответствует реальной картине мира и привело к кризису научного мышления, в частности к экологическому кризису.

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«**религиозно-духовной сферы**» предусматривает повышение качества образования на основе глубокого изучения перед научным сообществом богатого научного, культурного наследия наших предков, внесших неоценимый вклад в развитие исламской и мировой цивилизации, а также развития гармонии религиозных и научных знаний, ставит задачу резко расширить масштабы научных исследований. Один из аспектов истории Центральной Азии является ее интеллектуальная история которому имея определенные преимущества при достижении гармонии религиозных и научных знаний, и это никто не мог отрицать, что всеобщий прогресс является продуктом обоих знаний.

Такие мыслители, как великие философы и естествоиспытатели Центральной Азии Фарабий, Беруни и Ибн Сина, глубоко осознавшие значение науки в жизни и созревании человечества на основе исламского учения, создали философию, в которой научные и религиозные знания гармонично объединены в вопросе создания Вселенной. Из этих сведений следует важный вывод, что научное знание формировалось не только под влиянием деятельности людей в удовлетворении их потребностей, возникающих в их повседневной жизни, но и под влиянием религиозных учений.

Государственный деятель, великий мыслитель и поэт Востока Алишер Навои в своих произведениях воспел о духовных знаниях, образцах художественного творчества, эстетическом и этическом мировоззрении, вопросах, которые созвучны содержанию религиозно-просветительских и педагогических мотивов. Он написал более 30 произведений с использованием образных и символических концепций, основанных на учении Вахдат ул-вуджуд (бытие и единство Аллаха) и вере в суфизма.

Алишер Навои родился 9 февраля 1441 года и Герате. Его отец, Гиясидин Кичкина, был военным и судебным адвокатом, служил при дворе Абуль-Касим Бобура. А его бабушка была потомком королевской семьи. Алишер Навои был очень талантливым и любопытным, у него было всего пятнадцать лет, когда он был готов стать поэтом. Он писал стихи на персидском и тюркском, хотя прекрасно знал арабский язык. Навои был также государственным деятелем – он служил на посту главного визиря у тимурида Хусейна Байкары. Вершина творчества Навои – его «Хамса».[1, -с. 322 -327.]

Он написал во всех традиционных формах восточного фольклора, на узбекском языке, более четырех тысяч или более тысяч, и на персидско-таджикском диалекте, или еще десять тысяч эпосов и стихов. Традиционным способом восточной поэзии создается поэма и песня. В связи

с этим газель, касида, грибы, мусам, кыта, рубайи, сакинамэ, посадка, муамма, фаре. Узбекский поэт и глубокий мыслитель Алишер Навои оставил псевдоним и богатое наследие литературных произведений и трех стихов цивилизации Центральной Азии в XV веке, основных стихов, романов, научных фактов, гимнов о жизни и смерти человека.

### Основная часть

Жанр избранный в «Хамсе» и художественно разработанный Низами Ганджави впоследствии стал настолько популярным, что к нему обратилось много мастеров слова. Профессор Р. Алиев, подготовивший филологический перевод поэмы Низами «Хисрав и Ширин» на русский язык, замечает, что «Хамсе» Низами на многие века вперед предопределил характер последующего развития литератур многих народов Ближнего и Среднего Востока. [2, - С. 59.] Именно после Низами крупные восточные и тюркские поэты вступили в творческое состязание или с «Хамсе», или с отдельными поэмами, входящими в «Пятерецу», пробовавших своё перо в этом жанре, среди них были Амир Хусрав Дехлавий, Хажу Кермани, автор «Семерицы» Абдурахмон Джамии, а также великий узбекский поэт-мыслитель XV в. Алишер Навои. Памяти своего друга, учителя и духовного наставника Абдурахмана Джамии Навои посвятил книгу «Пять изумленных». «Дружба и сотрудничество этих двух великих мыслителей и поэтов – Джамии и Навои являются ярким символом единства и братства таджикского и узбекского народов» [3. - С. 5.] – пишет академик А. Каюмов.

Алишер Навои по просьбе своего близкого друга А. Джамии пишет свою «Хамсе» как поэтический ответ на «Хамсе» азербайджанского поэта Низами Ганджави. Название сборника дал сам Навои, интерпретировавший его как кист руки, «Пяндж-Гяндж» («Пять драгоценностей» или «Пять сокровищ») и ладонь Аллаха. Также как у Низами, «Хамсе» Навои состоит из пяти поэм, то есть, «Смятение праведных» (1483 г.), «Фархад и Ширин» (1484 г.), «Лейли и Меджнун» (1484 г.), «Семь планет» (1984 г.), «Стена Искандара» (1485 г.). В начальных строках поэмы «Смятение праведных», высоко отзываясь о гении Низами, поэт пишет: «Он – царь поэтов – милостью творца Жемчужина Гянджийского венца. Шейх Низами – он перлами словес Наполнил мир и сундуки небес Когда он блеск давал словам своим Слова вселенной меркли ним» [4, -с.25-36], и признал её своим великим учителем.

Лицо всякая эпохи формируют духовно-нравственные ценности и мировоззрения люди. В то время как «объективированные» факторы исторической жизни (государство, право, социальные институты) остаются, как правила,



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более устойчивыми к изменениям, духовные процессы гораздо более переменчивы и способны существенно трансформировать содержание национальной культуры. **Человек**, таким образом, является основной предпосылкой культуры. **Человек** не может жить вне общества, вдали от людей. «Общества является местом, домом событий. Никто не может быть вне его, не может быть независимым от его событий».[5, -с. 511.]

В философском – дидактическом трактате «Хайрат ул аброр» («Смятение праведных») – в знаменитой «Хамсе» («Пятернице») в первых трех смятениях Навои воспевают красоту Вселенной, Земли и **Человека**. **Человек** в представлении Навои активен, деятелен, полон высоких помыслов служения народу, он свято следует принципам добро и справедливости, правды и красоты. Он воплощение всего лучшего, что должно быть свойственно человеку. Отсюда, следуя далее, Навои возвеличивает труд, бескорыстие, умение любить, быть другом, возвышает стремление к знанию и совершенству, верность, благородство, умение дорожить каждым мгновением преходящие, кратко текущей жизни. Труд говорил он украшает человека, благодаря труду человека совершенствуется. Поэт, описывая труд декхан, подчеркивал: «Благосостояние мира от них, радость человека от них. Где бы они ни работали, они дают людям силу и благодать... Пища народа из-за них обильна». [6, –с. 14.]

В «Смятении праведных», по существу, - целостный мировоззрения человека формируется на всем протяжении его жизни. Она представляет собой философский трактат, состоящий из вступлений, трех глав, именуемых «Смятениями», и двадцати бесед. Основное содержание этой книги – возвеличение личности человека, это свод правил, соблюдение которых, обеспечивает человеку место, соответствующее его высокому предназначению.

Великий гуманист Навои изложил свои мировоззрения и этим самым заложил краеугольные основы экологической этики, доброго, осознанного отношения к природе, окружающей среде. В этом же трактате Навои дал контуры идеального, утопического города, в котором было бы всем людям хорошо удобно.

Но мы коснемся сначала первого – определения великим Навои предназначения **Человека** в мире, его места в природе, во Вселенной и отношения его к ним.

В первом смятении природа у Навои уподоблена высокому прекрасному храму, мечети, которые соответственным должно быть и отношение человека. Купол этого мечети у него – небосвод. Она, природа, - казна, полная сокровищ. «Им счета нет, не взвесить и не счесть за триста лет». Если сказать кратко, то поэтические строки Навои о природе – это подлинный гимн «саду

земному». Навои пишет, что люди берегут то, что дома: «в нагорных чашах» рубят «на дрова». Здесь явно видно осуждение эгоистического потребительского отношения к окружающей среде.

Описания природы в поэзии Навои превосходят свое образное воображение, которые это поистине живые картины являлись драгоценная живопись. Но мы коснемся только хотя бы отдельных мест из «Смятения праведных». Еще мы должны не забывать, что перед нами только лишь перевод стихов на другой язык. Как же звучит это все на родном узбекском языке! Насколько это образование, художественное, реалистичнее.

*Там стройных кипарисов синий лес,  
Стоит опорой купола небес.*

*Там тысячью широко лапных звезд,  
Чинар шумит – защита птичьих гнезд.*

*Живая в тех ручьях течет вода,  
В ней жажду сердца утолишь всегда.*

*Там самоцветами окружены,  
Цветы увядающей весны.*

Отметим исключительную красочность, афористичность, так как, лепестки уподоблены монетам, а цветущий куст жасмина сравнивается с менялой, теряющим монеты, зеленые листья и ветви даны в виде драгоценных изумрудов. Поэт сам как бы восторженно воспринимает ароматы земли, цветов, трав, целительный воздух, ласкающий ветерок, картины утра, светлого дня, ясного неба, камушки в ручье как украшения красавиц. Но, это только некоторые прекрасные детали. Вот еще стихи о природе: здесь Навои пишет по утрам дыханье ветерка

*Росинку скатывает с лепестка...*

*Густые космы ива расплела,*

*Как будто впрямь она с ума сошла.*

*Ей на ногу серебряную цепь,*

*Надел ручей, чтоб не сбегала в степь.*

Теперь о **Человеке** – именно с большой буквы. В немногих поэтических строках «Смятения праведных» изложена предыстория Человека. Навои показывает, что Человеку своего возрождения приходилось несколько раз делать трудный выбор. Первоначально «из мрака небытия» Человек «рожденный в мире, свою окружающее мира совсем не знал, даже самого себя вообще не понимал. И был неуверенным, слаб и удивлен, открыл глаза свои»... Их исходным материалом могут быть образы реальных явлений, но игра воображения и очень свободное мышление трансформируют их в произвольные вымыслы.

Такое творчество реализовалось уже в архаическом мифе. Его истоки вполне реальны, наблюдения древних людей самих себя во время труда, отдыха, сна, обмороков и смерти сформировали представление о душе. Этот образ

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зафиксировал возникшее у них сознание. Но последующая игра воображения превратила его в анимизм, фетишизм и магию. Затем многообразие духов стала в свою очередь предметом фантазийного творчества. Потом, после пропуск несколько сотни лет:

*Явления мира стал он изучать,*

*Со всех загадок снять хотел печать.*

*Человек* у Навои «не имя общее», а своеобразные индивид, он способен по убеждению вместить, познать окружающее мир. Это лаконическое предельно краткое изложение истории познания мира и экологии, отношение Человека к окружающей его среде. Навои названной поэме воспевал Человека, его высокие духовные качества, что составляют идейно-художественную основу произведения и обуславливают его нравственно-эстетическую ценность. Затронутые в поэме вопросы, своими корнями уходят в реальную жизнь. Их трактовка предусматривают решение общественно-политических, историко-философских и морально-нравственных проблем эпохи XV в. Поэма «Смятение праведных», как верно полагает Х. Кероглы, наиболее полно раскрывает эстетические мировоззрения Навои как на окружающую действительность, так и на задачи художественной литературы... Блестящие приёмы иллюстрации моралистических сентенций притчами, рассказами, взятыми из народного творчества, делают книгу увлекательной и доступной даже малоподготовленной аудитории [7, -с. 132 -140]

Чего стоят призывные слова Навои обращение к простому *Человеку*, к его сознанию: «Вставай! Простор Вселенной обойди! На чудеса творенья погляди!». И Человек, как пишет поэт, восприняв этот призыв свыше, встал, пошел, и «Он видит пред собой, светлый рай земной»... Но человек в смятение великом. Он не знает, для чего все земные сокровища, все чудеса природы, кто он сам в природе, в мире, для чего он. Великий мыслитель Навои решает труднейший вопрос об отношении Человека к окружающей среде, к земному, к жизни.

Навои, также, как и Низами, на основе своей поэмы кладёт эволюцию морально-нравственных качеств человека и его очищение. Узбекский поэт в «Смятение праведных» идёт по пути поэмы «Сокровищница тайн» Низами. Унаследовав сюжеты и мотивы из исторического прошлого и вводя повествовательную ткань беседы исторических личностей, живших в совершенно другом пространстве и времени.

«Смятение праведных» Навои (как и «Сокровищница тайн» Низами также яркий образец философско-дидактической литературы. Обе поэмы изобилуют афоризмами, народными

изречениями, пословицами, поговорками, меткими словами и изречениями. [8, с. 281]

Второй смятение постигает Человека, когда он постигает мир небесный. Тут мир, полный света, извечно зовущий Человека звало, манило, но и все там пугало. Поэт находит удивительные строки для описания заоблачных высот. Дивны небесные красоты. «Прекрасен сад небесной высоты...» Обиталище ангелов, в конечном счете, представляется великому мыслителю миром мрака. Там, в небесах, дано «то видеть, что от нас утаено»... Человек проник в мир небесный только в XX веке, и Навои следует, конечно же, признать провидцем, предсказавшим проникновение человека в космос. Много прежде скрытого от человека стало ныне известно благодаря этому. Но, поразительное дело, Навои пишет, что мир ангелов, небесный мир холодин и чужд Человеку. Там все чужое! – говорится в третьем смятении. Человек должен предпочсть земной – телесный мир. Таким образом окончательно сделан выбор. Именно земной сад, природа вся принадлежит Человеку, потому что эта сфера – мир его деятельности. Несравненные эпитеты для описания земного сада в таких полотнах «цветы теснятся, полны юных чар» и превосходят сами себя. Ведут игры поля тюльпанов и маков, еще утренняя роса, пене птиц – все это, утверждает поэт, для тебя, Человек! Горы, рощи, безоблачные долины, солнце и луна, деревья, травы, грозы, дожди – тоже для тебя!

О месте человека в природе в «Смятение праведных» говорится, что Человек на земле Султан (Царь), поэтому он хозяин всего на ней, над всем он волен и он Садовник на земле! Но, в этом-то здесь и содержится ответ на вопрос «Человек, Султан (Царь), и одновременно Садовник?». Это «тот, кто сердцем истину познал», покончил с похмельем, с беспамятством, кто в своем смятенье – сам себя сказал: «Свой разум светом правды озари. На все глазами сердца посмотри!» Что это? Разве не провидческое? Понятно, что из места, которое должен занимать Человек, вытекает его ответственность перед самим собою, перед окружающими его людьми, перед будущими поколениями. **Ответственность!** Значит, каждый из нас обязан улучшать, облагораживать, преобразовывать, обогащать, а не обеднять природу.

Муртаза Равандий в своей книге «Социальная история Ирана» посвятил специальный раздел «Заслуги Мир Алишера Навои», в котором он предоставил интересную информацию о великих заслугах Навои в поддержке науки, знаний и искусства [9, -с.435]. Мубарак и Абульфазл в книги «Акбар-наме» назвал Алишера Навои «наставником ученых и поэтов»[10, -с. 598], таджикский ученый

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Насриддин Абдуманнон в своей книге «Тарихи алфи» описал Алишера Навои «известный своим тонким вкусом» и «обладателем природного таланта» [11, -с.14]. В завершении книги «Тазкирату-ш-шуара» Давлатшах Самаркандий упоминает о покровительстве и поддержке Алишера Навои и описывает его как «единственного в своем роде», «защитника религии и государства», «поборника правопорядка», «великого эмира», «всеведающего эмира» и отмечает:

*Зикри хайрат мерават дар хофикайн,  
Эй Али – шеру Худо, зикрат ба хайр.  
Воспоминание о добре твоём  
продолжается в памяти,  
О, Али – лев Господа, добром вспоминаем  
тебя.*

### Заключение

Идеи Навои, его философия жизни и сегодня современны, злободневны. Но как мог такое

писать в XV веке? Воспеть земное, мирское, отвергнув небесное. Мы же знаем, каким было время его жизни. Это одна из больших загадок жизни и творчества великого Навои, одна из загадок его трактата поэмы «Смятение праведных». Поэзия Алишера Навои, по нашему глубокому убеждению, ориентирует нас, делающих свой трудный, подчас тяжкий, ответственный выбор сегодня. Учит подлинной любви к своему родному краю, к своей стране, учит любить свое родной город и село, место, где ты вырос или вырастаешь, учился, вырос, где довелось работать. Навои учит нас бережному отношению к природе, ко всему, что в ней есть. На самом деле изысканный и тонкий вкус, обширные познания Алишера Навои вызывали огромное восхищение, и его помнят до сих пор.

Бессмертные творения великого поэта помогают воспитанию подрастающих поколений качеств, достойных граждан независимой республики, обогащают их духовный мир.

## References:

1. Alizade, R. (2019). *Alisher Navoi i tyurskaya kultura*. (pp.322-327). Tashkent.
2. Aliev, R. (1991). *Nizami Gyandjevi // Nizami Gyandjevi*. Sob. soch. V 3-x t., t. 1. (p.59). Baku, «Azernesher».
3. Kayumov, A. (1993). *Bessmertnie tvoreniya Alishera Navoi*. (p.5). T.: «Uzbekistan».
4. Ochilov, I. (2019). *Qutb Xorazmiyning tarjimonlik mahorati // O'zbekiston tarjimashunoslari forumi. Ilmiy maqolalari to'plami*. T, 11 dekabr, 25 – 36 b.
5. Navoi, A. (1983). *Izbrannie sochineniya v 26 t.* (p.511). Toshkent; izd. Gafur Gulyam.
6. Navoi, A. (1991). *Arbani xadis. Qirq xadis*. (p.14). T.: Yozuvchi nashr.
7. Ochilov, E. (2021). *Nizomiy «Xamsa»sining o'zbekcha tarjimalari // Nizomiy Ganjaviy va Alisher Navoiy: an'ana va novatorlik mavzuidagi Xalqaro konferensiya materiallari*. (pp.132-140). Baku, 8 fevral.
8. Mamedov, N.T. (2021). *Komparativniy podxod k izucheniyu poem "Xamse" Nizami i "Xamse" Navoi*. "Alisher navoiy ijodiy merosining bashariyat ma'naviy-ma'rifiy taraqqiyotidagi o'rni" mavzusidagi IV an'anaviy xalqaro ilmiy-amaliy konferensiya materiallari. (p.535). Navoiy, 23-25 noyabr, O'zbekiston.
9. Nigmatov, N. (2021). *Arabskaya tematika v «Divane» Alishera Navoi*. "Alisher navoiy ijodiy merosining bashariyat ma'naviy-ma'rifiy taraqqiyotidagi o'rni" mavzusidagi IV an'anaviy xalqaro ilmiy-amaliy konferensiya materiallari. (p.535). Navoiy, 23-25 noyabr, O'zbekiston.
10. Mubarak, A. (2011). *«Akbar-name». Istoriya dinastii Baburidov Indii*. (p.610). Tegeran: Assosiasiya iskusstva m kulturnogo naslediya.
11. Abdumannon, N. (2016) *Kultura literaturnix problem*. (p.132). Xujand: Noshir.

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Article



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## DYNAMICS OF DEVELOPMENT OF THE MAIN PESTS OF MELON CROPS IN TASHKENT, SURKHANDARYA AND FERGHANA REGIONS

**Abstract:** The research results are of high scientific and practical significance. The results obtained are a help to specialists and farmers in the field of plant protection in our republic, and shows the importance of pests in the entomofauna of farms and ways to combat them and comply with the standards of "Global G.A.P." and "Organic".

**Key words:** agrobiocenosis, entomofauna, melon fly, melon aphid, whitefly, insect population, distribution area, protection, efficiency.

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### ДИНАМИКА РАЗВИТИЯ ОСНОВНЫХ ВРЕДИТЕЛЕЙ БАХЧЕВЫХ КУЛЬТУР В ТАШКЕНТСКОЙ, СУРХАНДАРЬИНСКОЙ И ФЕРГАНСКОЙ ОБЛАСТИ

**Аннотация:** Результаты исследований отличаются высокой научной и практической значимостью. Полученные результаты являются помощью специалистам и фермерам в области защиты растений нашей республики, и показывает значение вредителей в энтомофауне хозяйств и способы борьбы с ними и соответствуют стандартам «Global G.A.P.» и «Organic».

**Ключевые слова:** агrobiоценоз, энтомофауна, дынная муха, бахчевая тля, белокрылка, популяция насекомых, ареал распространения, защита, эффективность.

#### Введение

Дынная муха - *Carpomya pardalina* (*Myiopardalis pardalina*) Bigot

**Описание.** Двукрылые (Diptera) относятся к семейству Тефритиды [Trypetidae]. Окраска взрослой мухи бледно-желтая, длина 5,5-6,5 мм, грудь покрыта золотистыми волосками, на верхней части груди имеются 2 более светлых лентообразных пятна. От других мух ее отличает наличие нескольких небольших пятен на груди и брюшке. Крылья светло-желтые, на каждом из них по 3 более темных желтых лентообразных пятна, из которых 2 внутренних прямые, а внешнее V-образное.

**Вред.** Дыня, арбуз, тыква семейства тыквенных, из других семейств повреждает *Rosa* spp., *Ziziphus* spp. Наибольший ущерб наблюдается у тыквенных культур. В последние годы в некоторых регионах распространения насекомого теряется до 90% урожая дыни.

**Видовой состав и ареал распространения сосущих насекомых-вредителей, бахчевых культур.**

В 2022-2023 годах проведены исследования по определению видового состава сосущих насекомых-вредителей бахчевых культур с целью изучения вредоносности и биоэкологии сосущих

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вредителей, встречающихся на полевых культурах Ферганской и Ташкентской области с целью разработки комплексных мер против них. В

результате исследования выявлено 4 вида сосущих вредителей бахчевых культур (таблицу 1).

**Табл.1. Встречаемость сосущих насекомых-вредителей на бахчевых культурах Ферганской и Ташкентской областей (2022-2023)**

№	Отряд, семейство, вид.	Встречаемость	
		Ферганская область	Тошкентская область
<b>Равнокрылые хоботные – отряд Homoptera, Семейство Aphididae</b>			
1.	Бахчевая или хлопковая тля - <i>Aphis gossypii</i> Glow.	+	+
2.	Зеленая персиковая тля - <i>Myzodes persicae</i> Sulz.	+	-
<b>Равнокрылые хоботные- отряд Homoptera. Семейство белокрылки -Aleyrodidae</b>			
3.	Тепличная белокрылка - <i>Trialeurodes vaporariorum</i> W.	+	+
<b>Бахромчатокрылые - Thysanoptera (трипсы)</b>			
4.	Табачный трипс - <i>Thrips tabaci</i> Lind	+	-

Таким образом выявлены виды: Тли - семейство Homoptera, 2 вида тлей, относящихся к семейству Aphididae), т. е. Бахчевая тля - *Aphis gossypii* Glow и персиковая тля - *Myzodes persicae* Sulz., 1 вид - тепличная белокрылка из семейства Aleyrodidae и 1 вид табачного трипса - *Thrips tabaci* Lind отряда Пузыреногие (Thysanoptera). Так, при сплошных и направленных наблюдениях в Ферганской области обнаружено 4 вида сосущих вредителей, а в Ташкентской области - 2 вида.

Наши наблюдения за 2022-2023 годы показали, что вред наносят виды, относящиеся к 2 отрядам: равнокрылые и трипсы. Это доминирование равнокрылых - тли (*Aphis gossypii* Glow.), белокрылки (*Trialeurodes vaporariorum* Westw.) и трипсов - табачного трипса (*Thrips tabaci* Lind.) из отряда бахромчатокрылых Thysanoptera, наносящего серьезный ущерб урожаю бахчевых культур. По типу питания этих вредителей ротовой аппарат имеет свойство сосущего характера.

Эти вредители являются распространенными насекомыми во всех регионах страны. Распространение сосущих насекомых-вредителей в посевах бахчевых культур выращиваемых на территории республики, изучено на основе мониторинга в течение 2022-2023 гг. и данные показаны в таблице 2.

В 2022-2023 годах отмечено большое количество тепличной белокрылки в Ферганской и Ташкентской областях.

При мониторинге тли в 2022-2023 годах было отмечено, что в Ферганской и Ташкентской областях они обнаруживались гораздо меньше.

При мониторинге трипсов в этом периоде отмечено, что в Самаркандской и Джизакской областях встречались мало.

Видно, что среди доминирующих видов вышеперечисленных сосущих вредителей белокрылки, трипсы и тля встречаются преимущественно на участках, где теплицы имеют большую площадь.

**Табл.2. Встречаемость выявленных сосущих вредителей на бахчевых культурах в 2022-2023 годах.**

№	Область	Наименование вредителей		
		Белокрылка	Тли	Трипс
		2022		
1	Ферганская	++	+++	+++
2	Джизакская	+++	++	+
3	Тошкентская	+++	+	++

Примечание: +++ очень много, ++много, +мало, -не отмечалась.

**Тепличная белокрылка (*Trialeurodes vaporariorum* Westw).**

Представитель семейства Aleyrodidae отряда Homoptera, проходящее стадии яйца, личинки и нимфы. Они селятся кучками на нижней стороне молодого растения высасывая сок из тканей листа, затем после появления взрослых особей, в течении

2-3 дня имаго вредителя приступают к спариванию.

В таблице 3 представлены результаты наших наблюдений по изучению динамики развития вредителя на поле, выращиваемых в Кибрайском районе Ташкентской области.

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В ходе наблюдений за динамикой развития белокрылки каждые декаду марта, апреля, мая и июня мы подсчитывали среднее количество имаго, личинок и нимф вредителя на одном листе и записывали их в рабочую тетрадь. Отмечено, что во 2-й и 3-й декаде марта численность взрослых паутинных клещей, личинок и нимф составляла 14,8-17,9 штук.

В 1-й декаде апреля количество взрослых особей было 28,1 шт., личинок 32,6, нимф 19,1, во 2 декаде средняя численность имаго составила 13,3, личинок – 20,3, нимф - 10,9. В результате наших наблюдений в третьей декаде апреля число взрослых особей составляет 4,3, количество личинок - 6,7, нимф - 3,5.

**Табл.3. Динамика развития белокрылки**  
 (Ташкентская обл., Кибрайский район, 2022-2023)

Декады	Средняя численность фаз развития белокрылки на листе по периодам развития, шт											
	Апрель			Май			Июнь			Июль		
	имаго	личинка	нимфа	имаго	личинка	нимфа	имаго	личинка	нимфа	имаго	личинка	нимфа
I	5,3	3,2	-	28,1	32,6	19,1	12,6	23,5	15,3	7,0	31,1	27,8
II	14,8	9,8	12,1	13,3	20,3	10,9	19,9	16,3	30,3	-	-	-
III	17,9	16,5	14,8	4,3	6,7	3,5	23,1	11,7	41,1	-	-	-

В первой декаде мая насчитывалось 12,6 штук имаго, 23,5 личинок и 15,3 нимф. Во второй декаде отмечено: имаго 19,9, личинок 16,3 и нимф 30,3. В 3-й декаде мая выявлено 23,1 штук имаго, число личинок - 11,7, нимф 41,7.

В наших наблюдениях в июне отмечено, что число взрослых особей вредителя составило 7,0, количество личинок - 31,1, число нимф - 27,8.

Нами проведены исследования по мерам борьбы с поражением белокрылки на посевах. В Ферганской области проведены эксперименты по изучению коэффициента вредности вредителя и критерия экономического риска. Результаты эксперимента представлены в таблице 4.

**Табл.4. Повреждение бахчевых культур белокрылкой и порог экономической вредности (ЭПВ), (n=5, M±m) (Ферганская обл., 2022-2023).**

Плотность заселения поверхности листа, балл	Урожай с 1 растения, г.	Количество плодов с 1 растения, дона.	Снижение урожайности по сравнению с контролем, г.	Коэффициент вредности, %	ЭПВ, балл
1	3022,3±0,84	27,2±0,94	192,5±0,70	5,9±0,59	0,30
P<	0,001	0,001	-	-	
2	2701,4±0,73	19,1±0,83	513,4±0,92	16,0±0,45	
P<	0,001	0,001	-	-	
3	2031,2±0,70	15,4±0,71	1183,6±0,97	36,8±0,59	
P<	0,001	0,05	-	-	
4	1501,9±0,70	10,3±0,70	1712,9±0,70	53,7±0,43	
P<	0,001	0,05	-	-	
5	949,1±0,70	5,9±0,87	2265,7±0,70	70,4±0,50	
P<	0,001	0,05	-	-	
Контроль	3214,8±0,86	23±0,70	-	-	

Для наблюдения было взято 20 растений, проведена экспериментальная работа по плотности белокрылки на поверхности листьев на основании балльной системе. Вредителей паутинного клеща в контрольном варианте для уничтожения вредителя опрыскивали

химическими препаратами 3-4 раза в зависимости от ситуации с вредителем.

Снижение урожайности каждого опытного варианта при заражении белокрылкой при заражении 1 балла составляет 192,5 г на одно растение, 513,4 г при заражении 2 балла и 1712,9-

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2265,7 г при заражении 4 и 5 баллов соответственно. коэффициент повреждения составляет 5,9% при повреждении листа с 1 баллом, 16,0% - при 2 баллах, 36,8% - при повреждении 3 балла и 53,7-70,4% - при повреждении 4-5 баллов.

По результатам эксперимента следует отметить, что критерий экономического риска по белокрылки на один лист составляет 0,30 балла.

Табачный трипс (*Thrips tabaci* Lind) — насекомое, принадлежащее отряду бахромчатокрылые или пузыреногие -Thysanoptera, подотряду Terebrantia, семейству Thripidae. Результаты наших наблюдений по изучению динамики развития табачного трипса в полевых культурах, выращиваемых в Ферганской области, представлены в таблице ниже (табл. 5).

В ходе наших наблюдений за динамикой развития табачного трипса было отмечено, что наибольшая численность трипсов обнаружена в 3-й декаде марта в полевых культурах, где: количество взрослых особей трипсов составила - 45,4, количество личинок - 66,3, а число нимф составило 78,3 шт.

В 1-й декаде апреля количество имаго трипсов составила 117,7 шт., количество личинок - 98,1, число нимф - 86,1, Во второй декаде средняя численность взрослых особей равнялось 131,3 шт., личинок – 122,4, нимф - 117,6 штук. В третьей декаде апреля число имаго вредителя составило 154,6, количество личинок - 141,3, нимф - 75,2 (табл. 5).

В первой декаде мая взрослых особей было 161,7, число личинок - 157,4, нимф - 54,2, во второй декаде - 101,4 шт. имаго, число личинок - 110,6, а число нимф составляло 28,0. В третьей декаде мая зарегистрировано количество взрослых особей трипсов - 64,8, личинок - 91,2, нимф - 88,4.

В июне отмечено, что численность взрослых трипсов и личинок в первые десять дней составила 186,2-161,4, а нимф - 60,3. Во второй декаде месяца численность имаго трипсов снизилась до 98,3, количество личинок - 114,2, нимф - 30,7. В третьей декаде июня отмечено 78,9 взрослых видов вредителя, 69,1 личинок и 33,4 нимф.

Табл.5. Динамика развития трипсов (Фарганская обл., 2022.)

Декада	Средняя численность табачного трипса на одном кусте по фазам развития, шт											
	Март			Апрель			Май			Июнь		
	имаго	личинка	нимфа	имаго	личинка	нимфа	имаго	личинка	нимфа	имаго	личинка	нимфа
I	9,1	14,9	12,1	117,7	98,1	86,1	161,7	157,4	54,2	186,2	161,4	60,3
II	29,1	34,7	42,3	131,3	122,4	117,6	101,4	110,6	28,0	98,3	114,2	30,7
III	45,4	66,3	78,3	154,6	141,3	75,2	64,8	91,2	88,4	78,9	69,1	33,4

Из этой таблицы видно, что чем раньше трипсы поражают растение в апреле и мае, тем больше потеря урожая.

## References:

1. Grigor`eva, Je.Je. (2007). *Paraziticheskie pereponchatokrylye dlja biologicheskoy bor`by s tljami v oranzherejah i teplicah*. Avtoreferat dissertacii na soiskanie uchjonoj stepeni kandidata biologicheskikh nauk. (p.30). Sankt-Peterburg — Pushkin.
2. Dinasilova, G.A., & Erzhanova, M.E. (2017). *Tomatnyj trips - potencial`no opasnyj vreditel` zakrytogo grunta Kazahstana. Zashhita i karantin rastenij*, 2017.-№3, pp.38-39.
3. Ibragimov, M. (2012). *Poliz jekinlari*. (pp.54-74). No`kis: «Bilim».
4. Norkulov, U.N., & Jeshonkulov, Zh.S. (n.d.). *“Organik ma`xsulotlar etishtirish texnologijasi” 100 kitob t`yplami*.
5. Torenijazov, E.Sh., Eshmuratov, Je., & Jysupov, R. (2022). *Tarvuz va tarvuz jekini zararli*

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- organizmlarga karshi kurash.* (p.44). Toshkent: "Tasvir".
6. Torenijazov, E.Sh., et al. (2009). *Tarvuz pashshasi rivozhlanishi biojekologijasi, unga karshi kurash olib borish b'jjicha tavsijalar.* (p.25). Nukus.
  7. Torenijazov, E.Sh., & Jysupov, R.O. (2016). Osobnosti bor'by s dynnoj muhoj v Karakalpakstane. *Zh. Zashhita i karantin rastenij*, Moskva, 2016, №8, p.46.
  8. Torenijazov, E.Sh., et al. (2013). *Vrediteli ovoshhe-bahchevyh kul'tur v jekstremal'nyh uslovijah Respubliki Karakal-pakstan.* VIII Mezhdunarodnaja nauchno-prakticheskaja konferencija, posvjashhjon-naja 70-letiu Altajskogo GAU, Sbornik statej, kniga 2. (pp.243-244). Barnaul.
  9. Torenijazov, E.Sh., Jysupov, R.O., & Eshmuratov, Je.G. (2012). *Razvitie gryzushhih i sosushhih vreditel'ej na posevah ovoshhe-bahchevyh kul'tur.* Problema racionalnogo ispol'zovanija i ohrana biologicheskikh resursov Jyzhnogo Priaral'ja, IV Mezh.nauprakti konf. KK otdelenie AN RUz. 22-23 iunja. (pp.124-125). Nukus: «Topigrafija KGU».
  10. Dubrovin, N. K., & Bajrambekov, Sh. B. (2013). Osnovnye vrediteli ovoshhe-bahchevyh kul'tur i bor'ba s nimi v oroshaemyh uslovijah nizhnego Povolzh'ja. *Zashhita i karantin rastenij*, (11), 41-43.



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Article



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## ON THE DISCRETE PART OF THE SPECTRUM OF AN ELLIPTIC OPERATOR

**Abstract:** The article "On the discrete part of the spectrum of an elliptic operator" examines the study of the nature of the spectrum, which consists in studying a set of spectral points depending on the behavior of coefficients in a differential operation, the type and nature of boundary value problems. The question of the structure of the spectrum of differential operators is important. Special attention is paid to the construction of functional calculus and the proof of the spectral theorem in its various formulations.

**Key words:** operator, discreteness of the spectrum, differential operation, set, inequality.

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### Introduction

Let  $\mathcal{L}$  be the operator generated by the differential operator  $(-\Delta)^m + a(x)$  on the set  $C_0^\infty(\Omega)$ . Conditions are given for an unlimited domain of  $\Omega$  and potential  $a(x)$  ensuring the discreteness of the spectrum of the operator  $\mathcal{L}$ ,  $\Delta$  – the Laplace operator.

The paper investigates the discreteness of the spectrum of the operator  $\mathcal{L}$  on the set  $C_0^\infty(\Omega)$ . Here  $\Omega \subset \mathbf{R}^n$  is an unbounded domain, which can be tapering at infinity in a certain way,  $\mathbf{R}^n$  – is the Euclidean space  $a(x)$  – is a measurable function.

### Definition.

Private function of the operator  $\mathcal{L}$  is called an element of the Sobolev space  $\dot{W}_2^m(\Omega)$  satisfying the equality

$$\int_{\Omega} (\nabla_m \varphi(x) \nabla_m U(x)) dx + \int_{\Omega} a(x) U(x) \varphi(x) dx = \lambda \int_{\Omega} U(x) \varphi(x) dx$$

for all functions  $\varphi(x)$  from the set  $C_0^\infty(\Omega)$ . where:  $\dot{W}_2^m(\Omega)$  – is the closure of the set of infinitely differentiable finite functions according to the norm of the Sobolev space  $W_2^m(\Omega)$ .

The discrete spectrum of an operator  $\mathcal{L}$  is the set of its eigenvalues. The study of the nature of the spectrum consists in studying the set of points of the spectrum depending on the behavior of the coefficients in the differential operation, the type and nature of boundary value problems. The question of the structure of the spectrum of differential operators is also important for applications, for example: in quantum mechanics, the eigenvectors corresponding

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to the points of the discrete spectrum are called bound states, and the points of the discrete spectrum themselves are called bound state energies. Many works have been devoted to the study of the structure of the spectrum of elliptic operators [1]. We note some of them, in which significant results were obtained by M.S. Burman [2], I. M. Glazman [3], G. V. Rosenblum [4] M., Fefferman [5], P. Kerman and E. Sawyer [6]. V.G. Mazya obtained accurate results on the discreteness conditions of the negative spectrum in terms of capacitance for both the Schrodinger operator and the semi-harmonic operator [7, 8, 9]. An estimate of the lower edge of the continuous part of the spectrum, the perturbed semiharmonic operator  $A$ , is obtained in terms of capacitance. ToraeV [10]. Yu.V. Egorov and V. A. Kondratiev obtained non-improving estimates for the negative spectrum of the Schrodinger operator, and then for the general elliptic operator of arbitrary order [4, 12].

Let's introduce the notation

$$\Omega_{r_0} = \{x \in \Omega: |x| > r_0\},$$

$$S_R = \{x \in \Omega: |x| = R\}$$

The continuous part of the spectrum of the operator  $\mathcal{L}$  is denoted by  $\sigma_c(\mathcal{L})$  and the domain of the

$$\sum_{i=0}^m \beta_{2i} \lambda^{2i} = \left[ \lambda^2 + \left( \frac{n-2m}{2} \right)^2 \right] \left[ \lambda^2 + \left( \frac{n-2m+4}{2} \right)^2 \right] \dots$$

$$\dots \left[ \lambda^2 + \left( \frac{n+2m-4}{2} \right)^2 \right] \quad (1)$$

the coefficients of which will be used below

When proving our theorems, we will use the inequality

$$(\mathcal{L}_1 U, U) \geq \int_{\phi} \int_{t_0}^{\infty} \left[ \sum_{i=0}^m \beta_{2i} \left( \frac{d^i V}{dt^i} \right)^2 + N \exp(\gamma t) V^2 + a(t, \phi) \exp(2m t) V^2 \right] d\phi \quad (2)$$

from the work [13], here  $t = \ln r$ ,  $U = V(t) \exp\left(\frac{2m-n}{2} t\right)$ ,  $\phi$  – the area of change  $\varphi = (\varphi_1 \varphi_2, \dots, \varphi_{n-1})$ ,  $d\phi$  – is the surface element  $|\phi| = 1$ ,  $\beta_{2i}$  are determined from equality (1).

**Theorem 1.** Let  $\Omega$  be such that the set  $\Omega \cap S_R$  for a sufficiently large  $R$  consists of a set of domains  $D_i$  such that if  $D_i^*$  there is an image of  $D_i$  when mapping  $x^1 = x/|x|$  to  $S_1$ , then the eigenvalues of the operator

$$\sum_{i=1}^{m-1} (-1)^e C_m^e B_e \delta^e + (-1)^m \delta^m$$

then the eigenvalues of the operator  $D_i^*$  for any  $i$  not less than  $NR^\gamma$ ,  $\gamma = const$ ,  $N = const > 0$ , where the numbers  $B_l$  ( $l = 1, 2, \dots, m-1$ ) are determined by the characteristic numbers of ordinary differential

operator  $\mathcal{L}$  is denoted by  $D(\mathcal{L})$ .  $P_d(b)$  – is a cube with an edge  $d$  parallel to the coordinate axes centered at point  $b$ .

Let  $T$  be the operator generated by the operation  $(-\Delta)^m, D(T) = D(\mathcal{L})$  and  $K$  is the multiplication operator by the function  $a(x)$ . Then

$$\mathcal{L} = T + K.$$

First, let's give one well-known fact from [10].

**The lemma.** If  $\lim_{|x| \rightarrow \infty} a(x) = 0$ , then the operator  $K$  is completely continuous with respect to  $T$ .

Let  $\mathcal{L}_1$  be the operator generated by the differential expression

$$(-\Delta)^m + a_1(x)$$

on the set  $C_0^\infty(\Omega)$ .

**A consequence of the lemma:** if  $a_1(x) = a(x)$  for  $x \in \Omega_{r_0}$ , then  $C(\mathcal{L}) = C(\mathcal{L}_1)$

Really, let  $B$  be the multiplication operator by  $a_1(x) - a(x)$   $D(B) = D(\mathcal{L}_1)$  According to the lemma, the operator  $B$  is completely continuous with respect to  $\mathcal{L}$ , therefore

$$C(\mathcal{L}) = C(\mathcal{L} + B) = C(\mathcal{L}_1).$$

Let the numbers  $\beta_i$  be determined by the fact that

operators of order  $2l$  with constant coefficients [13],  $\delta$  – operator Beltrami.

If

$$a(x) \geq -\beta_0 |x|^{-2m} - \frac{\beta_2}{4} (|x|^m \ln|x|)^{-2} - \beta N |x|^{\gamma-2m}$$

for some  $0 < \beta < 1$ , then the spectrum of the operator  $\mathcal{L}$  is discrete, the numbers  $\beta_0, \beta_2$ , are determined from formula (1).

**Proof.**

According to the corollary of the lemma, it is enough to consider the region  $\Omega_{r_0}$ , where  $r_0$  is large enough.

Since

$$\int_{\phi} \int_{t_0}^{\infty} \sum_{i=0}^m \beta_{2i} \left( \frac{d^i V}{dt^i} \right)^2 dt \geq 0,$$

then from inequality (2) using the conditions of the theorem we have

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$$(\mathcal{L}U, U) \geq \int_{\phi} \int_{t_0}^{\infty} \left[ \beta_2 \left( \frac{dV}{dt} \right)^2 - \frac{1}{4t^2} \beta_2 V^2 \right] \mp \beta_0 V^2 + N \exp(\gamma t) V^2 - (\beta_0 |x|^{-2m} - \beta N |x|^{\gamma-2m}) \exp(2mt) V^2 dt d\phi \quad (3)$$

According to the well-known inequality of [14, c.13]

$$\int_{t_0}^{\infty} \left( \frac{dV}{dt} \right)^2 dt \geq \frac{1}{4} \int_{t_0}^{\infty} \frac{V^2}{t^2} dt$$

fair  $\forall V \in C_0^{\infty}(R^1)$ . Therefore, taking into account the performed substitutions in inequality (2), inequality (3) can be written in the form

$$(\mathcal{L}U, U) \geq \int_{\Omega_{r_0}} [\beta_0 |x|^{-2m} + N |x|^{\gamma-2m} - \beta_0 |x|^{-2m} - \beta N |x|^{\gamma-2m}] U^2 dx.$$

Let the statement of the theorem be incorrect and the number  $M > 0$  is a point of a continuous spectrum. Let's denote  $\mathcal{L}_2 = \mathcal{L} - M$ . From the last inequality we will have

$$(\mathcal{L}_2 U, U) \geq \int_{\Omega_{r_0}} \left[ \left( \frac{1-\beta}{2} \right) N |x|^{\gamma-2m} + \frac{1-\beta}{2} N |x|^{\gamma-2m} - \beta_0 |x|^{-2m} - M |x|^{-2m} \right] U^2 dx >$$

since  $\gamma > 2m$   $0 < \beta < 1$ , and this contradicts our proposal that  $M \in \mathcal{C}(\mathcal{L})$ , which proves the theorem, according to the corollary of the lemma.

**Theorem 2.** Let the domain  $\Omega$  be the same as in Theorem 1 and

$$q(x) = a(x) + \beta_0 |x|^{-2m} + \sigma N |x|^{2-2m} \quad (4)$$

for some  $0 < \alpha < 1$ ,  $0 < \sigma < \alpha$ .

If

1. for a fixed  $d > 0$ , for  $|x| \rightarrow \infty$

$$\int_{P_d(b)} |q_-(y)| |y|^{2m-\gamma} dy \rightarrow 0, P_d(b) \cap \Omega_{r_0} = \emptyset. \quad (5)$$

2. for  $d \rightarrow 0$  uniformly relative to

$$\int_{P_d(b)} |q_-(y)| |y|^{2m-\gamma-1} |x-y|^{1-n} dy \rightarrow 0, P_d(b) \cap \Omega_{r_0} \neq \emptyset, \quad (6)$$

then the spectrum of the operator  $\mathcal{L}$  is discrete.

$\forall (x, y) \in P_d(b) > r_0$ ,  $r_0$  - is quite large.

**Proof.**

It is not difficult to see the fairness of inequality

$$\frac{|x^i|}{|y^i|} \geq c_0 \quad c_0 = const > 0, \quad i = const \quad (7)$$

Applying the formula of the integral representation of the Sobolev function through its first derivatives (see [15], p. 436) to the function  $U^2(x)$ , we obtain

$$U^2(x) \leq C_1 \left[ d^{-n} \int_{P_d(b)} U^2(y) dy + \int_{P_d(b)} |U(y)| |\nabla U| |x-y|^{1-n} dy \right] \quad (8)$$

where  $x \in P_d(b)$  and the constant  $C_1$  does not depend on  $d$ . If  $r_0$  - is large enough and  $0 < d < 1$ ,  $|b| > r_0$ , then due to inequality (7) of (8) we will have

$$U^2(x) \leq C_2 \left[ d^{-n} |x|^{2m-\gamma} \int_{P_d(b)} |y|^{\gamma-2m} U^2(y) dy + |x|^{2m-\gamma-1} \int_{P_d(b)} |y|^{\gamma-2m+1} |U(y)| |\nabla U| |x-y|^{1-n} dy \right] \quad (9)$$

will cover the area  $\Omega_{r_0}$  with a cubic lattice.

with a cubic lattice  $P_d$  the inequality (9) is valid

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Integrating this inequality with weight  $|q(x)|$  for each non-empty intersection with  $\Omega_{r_0}$  for any cube of the lattice, we get

$$\int_{P_d} |q_-(x)| U^2 dx \leq C_2 d^{-n} \int_{P_d} |q_-(x)| |x|^{2m-\gamma} dx \int_{P_d} U^2(y) |y|^{\gamma-2m} dy +$$

For a given  $\varepsilon > 0$ , by virtue of condition (6), we take the number  $d$  so small that

$$\frac{C_2}{2} \int_{P_d} |q_-(x)| |x|^{2m-\gamma-1} |x-y|^{1-n} dx < \varepsilon.$$

Fixing  $d$  by virtue of condition (5), we take the number  $r_0$  so large that

$$C_2 d^{-n} \int_{P_d} |q_-(x)| |x|^{\gamma-2m} dx < \varepsilon.$$

Then

$$\int_{P_{d_0}} |q_-(x)| U^2(x) dx \leq \varepsilon \int_{P_d} (|\nabla U|^2 |y|^{2-2m+\gamma} + |y|^{\gamma-2m} U^2(y)) dy$$

Summing up this inequality over all cubes of the lattice, we obtained an estimate

$$\int_{\Omega_{r_0}} |q_-(x)| U^2(x) dx \leq \varepsilon \int_{\Omega_{r_0}} (|\nabla U|^2 |x|^{2+\gamma-2m} + U^2(x) |x|^{\gamma-2m}) dx. \quad (10)$$

We Have

$$(\mathcal{L}U, U) = ((T+K)U, U) = ((1-\alpha)T + \alpha T + K)U, U) = ((1-\alpha)TU, U) + ((\alpha T + K)U, U),$$

where  $0 < \alpha < 1$ .

Since

$$(\mathcal{L}U, U) \geq (1-\alpha)TU, U) + (\alpha TU, U) + \int_{\Omega_{r_0}} [ -\mu_0 |x|^{-2m} U^2 - \sigma N |x|^{\gamma-2m} U^2 - |q_-(x)| U^2 ] dx.$$

Hence, by virtue of inequality (10), we will have

$$(\mathcal{L}U, U) \geq ((1-\alpha)TU, U) + (\alpha TU, U) + \int_{\Omega_{r_0}} [\alpha \mu_0 |x|^{-2m} U^2 +$$

Consider the expression

$$((1-\alpha)TU, U) - \varepsilon \int_{\Omega_{r_0}} (|\nabla U|^2 |x|^{2-2m+\gamma}) dx.$$

Using inequality (2), it can be proved that

$$((1-\alpha)TU, U) \geq C_4 \int_{\Omega_{r_0}} |x|^{\gamma-2m+2} (\nabla U)^2 dx, \quad C_4 = \text{const}$$

Then moving from  $t$  to  $x$  and from  $V$  to  $U$  by virtue of inequality (11) will have

$$(\mathcal{L}U, U) \geq \int_{\Omega_{r_0}} [\alpha \beta_0 |x|^{-2m} + \alpha N |x|^{\gamma-2m} - \beta_0 |x|^{-2m} - \sigma N |x|^{\gamma-2m} - \varepsilon |x|^{\gamma-2m}] U^2 dx$$

or

$$\int_{\Omega_0} (\alpha \beta_0 |x|^{-2m} - \beta_0 |x|^{-2m} + \alpha N |x|^{\gamma-2m} - \beta N |x|^{\gamma-2m}) U^2 dx \geq$$

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$$\geq \int_{\Omega_0} \left( (\alpha - 1)\beta_0|x|^{-2m} + \frac{\alpha - \beta}{2}N|x|^{\gamma-2m} + \frac{\alpha - \beta}{2}|x|^{\gamma-2m} \right) U^2 dx \geq$$

$$\geq \int_{\Omega_0} \frac{\alpha - \beta}{2}|x|^{\gamma-2m} U^2 dx.$$

Since  $\alpha > \beta$  and  $\gamma > 2m$ . Let the number  $M > 0$  be a point of a continuous spectrum, then

$$(\mathcal{L}_2 U, U) \geq \int_{\Omega_0} \left( \frac{\alpha - \beta}{2}|x|^{\gamma-2m} - M|x|^{-2m} \right) U^2 dx \geq C_4 \|U\|_{\mathcal{L}_2(\Omega_0)}^2,$$

$C_4 = \text{const} > 0$ , and this contradicts our assumption that  $M$  is a point of a continuous spectrum. Since according to the corollary of Lemma  $\mathcal{C}(\mathcal{L}_2) = \mathcal{C}(\mathcal{L})$ .

The theorem has been proved.

#### Consequence.

Let all the conditions of Theorem 1 be fulfilled and

$$\gamma = 2m, a(x) \geq -\beta_0|x|^{-2m} - \frac{\beta_2}{4}(|x|^m \ln|x|)^{-2} - \sigma N.$$

For some  $\sigma < \frac{1}{2}$ , then on the  $(-\infty, \sigma N)$  the spectrum of the operator  $\mathcal{L}$  is exhausted by the eigenvalues of finite multiplicity, the only possible limit point  $\lambda = \sigma N$ .

#### References:

- Rid, M., & Sajmon, B. (1982). *Analiz operatorov*. - M.: Mir.
- Birman, M.S.H. (1961). *O spektre singulyarnyh granichnyh zadach*. Matematicheskij sbornik. - t. 55 (97). - p. 125-174.
- Glazman, I. M. (1963). *Pryamye metody kachestvennogo spektral'nogo analiza singulyarnyh differencial'nyh operatorov*. - M. p.338.
- Rozenblyum, G. V. (1971). *O raspredelenii sobstvennyh chisel pervoj kraevoy zadachi v neogranichennyh oblastyah*. DAN SSSR. t. 200.- № 5.- pp.1934-1936.
- Fefferman, Ch. (1983). The uncertainty principle. *Bull. AMS*. t.9, - №2.- pp.1-78.
- Kerman, R., & Sowyer, Q. (1985). Weighted norm inequalities for potentials with wit applications to Schrodinger operators. Fourier transforms, and Carleson measures. *Bull. AMS*. t.12. - pp.172-116.
- Maz'ya, V.G. (1964). K teorii mnogomernogo operatora SHredingera. *Izv. AN SSSR, ser. Matematika*. t. 28.- pp. 1145-1172.
- Maz'ya, V.G. (1965). Poligarmonicheskaya emkost' v teorii pervoj kraevoy zadachi. *Sibirskij matematicheskij zhurnal*. t. VI. - № 1. - pp. 127-148.
- Maz'ya, V. G. (1973). O (p,l)- yomkosti, teoremah vložheniya i spektre samosopryazhennogo ellipticheskogo operatora. *Izvestiya AN SSSR, ser. Matematika* № 7. t. 37. pp. 356-385.
- Toraev, A. (1985). O nepreryvnyj chasti spektra vozmushchennogo polugarmonicheskogo operatora. *Matematicheskaya fizika i nelinejnaya mekhanika*. Kiev. vyp. 6(40) pp.82-86.
- Egorov, YU.V., & Kondrat'ev, B A. (1987). Ob ochenke chisla tochek otricatel'nogo spektra operatora SHredingera. - *Mat. sb.* t. 134. № 4. pp. 556-570.
- Egorov, YU.V., & Kondrat'ev, V.A. (1990). *Ob otricatel'nom spektre ellipticheskogo operatora*. *Mat. sb.* t.181. - №2. - pp.147-166.
- Toraev, A. (2022). Ob ocillyacionnyh svojstvah ellipticheskikh uravnenij v neogranichennyh oblastyah, *Differencial'nye uravneniya*. t. 58. №10.
- Toraev, A. (1985). *Occillyacionnye svojstva reshenij ellipticheskikh uravnenij*. - Ashkhabad.
- Kantorovich, L.V., & Akilov, G.P. (1984). *Funkcional'noj analiz*. - M.

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## TOPICAL ISSUES OF THE HIGHER EDUCATION SYSTEM IN UZBEKISTAN: CHALLENGES AND GROWTH POINTS

**Abstract:** This article is devoted to the analysis of current issues of the modern higher education system of the Republic of Uzbekistan. The authors have identified the main vectors of development of higher education, analyzed existing problems in terms of the research activities of universities and the quality of personnel focusing on the measures aimed at enrolling women in higher education. In addition, the authors have analyzed the ranking of Uzbekistan in the Global Innovation Index (GII) for 2023 in terms of indicators of the effectiveness of research activities and the use of innovations in the higher education system.

**Key words:** higher education system, high school, education loan, research activities, Global Innovation Index, innovation, commercialization of research results, ratig.

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### АКТУАЛЬНЫЕ ВОПРОСЫ СИСТЕМЫ ВЫСШЕГО ОБРАЗОВАНИЯ УЗБЕКИСТАНА: ВЫЗОВЫ И ТОЧКИ РОСТА

**Аннотация:** Данная статья посвящена анализу актуальных вопросов современной системы высшего образования Республики Узбекистан. Авторами определены основные векторы развития высшей школы, проанализированы имеющиеся проблемы в аспекте научно-исследовательской деятельности вузов и качества кадров с акцентом на меры, направленные на охват женщин высшим образованием. Кроме того, авторами проведен анализ рейтинга Узбекистана в Глобальном Индексе Инноваций (ГИИ) за 2023 год в разрезе индикаторов эффективности научно-исследовательских работ и использования инноваций в системе высшего образования.

**Ключевые слова:** система высшего образования, высшее учебное заведение, образовательный кредит, научно-исследовательская работа, Глобальный инновационный индекс, инновации, коммерциализация результатов исследований, рейтинг.

#### Введение

В последние годы в Узбекистане происходит значимая трансформация системы образования, главной целью которой является повышение качества процесса подготовки

высококвалифицированных кадров. Современные условия диктуют новые требования к выпускникам вузов в овладении современными знаниями на основе передовых информационных и образовательных технологий, которые

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необходимы для повышения качества жизни, как каждого человека, так и общества в целом.

Выступая 20 сентября 2023 года на 78-й сессии Генеральной Ассамблеи Организации Объединенных Наций Президент Узбекистана Ш.Мирзиёев отметил следующее: «Развитие человеческого капитала и воспитание креативного молодого поколения – одна из стратегических задач, которую поставил перед собой Узбекистан. Мы убедились в том, что доступное и качественное образование для всех является наиболее эффективным фактором искоренения бедности, повышения благосостояния населения и достижения устойчивого экономического роста. В этом плане в нашей стране за последние годы накоплен большой опыт – осуществляется коренная трансформация системы образования. За последние шесть лет охват дошкольным образованием увеличился с 21 процента до 70 процентов, а высшим образованием – с 9 процентов до 38 процентов. К 2030 году будут

созданы возможности для того, чтобы каждый ребенок посещал детский сад, а каждый второй выпускник школы учился в вузе. Мы также проводим системную работу по достижению гендерного равенства. В частности, 49 процентов студентов, поступивших в вузы в прошлом году, составляли девушки»<sup>1</sup>.

Факт того, что в Республике Узбекистан большое внимание уделяется вопросам дальнейшего развития системы высшего образования является то, что в последние годы в условиях быстрого роста национальной экономики расходы на образование, особенно на высшее, из государственного бюджета регулярно увеличиваются. Чтобы увеличить охват высшим образованием, государство резко увеличило квоты приема в высшие учебные заведения. При этом даже увеличилось количество студентов, получающих гранты из государственного бюджета.

**Таблица 1. Квоты приема студентов в высшие учебные заведения на основе государственного гранта, человек<sup>2</sup>**

	2016-2017 учебный год	2022-2023 учебный год
<b>Бакалавриат</b>	19 120	31 748
<b>Магистратура</b>	1548	8852

На 2016-2017 учебный год на государственный грант на бакалавриат было принято 19 120 студентов, а на 2022-2023 учебный год этот показатель составил 31 748 человек. То есть квота приема на основе государственного гранта на бакалавриат за последние шесть лет выросла в 1,66 раза. На подготовку магистров на 2016-2017 учебный год выделено 1548 квот, на 2022-2023 учебный год - 8852 квоты на основе государственных грантов. То есть за последние шесть лет этот показатель увеличился в 5,72 раза.

В нашей стране уже начата практическая работа по финансовой поддержке образования и повышению потенциала женщин. В последние годы женщинам предоставлены специальные льготы при поступлении в высшие учебные заведения. Кроме того, на основании указа Президента Республики Узбекистан «О мерах по дальнейшему ускорению работы по системной поддержке семьи и женщин» с 2022-2023 учебного года в целях создания благоприятных условий для получения образования, поддержки системного повышения научного потенциала и квалификации женщин начиная с 2022/2023 учебного года определены следующие задачи:

- ежегодно направлять из Государственного бюджета не менее 1,8 триллиона сумов ресурсов средств коммерческим банкам в целях финансирования беспроцентных образовательных кредитов сроком на 7 лет на оплату образовательных контрактов женщин, обучающихся в высших образовательных учреждениях, техникумах и колледжах, в том числе по заочной и вечерней форме обучения;

- ежегодно выделять из Государственного бюджета не менее 200 миллиардов сумов для финансирования на безвозвратной основе контрактных платежей всех женщин, обучающихся в магистратуре государственных высших образовательных учреждений;

- ежегодно посредством Фонда «Эл-юрт умиди» выделять дополнительные гранты для обучения в зарубежных высших образовательных учреждениях 50 женщинам - по образовательным программам бакалавриата, 10 женщинам - по образовательным программам специальностей магистратуры;

- ежегодно финансировать на безвозвратной основе образовательные контракты по 150, всего 2 100 женщин-студентов из социально

<sup>1</sup> <https://president.uz/ru/lists/view/6679>

<sup>2</sup> Составлено авторами на основании данных Агентства по статистике при Президенте Республики Узбекистан

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нуждающихся семей, сирот или оставшихся без попечения родителей, за счет дополнительных источников местных бюджетов;

- ежегодно выделять не менее 300 целевых квот для женщин в докторантуру государственных научных организаций или государственных высших образовательных учреждений<sup>3</sup>.

Принятое 15 августа 2022 года постановление Кабинета Министров Республики Узбекистан «О мерах по выплате платно-контрактных средств женщинам, обучающимся в магистратуре в государственных высших учебных заведениях» также послужило хорошим стимулом для того, чтобы женщины имели возможность учиться в магистратуре. В соответствии с данным постановлением женщинам на оплату суммы контракта выделены беспроцентные кредиты, и в этом направлении ведется обширная пропагандистская работа.

В августе-сентябре 2022 года коммерческими банками Республики Узбекистан было предоставлено образовательных кредитов на сумму 447,1 миллиарда сумов 40 341 студенту, а Народный банк покрыл 39 процентов общего спроса на образовательные кредиты. То есть 15 736 студентам Народный банк выделил кредиты на образование на сумму 175 млрд сумов, из них 75 процентов выплат, предоставленных женщинам на образование, составляют кредиты, обеспеченные за счет государственного бюджета.

Указанные аспекты представляют собой прямые инвестиции государства в образование. Расширение практики инвестирования в образование со стороны международных организаций, государственных организаций, частного сектора, домохозяйств, отдельных лиц или специалистов в обществе еще больше повысит эффективность инвестиций государства. Итак, каков механизм реализации инвестиций в образование другими сторонами, кроме государства?

3-4 ноября 2022 года в рамках II Экономического форума Узбекистана, проходившего в городе Самарканд, Агентство по развитию государственно-частного партнерства Министерства финансов Республики Узбекистан, Министерство дошкольного образования и Азиатский банк развития по проекту строительства, реконструкции и оснащения дошкольных образовательных учреждений подписали договор на консультационные услуги на сумму один миллион долларов США, что также является одним из практических примеров

активного привлечения иностранных инвестиций в образование.

Развитие частного сектора в обеспечении национального развития также связано с подготовкой конкурентоспособных кадров. Частный сектор экономики, в частности, является сегментом с масштабным спросом на специалистов, готовящихся в высших учебных заведениях и считается основным заказчиком кадров. Естественно, что высокие требования частного сектора к специальным знаниям и навыкам ставят перед системой образования, в частности высшего образования, ряд задач. Кроме того, непрерывно расширяется участие частного сектора в образовании в качестве заинтересованной стороны в разработке учебных программ и научных программ, проведении исследований, направленных на решение практических задач. В международной практике с целью решения проблем, возникающих в бизнесе или повышения финансовой устойчивости, широко используется организация частных грантовых проектов и конкурсов кейсов среди вузов. Решения в виде предложений и рекомендаций по разрешению проблемных ситуаций (кейсы) разрабатываются и представляются отдельными группами в высших учебных заведениях. С другой стороны, лучшие решения выбираются частным сектором, проблема бизнеса решается, и параллельно поощряется группа, представившая лучшее решение проблемы. Расширение подобной практики в нашей стране в ближайшие годы послужит ускорению развития образования.

В развитых странах субъекты предпринимательства широко используют свои возможности для обучения талантливых студентов на основе частных грантов, а также для выплаты суммы гонорара при условии, что они в дальнейшем будут работать в соответствующей компании. Можно наблюдать, что подобного рода механизм используется в зарубежных и некоторых частных вузах, осуществляющих свою деятельность в Республике Узбекистан. То, что в нашей стране создаются высшие учебные заведения некоторыми субъектами частного сектора, дает импульс развитию социальной и экономической сферы во взаимном сотрудничестве, потому что частный сектор старается подготовить для себя лучшие кадры. Этот процесс автоматически ставит на повестку дня вопрос борьбы за лучшего абитуриента. В результате можно ожидать, что в ближайшем будущем в столь жесткую конкуренцию будут вынуждены вступить и государственные вузы.

<sup>3</sup> Указ Президента Республики Узбекистан от 7 марта 2022 года №ПП-87 «О мерах по дальнейшему ускорению работы по системной поддержке семьи и женщин».



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Появление на образовательной арене филиалов зарубежных университетов усилило конкуренцию на рынке образования. На сегодняшний день по данным Министерства высшего образования науки и инноваций в Узбекистане действуют 210 высших учебных заведений, в том числе – 36 университетов, 48 институтов, 4 академии, 26 филиалов узбекских вузов, 1 консерватория, 30 филиалов зарубежных вузов, 65 негосударственных высших учебных заведений. В качестве примера, в 2019-2020 учебном году в Узбекистане количество филиалов зарубежных вузов составляло 21.

В 2023-2024 учебном году свои двери распахнули Ташкентские филиалы следующих вузов: Ташкентский филиал Российского государственного университета нефти и газа им. И.М. Губкина (Россия), Ташкентский филиал МГУ имени М.В. Ломоносова (Россия), Ташкентский филиал Российского экономического университета имени Г.В. Плеханова (РЭУ) (Россия), Туринский политехнический университет в г. Ташкенте (Италия), Международный Вестминстерский университет в г. Ташкенте (Великобритания), Сингапурский институт развития менеджмента в г. Ташкенте (Сингапур), Университет Инха в г. Ташкенте (Корея), Филиал Национального исследовательского технологического университета «МИСиС» в г. Алмалыке (Россия), Университет Пучон в г. Ташкенте (Корея), Филиал Высшей школы менеджмента информационных систем в г. Фергане (Латвия), Ташкентский филиал Российского национального исследовательского ядерного университета «ММФИ» (Россия), Университет Аджу в г. Ташкенте (Корея), Университет Амита в г. Ташкенте (Индия), Филиал МГИМО в г. Ташкенте (Россия), Центр реализации образовательных программ «Webster University» в г. Ташкенте (США), Университет Шарда в Узбекистане (Индия), Ташкентский филиал Национального исследовательского университета «МЭИ» (Россия), Филиал Российского химико-технологического университета имени Д.И. Менделеева в г. Ташкенте (Россия), Филиал Астраханского государственного технического университета в Ташкентской области (Россия), Белорусско-Узбекский институт межотраслевых прикладных технических квалификаций в г. Ташкенте (Беларусь), Ташкентский филиал Экономико-технологического университета (Турция), Международный бинарный университет в г. Ургенче (Малайзия), Ташкентский филиал Российского государственного педагогического университета имени А.И. Герцена (Россия), Ташкентский филиал Санкт-Петербургского государственного университета (Россия), Андижанский филиал Варшавского университета

управления «Collegium Humanium» (Польша), Ташкентский филиал Российского национального исследовательского медицинского университета имени Н.И. Пирогова (РНИМУ) (Россия), Джизакский филиал Казанского федерального университета (Россия), Ташкентский филиал Федерального Государственного бюджетного высшего образовательного учреждения Всероссийского государственного института кинематографии имени С.А. Герасимова (ВГИК) (Россия), Ташкентский филиал Пизанского Университета (Италия), Международный сельскохозяйственный университет (Великобритания).

Сегодня университеты наряду с научными исследованиями и образовательной деятельностью все активнее включаются в решения социальных проблем общества. Они оказываются все более вовлеченными в решение социальных задач конкретной территории, как опосредовано через исследования и подготовку (переподготовку) кадров, так и непосредственно через широкий спектр волонтерской, благотворительной, просветительской, социально-культурной деятельности. В этом качестве они во многих случаях выполняют роль градообразующих организаций, оказываясь в центре инфраструктуры, обеспечивающей устойчивое развитие отдельных регионов и городов, в том числе решение социальных проблем.

В современных условиях университеты большое внимание акцентируют на реализацию образовательных программ по подготовке высококвалифицированных кадров, остающихся востребованными в долгосрочной перспективе, что позволит им повлиять на снижение уровня безработицы. Для этого требуется проведение ими не только мониторинга регионального и национального рынков трудовых ресурсов, трендов на международном рынке труда, но и активная работа, как с местными органами власти, так и с представителями бизнеса для определения структуры и размера спроса на рынке труда с учетом прогнозируемых тенденций, т.е. формирования конкретных заказов на специалистов, осуществления конкретных целевых наборов.

В Республике Узбекистан, как и во всем мире, сфера высшего образования в настоящее время претерпевает фундаментальные изменения с точки зрения роли в обществе, принципов и методов работы, организации и управления. Ведущие вузы мира находятся в поиске новых моделей и активно переосмысливают свои миссии. Одним из наиболее признанных сегодня является подход, определяющий траекторию изменения современных моделей университетов в направлении модели Университета 3.0., реализуя

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одновременно три миссии: образовательную, научно-исследовательскую и инновационную, направленную на коммерциализацию знаний. Однако помимо активного перехода многих вузов к модели Университета 3.0 в современных условиях происходит формирование новой перспективной и ориентированной на будущее модели Университета 4.0. Его миссия определяется уже не только как образование, наука и инновации, но и еще как интеграция различных структур социума для решения проблем устойчивого развития общества.

Очевидно, что реформы, проводимые в сфере образования, находят свое отражение в том, что положение Узбекистана в международных индексах становится все более прочным.

В частности, с каждым годом укрепляется позиция Узбекистана в Глобальном

инновационном индексе (ГИИ), который представляет собой оценку деятельности в области инноваций 131 страны и экономики мира, основанную на более чем 80 показателях, в том числе показатели, касающиеся политической ситуации, системы образования, инфраструктуры и создания знаний в каждой стране. Он представляет собой *совместное исследование Корнельского университета (США), бизнес-школы Insead (Франция) и Всемирной организации интеллектуальной собственности. Его целью является оценка уровня инновационного развития в странах мира.*

В 2023 году Узбекистан занял 10 место из 36 стран с доходом ниже среднего (*Lower middle-income economies*), тогда как Индия (рейтинг 38,1, 40 место) и Иран (рейтинг 30,1, 62 место) занимают первое и второе места в нашем регионе.

Таблица 2. Позиции Узбекистана в динамике в Глобальном инновационном индексе<sup>4</sup>

№	Название индикатора	Узбекистан	
		2022	2023
1.	Институты (Institutions)	63	55
2.	Человеческий капитал и наука (Human capital & research)	65	89
3.	Инфраструктура (Infrastructure)	74	73
4.	Развитие внутреннего рынка (Market sophistication)	60	69
5.	Развитие бизнеса (Business sophistication)	74	78
6.	Развитие технологий и экономики знаний (Knowledge & technology outputs)	80	78
7.	Развитие креативной деятельности (Creative outputs)	102	93

Согласно рейтингу Глобального инновационного индекса 2023 года, Узбекистан был признан странами, эффективность инновационного производства которых выше ожидаемой - Индия, Украина, Вьетнам, Узбекистан, Филиппины, Пакистан, Сенегал, Индонезия. Были опубликованы следующие индикаторы:

Рейтинг Узбекистана в ГИИ-2023 - 82 место (входит в число стран, сохранивших позиции по сравнению с прошлым годом): рейтинг входа - 88, рейтинг выхода - 72, уровень дохода - ниже среднего 10 - место, регион - Центральная и Южная Азия, по паритету покупательской способности ВВП (RRR) – 334,3 млрд. долларов США (рост 114,7%), ВВП на душу населения (RRR) - 9,7 тыс. долларов США (рост 115,4%).

О том, что Узбекистан улучшил и сохранил свои позиции в рейтинге Глобального инновационного индекса за последние годы, можно судить по следующим данным по 7 наиболее важным показателям (эти данные сопоставлены с «ГИИ-2022»). В рамках

исследования нашей проблемы в аспекте изучения проблем и перспектив высшего образования Республики Узбекистан важно проанализировать индикаторы, имеющие непосредственное отношение к образованию, в частности, человеческий капитал и наука, развитие технологий и экономики знаний, а также развитие креативных знаний.

По показателю “Человеческий капитал и наука” (*Human capital & research*), который является одним из ключевых в оценке научно-исследовательского потенциала высших учебных заведений, Узбекистан занял 89 место. Данный показатель представлен следующими аспектами:

*первое*, образование находится на 78 месте. К сожалению, показатель образования потерял 28 позиций по сравнению с 2022 годом. При этом отсутствует информация по некоторым показателям (соотношение расходов на образование к ВВП – 4,6 процентов или 52 место, отсутствуют данные по соотношению финансирование/ученик по отношению к ВВП, продолжительность среднего образования

<sup>4</sup>Составлено авторами на основе данных сайта <https://review.uz/post/uzbekistan-i-globalny-innovacionny-indeks>

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(школы), год - 13,9/79, отсутствуют данные по шкале международной оценке студентов PISA, соотношение ученик-учитель составляет 9,8/28),

второе, высшее образование – уровень 27,4 или 74 место (прием в высшие учебные заведения, в валовых процентах - 21,9/99, выпускники по точным наукам и инженерным специальностям, в процентах 32,8/12, попытки поступить в вузы, в процентах - 0,7/97),

третье, научные исследования и разработки (R&D) – 92 место (исследователи, эквивалент полного времени FTE/человек - 523,4/89, расходы на проведение научно-исследовательских работ, по отношению к ВВП - 0,1/99, научные исследования и инвесторы, миллионы долларов - 0,0/40, QS-рейтинг университетов - 0,0/71).

По этому показателю свои сильные стороны смогли показать только соотношение студентов и преподавателей (в среднем - 9,8/28) и эквивалент полного времени FTE/человек - 523,4 (439,9 в 2022 году) / 89 (73 в 2022 году).

Следующий показатель, *развитие технологий и экономики знаний (Knowledge & technology outputs)*, также является показателем эффективности научно-исследовательской деятельности и внедрения инноваций, и по данному показателю Узбекистан в рейтинге занимает 78 место, демонстрируя тем самым рост на 2 пункта по сравнению с прошлым годом по следующим аспектам:

первое, создание научных разработок (креативный подход) – 72 место (в прошлом году 78 место) (патенты/млрд. долларов США (PPP) в процентах по отношению к ВВП, 1,4/47 (рост на 9 позиций), патенты РСТ /млрд.долл (PPP), в процентах по отношению к ВВП 0,0/99. Здесь отдельно следует отметить, что сильными сторонами являются соотношение полезных моделей /млрд.долл США к ВВП, в процентах 1,3/17, научные и технические статьи /млрд.долл (PPP), по отношению к ВВП, в процентах 2,8/117, h-индекс цитируемости 4,1/80);

второе, влияние знаний – 44 место в рейтинге (рост продуктивности труда, в процентах - 5,0/6. Кроме того, высокие показатели наблюдаются и в таких показателях, как высокотехнологичное производство, в процентах - 24,8/51, расходы на программное обеспечение, по отношению к ВВП – 0,2/80,

третье, 100 место в рейтинге по критерию распространения знаний (поступления от объектов интеллектуальной собственности, в процентах - 0,0/104, привлекательность производства и экспорта - 42,7/77 (рост на 8 позиций по сравнению с 2022 годом), соотношение экспорта высоких технологий к общей торговле, в процентах - 0,1/122, соотношение экспорта ИКТ услуг к общей торговле, в процентах - 0,8/92).

Рассматривая следующий показатель - *развитие креативной деятельности (Knowledge & technology outputs)* – следует отметить, что он также играет определенную роль в оценке эффективности системы высшего образования, так как оценивает параметры, которые часто являются результатом научно-исследовательской деятельности и инновационных разработок. В 2023 году по данному показателю Узбекистан укрепил свои позиции на 9 пунктов и занял 93 место (102 место в 2022 году) в разрезе следующих показателей:

первый, нематериальные активы – 86 место (по данному показателю в 2022 году Узбекистан впервые вошел в индекс), торговые знаки/млрд. долларов США, по отношению к ВВП - 35,3/65, отсутствуют данные по стоимости глобального бренда в ВВП, отношение промышленных образцов /млрд.долларов США к ВВП - 0,8/77);

второе, креативные товары и услуги – 96 место в рейтинге (экспорт культурно-творческих услуг по отношению к общей торговле - 0,1/88 (рост на 44 позиции по сравнению с 2022 годом), национальные художественные фильмы – 0,4/73, медиарынок и рынок развлекательных услуг – 49 место (необходимо отметить, что данный индикатор был впервые введен в рейтинг в 2023 году) отношение экспорта полиграфической и других средств массовой информации, творческой продукции - 0,3/68);

третье, онлайн-деятельность – 90 место (107 место в 2022), рост на 28 позиций демонстрирует положительные результаты данного показателя.

Как показал анализ, несмотря на укрепление позиций Узбекистана по данным показателям на сегодняшний день существует необходимость создания большего количества объектов интеллектуальной собственности и их коммерциализации (создание экосистемы интеллектуальной собственности).

В заключении хотелось отметить, что университет в современном обществе приобретает центральную и весомую роль. Это новая миссия современного университета – университета для общества. Возможности ее реализации в каждом конкретном университете обеспечивает его успех и конкурентоспособность. Способность университетов воплотить у себя модель социально-ориентированного университета и функционировать в ее рамках детерминирует (определяет) успешность развития конкретного региона и страны в целом

Но за последние 10 лет высшая школа сильно изменилась - причем как внешне, так и по внутреннему содержанию. В вузах стали создавать принципиально новую среду для обучения, в частности открытые современные пространства. Всё это подкрепляется изменениями в содержании образовательных

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программ, а также новыми организационными моделями. Трансформируется не только научная деятельность, но и образование: меняются модели и подходы, создаются новые проекты, разрабатываются и открываются образовательные программы.

Современное высшее образование, наряду с образовательной функцией, выполняет и целый ряд социально-экономических функций. Оно помогает человеку стать полноценной, всесторонне образованной, востребованной личностью, обеспечивает условия для успешного общественного взаимодействия. Несомненно,

качество высшего образования определяет эффективность развития экономики, поскольку с увеличением темпов экономического роста возрастает потребность в высококвалифицированных специалистах, способных разрабатывать и внедрять новые методы и технологии, что положительно влияет на систему развития образования. В свою очередь, развитие системы образования, приводящее к увеличению числа высококвалифицированных специалистов, способствует росту экономики и прогресса общества в целом.

## References:

1. (2024). *Ukaz Prezidenta Respubliki Uzbekistan ot 7 marta 2022 goda №PP-87 «O merah po dal'nejshemu uskoreniu raboty po sistemnoj podderzhke sem'i i zhenshin»*, Retrieved 24 janvarja 2024 from <https://lex.uz/docs/5899500>
2. Vasil'ev, A.N., & Shhukina, A.Ja. (2018). Analiz rejtinga rjada stran mirovogo soobshhestva po global'nomu indeksu innovacionnogo razvitija. *Vestnik Volzhkogo universiteta imeni V.N. Tatishheva. №3, T.2, 2018.* <https://cyberleninka.ru/article/n/analiz-rejtinga-ryada-stran-mirovogo-soobshchestva-po-globalnomu-indeksu-innovatsionnogo-razvitiya>
3. Rizaev, N.K. (2020). Ecosystem of the intellectual property and its development. *International Journal of Management, IT & Engineering* Vol. 10 Issue 03, March 2020. ISSN: 2249-0558 Impact Factor: 7.119. Journal Homepage: <http://www.ijmra.us>
4. (2023). *Vsemirnaja organizacija intellektual'noj sobstvennosti (WIPO) Global Innovation Index / What is the future of innovation-driven growth?/2023/.*
5. (2022). *Vsemirnaja organizacija intellektual'noj sobstvennosti(WIPO).* Retrieved from [https://www.wipo.int/global\\_innovation\\_index/en/2022/](https://www.wipo.int/global_innovation_index/en/2022/)
6. (2024). Retrieved 27 janvarja 2024 from [https://kadrovik.uz/publish/doc/text191318\\_kak\\_ie\\_zarubejnye\\_vuzy\\_akkreditovany\\_v\\_uzbekistane\\_v\\_2023](https://kadrovik.uz/publish/doc/text191318_kak_ie_zarubejnye_vuzy_akkreditovany_v_uzbekistane_v_2023)
7. (2024). Retrieved 27 janvarja 2024 from <https://stat.uz>

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Article



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## COOPERATION BETWEEN THE REPUBLIC OF UZBEKISTAN AND UNESCO ON THE DEVELOPMENT OF INTERNATIONAL CULTURAL AND HUMANITARIAN RELATIONS

**Abstract:** This article explores the cooperation between the Republic of Uzbekistan and UNESCO in the development of cultural and humanitarian relations. The article examines international cooperation in the field of preserving national and world cultural heritage, the activities of the International Institute of Central Asian Studies, as well as interaction in the field of education.

**Key words:** Republic of Uzbekistan, UNESCO, culture, world heritage, interaction, education.

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### Introduction

The Republic of Uzbekistan, in ensuring its sustainable development, along with cooperation in the political, trade and economic spheres, is of the greatest interest in international relations to cultural and humanitarian interaction. Cooperation in this field is one of the most important and qualitative indicators of the level of relations between states in the modern world, contributing to the development of relations between countries, the preservation of national cultural and spiritual values, the development of scientific and educational opportunities [1, p.79].

In the development of international cultural and humanitarian relations, Uzbekistan attaches great importance to cooperation with the UN specialized agency for Education, Science and Culture - UNESCO. The Republic of Uzbekistan became a full member of UNESCO in October 1993 in Paris. Since December 1994, the National Commission for UNESCO has been operating in the republic, and in 1996 a UNESCO representative office in Uzbekistan was opened in Tashkent.

The main directions of humanitarian cooperation of the Republic of Uzbekistan with the United Nations and its specialized agencies, including, first of all,

UNESCO, are the establishment of international cultural and information exchange, the development of science and education, the study and preservation of the tangible and intangible cultural heritage of mankind.

### International cooperation for the preservation of national and world cultural heritage

In order to ensure the preservation of cultural and historical values, Uzbekistan, along with the creation of the necessary regulatory framework in national legislation, has also ratified a number of UNESCO international acts on the preservation of cultural heritage. In particular, the Republic has ratified the Convention on the Protection of the World Cultural and Natural Heritage, the Convention on the Protection of Intangible Cultural Heritage, the Convention on Measures Aimed at Prohibiting and Preventing the Illegal Import, Export and Transfer of Ownership of Cultural Property, the Convention on the Protection of Cultural Property in the Event of Armed Conflict, the Convention on the Protection and Promotion of the Diversity of Cultural Forms self-expression, etc.

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Historical and cultural centers from Uzbekistan have been included in the UNESCO World Heritage List, which has been maintained since 1978 and is designed to preserve and popularize sites of special cultural, historical and environmental significance: Itchan Kala in Khiva (1990), historic centre of Bukhara (1993) and Historic centre of Shakhrisabz (2000), Samarkand – the Crossroad of Cultures (2001), the Western Tien-Shan Mountains (2016), the Cold Winter Deserts of Turan (2023) and Silk Roads Zarafshan-Karakum Corridor of the Great Silk Road (2023) [2]. And such varieties of Uzbek art as music "Shashmaqom"; "Katta Ashula"; National holiday "Navruz"; The art of wit "Askiya"; Cultural space of Boysun region; Culture and tradition of plov; Khorezm dance "Lazgi"; Miniature art; Art "Bakhshi"; Sericulture and traditional silk production for weaving; Traditional stories and anecdotes about Hodja Nesreddin; The art of illumination: Tazhib; Iftar and its socio-cultural traditions; The art of ceramics in Uzbekistan are included in The UNESCO list of the intangible cultural heritage of humanity.

Festive events dedicated to the anniversaries of great scientists and statesmen and ancient cities are held in Uzbekistan under the auspices of UNESCO, various conferences and public events are organized. Thus, significant events of cooperation were the celebration of significant anniversaries for the people of Uzbekistan of such prominent figures and scientists who made a huge contribution to history, science and culture on a global scale, such as the 600th anniversary of astronomer Mirzo Ulugbek, the 660th anniversary of statesman and commander Amir Temur, the 1200th anniversary of scientist al-Fergoni and the 1225th anniversary of the theologian Imam al-Bukhari, the 545th anniversary of the scientist and miniature painter Kamoliddin Behzod, as well as the 1000th anniversary of the creation of the national ethnos "Alpomish", the 2700th anniversary of the creation of the book "Avesta" and the 1000th anniversary of the Academy of Mamun Khorezm. With the participation of UNESCO, celebrations of the anniversaries of the most ancient cities were held: Margilan (2000th anniversary), Tashkent (2200th anniversary), Bukhara, Termez and Khiva (2500th anniversary), Shakhrisabz and Karshi (2700th anniversary), Samarkand (2750th anniversary). The holding of these events at the international level was another proof of the widespread recognition of Uzbekistan's contribution to the development of world civilization.

In cooperation with UNESCO, various international conferences, cultural and educational events are held, expert analyses are compiled and project recommendations are formed aimed at solving urgent problems of scientific, educational and socio-cultural development of Central Asian states. In particular, in Uzbekistan, under the auspices of UNESCO, the International Conference "Central

Asian Renaissance in the History of World Civilization" was held in Samarkand (2017), the Atlas Festival in Margilan (2017), and the International Forum "Art of Maqom" in Shakhrisabz (2018), International Festival "The Art of Bakhshi" in Termez (2019), International Forum "Central Asia at the Crossroads of World Civilizations" in Khiva (2021), World Conference on the Care and Education of Preschool Children in Tashkent (2022). The above-mentioned international and regional events in cooperation with UNESCO and other international structures contribute to the preservation and revival of traditional crafts, popularize Uzbek culture and art abroad, improve the quality of education, and ensure equal and inclusive educational services for all children.

In one of the major fundamental research projects of UNESCO, carried out in the period 1987-1997. within the framework of the main project of the decade on cultural development - "Comprehensive study of the Silk Road-Road of Dialogue", the main attention was paid to Central Asia, as a region with a rich cultural heritage, which played a crucial role in the interaction and mutual enrichment of scientific, cultural, educational and religious ideas between the East and West, North and South

In this regard, UNESCO pays great attention to the study and wide popularization of Central Asian civilization, a vivid confirmation of which is the publication of the fundamental "History of the Civilization of Central Asia" (in 6 volumes), revealing a broad picture of historical and cultural processes in the Central Asian region [3, p.142].

Within the framework of UNESCO's large-scale Silk Road project, the opening of the International Institute of Central Asian Studies (MICAI) in Samarkand in 1995 was also organized. The Institute was opened during an official visit to Uzbekistan by former UNESCO Director-General Federico Mayor, who noted that Uzbekistan pays great attention to history and cultural heritage. He called Samarkand, Bukhara, Khiva "the cradle of human civilization" and this was a recognition of the huge contribution of our region to the development of mankind. The full member States of the ICAI that have accepted the Agreement on the Establishment of the Institute are Uzbekistan, Azerbaijan, Iran, Kazakhstan, China, Korea, Kyrgyzstan, Pakistan, Tajikistan and Turkey.

The main goal of this International Institute is to attract the attention of the world community to solving the problems of historical and cultural development of Central Asia and to strengthen cooperation between local scientists and their colleagues abroad through multidisciplinary study of the region. Since then, IICAS has published more than 60 scientific publications [4], which were the result of the research activities of the Institute, dozens of international and regional scientific conferences were organized, which contributed to the international level to conduct a

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multilateral study of the history and culture of the region. The International Institute has a wide network of associate members, including major universities, institutes, and research centers and non-governmental organizations specializing in the study of cultural heritage. Leading researchers and experts from France, the Netherlands and the United Kingdom participate in the activities of the IICAS as corresponding members [5].

### Cooperation between Uzbekistan and UNESCO in the field of education

In recent years, the education sector has been one of the priority areas of cooperation in Uzbekistan's relations with UNESCO. In particular, since 2018, UNESCO has significantly increased its technical support in the field of education, launching new projects and increasing the portfolio of ongoing educational programs to 13 million US dollars. The projects included the training of teachers, youth support, the creation of an inclusive system for the development of science and vocational education, technology, etc.

The organization cooperates with Uzbekistan in all areas and stages of the development of continuing education. Since 1996, 46 educational institutions (41 general education schools and 5 professional colleges and an academic lyceum) have been functioning in our country [6] united in the UNESCO United Schools Network.

The priorities of the UNESCO School network are: education for sustainable development, education for global citizenship, intercultural learning and heritage studies.

UNESCO also cooperates closely in the development of higher education in Uzbekistan, exchanging academic experience in the field of science with students, research scientists, and teaching staff. With his support, students and researchers from Uzbekistan received international grants and scholarships for research work.

UNESCO chairs have been established in a number of higher educational institutions in Uzbekistan. These departments work in such areas as human rights, culture of peace, tolerance, preservation and popularization of historical sites, study of historical and cultural foundations of world religions, education of tolerance and respect for other religions, environmental culture, etc.

It should be noted that the Republic of Uzbekistan has made a significant contribution to UNESCO's efforts aimed at promoting preschool education. In November 2022, Tashkent hosted the Second UNESCO World Conference on the Upbringing and Education of Young Children, which was attended by more than 2,500 participants from 147 countries, including UNESCO Director-General, Audrey Azoulay, heads of State, heads of relevant ministries, educators and experts. The organizers of

this event were the Government of the Republic of Uzbekistan and UNESCO. The result of this conference was the Tashkent Declaration, adopted by representatives of about 150 countries, which defined the main international agenda in the field of preschool education until 2030. The Declaration established a number of guiding principles:

- improving the quality and relevance of educational programs and pedagogy;
- ensuring equal and inclusive educational services for all children;
- protection and guarantees of the rights of access to education in emergency situations [7].

UNESCO positively assessed Uzbekistan's efforts aimed at implementing large-scale socio-economic reforms in the educational sphere. In particular, a number of initiatives in this area have been implemented in the republic in recent years, such as the creation of a separate department for preschool education, the modernization of the school curriculum based on the best practices of developed countries, the introduction of a free school meals system, the organization of free bus service for secondary school students from remote areas, etc. The systematic measures implemented by the Government of Uzbekistan with the support of the international community, including UNESCO, have yielded significant positive results in a short period of time. In particular, access to preschool institutions increased from 27% to 70%, to higher education from 8% to 38%, and the number of schools and universities increased to 10,000 and 186, respectively [8].

In order to support comprehensive reforms in education, science, culture, information and communications in Uzbekistan, UNESCO regularly implements grants and technical assistance projects. Activities in this area have intensified in recent years, bringing the total cost of projects for 2020-2024 to \$ 13 million. In particular, in cooperation with UNESCO, such projects as "Skills Development for Employability in Rural Areas of Uzbekistan" "Pretashkent aquifers: Uzbekistan, Kazakhstan", "Creation of an inclusive system for the development of science, technology and innovation in Uzbekistan" [9] and others have been implemented.

In her speech at the opening of the exhibition, UNESCO Assistant Director-General for the Social and Human Sciences, Gabriela Ramos expressed sincere gratitude to the Government of Uzbekistan for its assistance in organizing the exhibition and noted that this event embodies the rich culture and historic heritage of Central Asia, which has been formed and developed over the centuries, thanks to dialogue and exchange on the Silk Road, as well as It indicates that the region has long played a key role in cultural, scientific and commercial exchange between East and West [10].

The exhibition featured 26 images by different authors, mainly devoted to the daily life of ordinary

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people, culture and traditions of peoples, the great ancestors of the Uzbek people [11, p.8].

It should be noted that in 2022, Uzbekistan was first elected a member of the Intergovernmental Committee for the Protection of Intangible Cultural Heritage for 2022-2026, whose main tasks are development of recommendations on measures for the protection of intangible cultural heritage, assistance and promotion of international cooperation in the protection of cultural elements in need of protection.

### CONCLUSION

Thus, the interaction of the Republic of Uzbekistan with the United Nations and its specialized agencies, in particular with UNESCO, is important for

the sustainable development of the Central Asian region. Uzbekistan and UNESCO cooperate in the field of intercultural dialogue, education and science, study and preservation of the historical and cultural heritage of humanity. On the territory of Uzbekistan, a number of historical cultural centers, monuments, intangible values and traditions have been included in the World Heritage Register and the UNESCO list of the Intangible Cultural Heritage of Humanity.

Under the influence of globalization processes, international cultural and humanitarian cooperation within the framework of participation in UNESCO's program activities is one of the important factors of stability and sustainable development of the Central Asian region.

### References:

1. Rakhimov, S.A. (2021). *Interaction of cultures as a factor in the development of multilateral relations in the cis space*. International Scientific Conference: Culture and interaction of peoples in museum, scientific and educational processes are the most important factors for the stable development of the Eurasian countries. Collection of scientific papers: in 2 hours. (pp. 79-85). Omsk.
2. (2022). Retrieved 16.07.2022 from [www.unesco.org/en/list](http://www.unesco.org/en/list)
3. Rakhimov, M. (2016). *The modern history of relations between Uzbekistan and the countries of Central Asia with the leading countries of the world*. (p.142). Tashkent.
4. (2023). Retrieved 12.07.2023 from <https://www.unesco-icas.org/ru/book/22>
5. (2023). Retrieved 19.08.2023 from <https://unesco-icas.org/ru/page/about-IICAS>
6. Abdimuminov, O. (2023). Uzbekistan and unesco: education, peace and culture developed on the border. *Socio-political newspaper "New Uzbekistan"*. № 223 (1012), October 26, 2023.
7. (2022). Retrieved from <https://www.gazeta.uz/ru/2022/11/16/declaratiya/>
8. (n.d.). Retrieved from <https://www.unesco.org/ru/node/87901>
9. (2023). Retrieved 06.09.2023 from [https://dunyo.info/ru/site/inner/uzbekistan\\_i\\_yunesko\\_prilagayut\\_aktivnie\\_usiliya\\_dlya\\_razvitiya\\_i\\_sohraneniya\\_obaektov\\_kulturnogo\\_naslediya-1x5](https://dunyo.info/ru/site/inner/uzbekistan_i_yunesko_prilagayut_aktivnie_usiliya_dlya_razvitiya_i_sohraneniya_obaektov_kulturnogo_naslediya-1x5)
10. (2023). Retrieved 06.09.2023 from [https://dunyo.info/ru/site/inner/v\\_yunesko\\_otkrylasya\\_vistavka\\_kopiy\\_kolleksii\\_muzeya\\_savitskogo-KN7](https://dunyo.info/ru/site/inner/v_yunesko_otkrylasya_vistavka_kopiy_kolleksii_muzeya_savitskogo-KN7)
11. Rakhimov, S. (2023). Uzbekistan and UNESCO: the formation of an intercultural dialogue. *Eastern european scientific journal*. Vol. 1 № 93 (2023), pp. 6-9.



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## CHANGE IN THE FLUID FRICTION VELOCITY ON THE SURFACES OF THE IMPELLER BLADES OF A CENTRIFUGAL PUMP

**Abstract:** The results of computer calculation of the fluid friction velocity on the surfaces of the impeller blades of a centrifugal pump under conditions of a rotor shaft rotation speed of 2000 rpm were presented in the article. The change in the fluid friction velocity on the blade surfaces along the entire length of the chord was graphically demonstrated. The values of the friction velocity on the suction and back faces are compared with different orientations of the impeller blades.

**Key words:** blade, friction velocity, suction face, back face, centrifugal pump.

**Language:** English

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### Introduction

The impeller blades of the centrifugal pump are subjected to the greatest load of all the elements of the device, since they drive the fluid from the inlet to the outlet. The geometry of the impeller blades of the centrifugal pump must comply with official documents [1-2]. The general characteristics of centrifugal pumps, depending on the type, blade configuration and other parameters, are presented in [3-4].

The main area of research related to the operation of centrifugal pumps is to increase productivity without reducing the service life. To achieve this optimization, the authors performed theoretical, practical and computer experiments [5-7].

In the article, the authors, using a computer program for engineering analysis, calculated the friction velocity of the fluid on the suction and back faces of the blades in one revolution of the impeller around its axis. These results will allow us to describe the friction velocity in the fluid flow and the velocity profile near the flow boundary [8-9]. Also, according to the results of the study, it will be possible to assess the loading of the impeller blades.

### Materials and methods

The object of the study were the suction and back faces of the impeller blades of a two-dimensional model of the centrifugal pump. One impeller rotation cycle was simulated with a rotor shaft rotation speed of 2000 rpm. The geometric parameters of the centrifugal pump parts and the modeling conditions are presented in the work [10]. As in [10], the suction and back faces of the three impeller blades were used to compare the fluid friction velocity.

### Results and discussion

The simulation results are presented in the Table 1. On the three blades of the impeller, located in

different positions, the suction and back faces were highlighted, according to which the values of the fluid friction velocity were read.

It is noted that the friction velocity on the suction faces of the impeller blade varies in the range of 0.125...0.725 m/s, and the friction velocity on the back faces of the impeller blade varies in the range of 0.12...0.85 m/s. The friction velocity varies over a wide range over the entire length of the blade chord. Areas with increasing and decreasing friction velocity are observed. At the same time, changes in the friction velocity on the back face, the impeller blades in question, have almost the same nature: a gradual increase in the parameter to the maximum value, followed by a decrease in the parameter value in the direction of the inlet of the centrifugal pump. The maximum value of the friction velocity is marked on the back face of the blade, indicated in the last row of the Table 1. On the back face of the impeller blades, the maximum friction velocity can be reached both in the direction of the diffuser cavity and in the direction of the inlet.

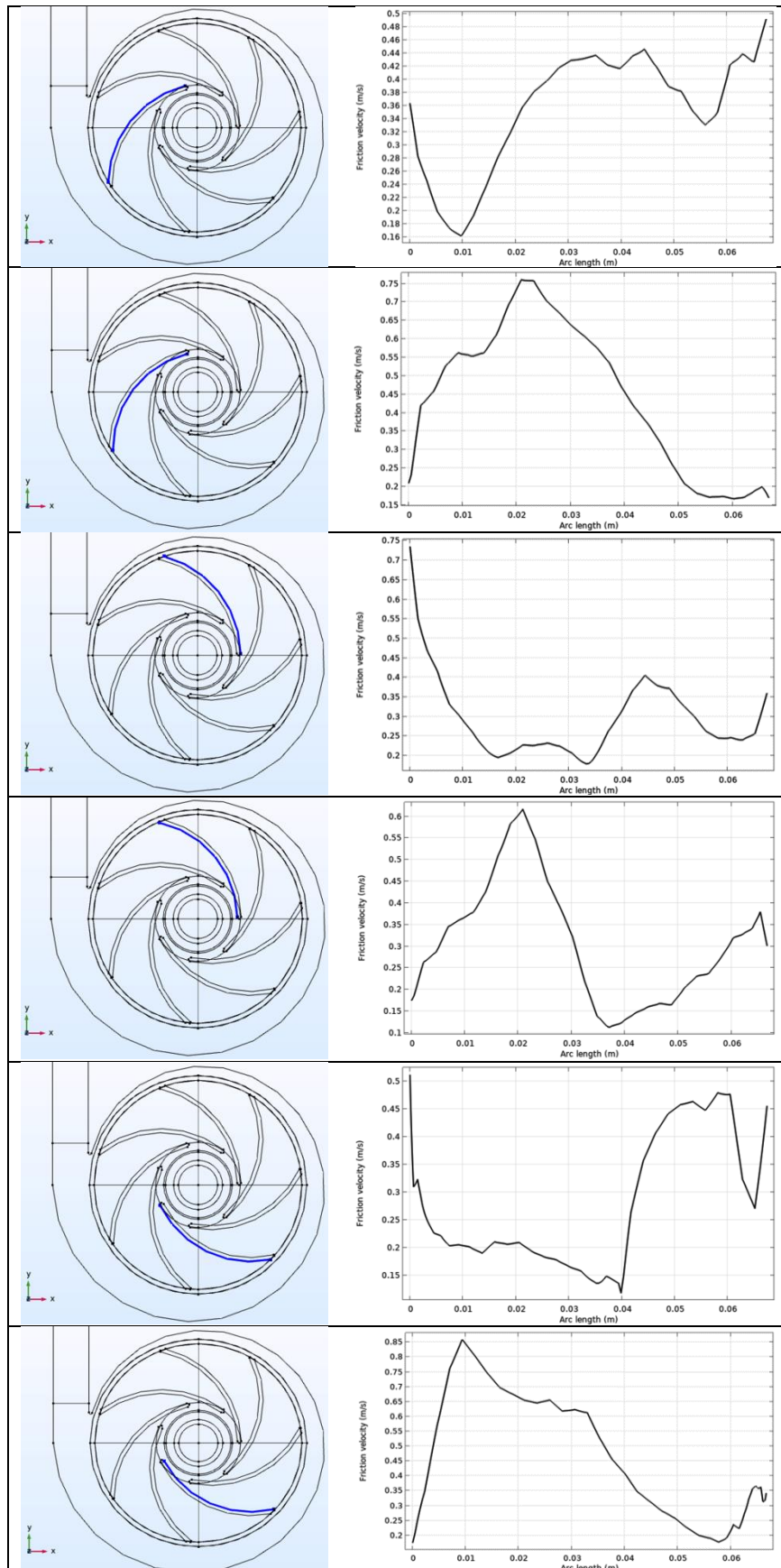
### Conclusion

Thus, based on the constructed dependencies, an analysis was carried out of the change in the fluid friction velocity from the chord length of the impeller blades of the centrifugal pump. The calculated values of the friction velocity varied in the range of 0.12...0.85 m/s at a rotational speed of the rotor shaft of 2000 rpm. The blade with a sharp increase in the friction velocity over a short chord length is the most loaded. Thus, it can be concluded that, depending on the position of the blade, the suction and back faces are subjected to variable loads, which affects the service life of the impeller elements.

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**Table 1. The studied faces and the dependence of the fluid friction velocity on the length of the chord of the impeller blades of the centrifugal pump.**



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## References:

- (2002). *ISO 5199:2002. Technical specifications for centrifugal pumps - Class II.*
- (1993). *ISO 9908:1993. Technical specifications for centrifugal pumps - Class III.*
- Gülich, J. F. (2010). *Centrifugal Pumps.* Springer Publications, Berlin, Germany, 2<sup>nd</sup> edition.
- Liu, C. H., Vafidis, C., & Whitelaw, J. H. (2014). Flow characteristics of a centrifugal pump. *Journal of Fluids Engineering*, vol. 116, no. 2, 303-309.
- Kelder, J. D. H., Dijkers, R. J. H., Van Esch, B. P. M., & Kruyt, N. P. (2001). Experimental and theoretical study of the flow in the volute of a low specific-speed pump. *Fluid Dynamics Research*, vol. 28, no. 4, 267-280.
- Siddique, M. H., Mrinal, K. R., & Samad, A. (2016). *Optimization of a centrifugal pump impeller by controlling blade profile parameters.* In Proceedings of the ASME Turbo Expo 2016: Turbomachinery Technical Conference and Exposition, vol. 2C, Seoul, South Korea, 1-8.
- Xie, S. F., Wang, Y., Liu, Z. C., Zhu, Z. T., Ning, C., & Zhao, L. F. (2015). *Optimization of centrifugal pump cavitation performance based on CFD.* IOP Conference Series: Materials Science and Engineering, vol. 72, no. 3, 032023.
- Ram Balachandar, Blakely, D., & Bugg, J. (2002). Friction velocity and power law velocity profile in smooth and rough shallow open channel flows. *Canadian Journal of Civil Engineering*, 29(2), 256-266.
- Weber, R. O. (1999). Remarks on the Definition and Estimation of Friction Velocity. *Boundary-Layer Meteorology* 93, 197-209.
- Chemezov, D., et al. (2024). Pressure distribution curves on the surfaces of the impeller blades and the performance of the centrifugal pump. *ISJ Theoretical & Applied Science*, 02 (130), 236-242.

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## THE EFFECT OF EXTERNAL LOAD ON THE VALUES OF CONTACT AND FRICTION FORCES IN A CYLINDRICAL ROLLER BEARING

**Abstract:** The results of computer calculation of the operation of a cylindrical roller bearing were presented in the article. The changes in the contact and friction forces of roller elements on the surface of the inner and outer rings in the cylindrical roller bearing under the influence of various external loads were analyzed.

**Key words:** cylindrical roller bearing, load, contact force, friction force.

**Language:** English

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### Introduction

Currently, the industry represents a large range of bearings. A bearing is an assembly that is part of a support or abutment and supports a shaft, axle, or other movable construction with a given stiffness.

The cylindrical roller bearing is manufactured with high precision from special heat-treated steels, in accordance with ISO 12297-1:2021 [1]. A feature of the cylindrical roller bearing is the installation of roller elements in the separator between the inner and outer rings to ensure rotation with the least resistance [2]. Thus, the bearing elements perceive dynamic and static loads from the moving assembly, which can lead to vibration of the bearing and increased wear of the roller elements. The analysis of these effects has been performed in a number of scientific papers [3-10].

In this work, by simulating the dynamics of the cylindrical roller bearing system, the dependences of changes in the contact and friction forces of roller elements on the value of the external load action were determined. The calculation results will allow us to estimate the changes in the bearing parameters under different loading conditions.

### Materials and methods

The dynamics of operation of the cylindrical roller bearing with an outside diameter of 100 mm and a bore diameter of 56 mm were simulated. Cylindrical roller elements with a diameter of 12 mm were installed between the inner and outer rings having outside and inside diameters of 32.875 mm and 45.125 mm, respectively. The bearing clearance was assumed to be 0.125 mm. The inner ring of the bearing is connected to a shaft that rotates at a constant speed of 5000 rpm. The outer ring is connected to a fixed foundation. An external load of 100, 500, 1000 and 2000 N was applied to the inner ring of the bearing. The friction coefficient was assumed to be 0.1. The loading time of the cylindrical roller bearing was assumed to be 0.06 s.

### Results and discussion

The calculation results were processed and presented graphically in the Fig. 1. Changes in the

values of the contact and friction forces of the roller elements on the surface of the inner and outer rings of the cylindrical roller bearing over time were subject to consideration.

It is noted that with an increase in the value of the applied external load, the value of the contact force of the roller elements on the surface of the inner and outer rings of the cylindrical roller bearing decreases. For example, when an external load of 100 N is applied, the peak value of the contact force can reach 115 N. And when an external load of 2000 N is applied, the peak value of the contact force is about half the value of the applied external load. The friction force that occurs during contact is approximately 5-10% of the value of the contact force.

With an increase in the external load, the cyclic action of contact and friction forces in the cylindrical roller bearing is observed. If, when exposed to an external load of 100 N, there is only one cycle of contact and friction forces and it is longer in time, then when exposed to external loads of 500 and 1000 N, there are two cycles of contact and friction forces, and when exposed to an external load of 2000 N, three cycles occur. At the same time, the cycle duration decreases with increasing load. The contact and friction forces are zero between cycles. The nature of the change in contact and friction forces is the same under the action of external loads of 1000 and 2000 N.

### Conclusion

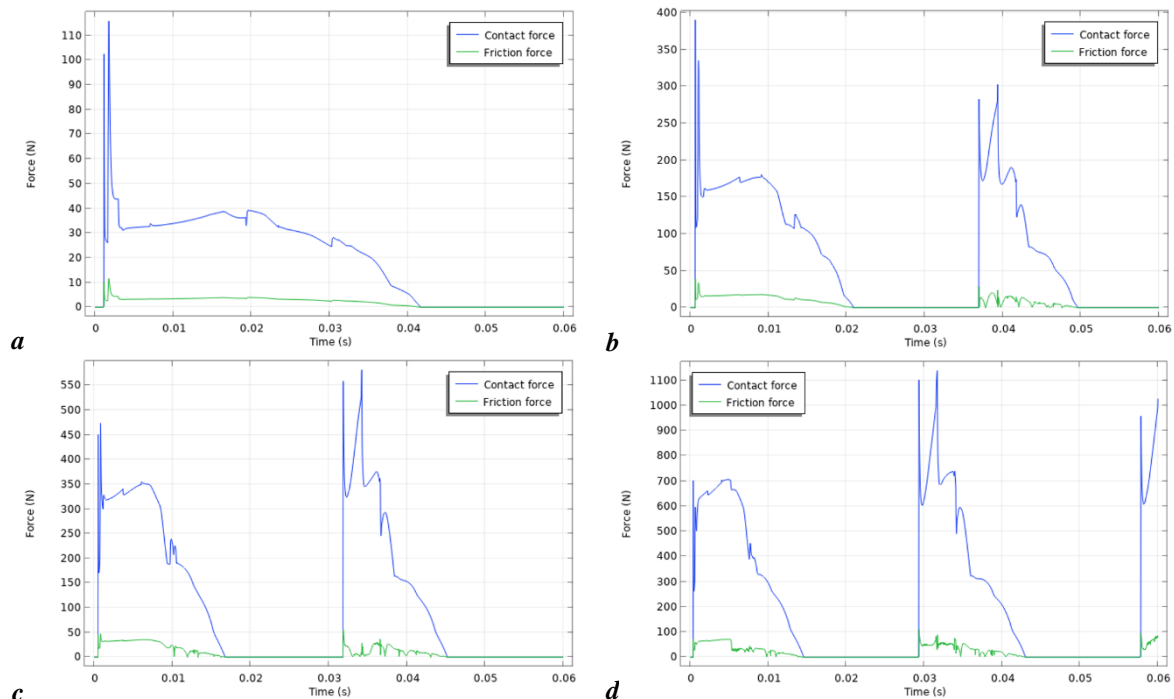
Thus, it is safe to say that the maximum value of the contact force of the roller elements on the surface of the inner and outer rings of the bearing occurs at the beginning of the cycle. The values of the contact force at low values of the external load is greater than at significant external loads. At the same time, the more external load is applied, the more cycles of action of the contact and friction forces occur in the bearing. The friction force varies in a small range simultaneously with the contact force.

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**Figure 1.** Changes in the contact and friction forces of roller elements on the surface of the inner and outer rings in the cylindrical roller bearing when exposed to an external load of 100 N (a), 500 N (b), 1000 N (c) and 2000 N (d).

## References:

- (2021). *ISO 12297-1:2021. Rolling bearings. Cylindrical rollers. Part 1: Boundary dimensions, geometrical product specifications (GPS) and tolerance values for steel rollers.*
- Ijuin, S., Yamamoto, & Takashi. (2003). *Cylindrical Roller Bearing*, NSK LTD, Tokyo, Japan.
- Harris, T. A., & Kotzalas, M. N. (2010). *Rolling Bearing Analysis. Essential Concepts of Bearing Technology*, Machinery Industry Press, Beijing, China, 144-148.
- Li, L., Xue, Y., Li, J., & Wang, W. (2022). Control Method of the Kinematic Accuracy of Cylindrical Roller Bearing. *J. Robot. Auto. Res.*, 3(3), 258-269.
- Hong, S. W., & Tong, V. C. (2016). Rolling-element bearing modeling: a review. *International Journal of Precision Engineering and Manufacturing*, 17 (12), 1729-1749.
- Prisacaru, G., Bercea, I., Mitu, N., & Cretu, S. (1995). Load distribution in a cylindrical roller bearing in high speed and combined load conditions. *European Journal of Mechanical and Environmental Engineering*, vol. 40, 19-25.
- Qu, T., et al. (2022). Study on Contact Force and Vibration Characteristics of Composite Cylindrical Roller Bearing. *International Journal of Rotating Machinery*, vol. 2022, 1-10.
- Ramu, B., & Murthy, V. V. R. (2013). Contact Analysis of Cylindrical Roller Bearing Using Different Roller Profiles. *IJRMET*, Vol. 3, Issue 1, 29-33.
- Chen, G., Mao, F., & Wang, B. (2012). Effects of of-sized cylindrical rollers on the static load distribution in a cylinder roller bearing. *Proceedings of the Institution of Mechanical Engineers - Part J: Journal of Engineering Tribology*, vol. 226, no. 8, 687-696.
- Tong, V. C., & Hong, S. W. (2017). Modeling and analysis of double-row cylindrical roller bearings. *J. Mech. Sci. Technol.*, 31, 3379-3388.

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## ALGORITHMIC SOFTWARE OF VEHICLE ROUTING WITH REDUCTION NEGATIVE IMPACT ON THE ENVIRONMENT

**Abstract:** The paper is devoted to the problem of transportation planning in conditions of reducing the impact of carbon dioxide emissions from vehicles. A brief overview of existing routing systems is given and a process for creating routes based on solving the Dynamic Vehicle Routing Problem and emissions model is proposed.

**Key words:** vehicle routing, transportation planning, optimization, logistics, ecology.

**Language:** Russian

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### АЛГОРИТМИЧЕСКОЕ ОБЕСПЕЧЕНИЕ МАРШРУТИЗАЦИИ ТРАНСПОРТНЫХ СРЕДСТВ С ПОНИЖЕНИЕМ НЕГАТИВНОГО ВОЗДЕЙСТВИЯ НА ОКРУЖАЮЩУЮ СРЕДУ

**Аннотация:** Статья посвящена проблеме планирования перевозок в условиях учета влияния выбросов углекислого газа транспортными средствами. Приводится краткий обзор существующих систем маршрутизации и предлагается процесс составления маршрутов на основе решения задачи динамической маршрутизации транспорта и модели выбросов.

**Ключевые слова:** маршрутизация транспортных средств, планирование перевозок, оптимизация, логистика, экология.

#### Введение

В настоящее время крайне актуальна в различных сферах деятельности транспортная логистика. Например, за последние десять лет наблюдается тенденция роста в онлайн-торговле (e-commerce), и в ближайшие годы рост будет продолжаться [1]; широко распространяется доставка продуктов питания из магазинов и ресторанов, посылок в пункты выдачи [2] и т.д. Планирование перевозок играет важную роль для бизнеса, поскольку влияет как на операционную эффективность, так и на финансовые результаты и качество обслуживания клиентов. При этом отмечается, что неоптимальное транспортное планирование приводит к проблемам с экологией

и здоровьем населения. Например, в Барселоне ежегодно пятую часть от общего числа смертей составляют преждевременные смерти из-за плохого городского и транспортного планирования [3]. Также примерно 4-9 млн человек ежегодно умирают из-за загрязнения воздуха [3]. В некоторых странах уже принимаются меры по снижению выбросов углекислого газа и для достижения этой цели обновляются стандарты для различных видов транспорта [4]. Каким образом можно при планировании перевозок внести вклад в минимизацию выбросов уже сейчас?

Целью данной работы является разработка алгоритмического обеспечения маршрутизации



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транспортных средств для снижения негативного воздействия на окружающую среду. В соответствии с целью определены следующие задачи работы:

- A. Выполнить обзор систем маршрутизации.
- B. Определить алгоритмы для обеспечения планирования перевозок, инструменты для хранения данных и визуализации маршрутов.

### 1. Обзор существующих решений

Известно множество систем, которые решают задачу планирования маршрутов с учетом оптимизации движения по пройденному расстоянию, стоимости и др. Среди них такие системы, как Яндекс Маршрутизация, Amazon Supply Chain and Logistics и SAP Travel Management. Ниже описан функционал, который они предоставляют.

#### 1) Яндекс Маршрутизация

Данная система от компании Яндекс предназначена для автоматического распределения заказов по курьерам (транспортное средство или пеший сотрудник) и построения маршрутов их движения с учетом минимизации по времени, расстоянию или стоимости маршрутов. Среди более 50 учитываемых факторов выделяют виды транспорта, габаритные характеристики грузов, учет пробок и опозданий, временные окна выполнения заказов, совместимость заказов между собой и многие другие. Позволяет построить маршруты для 1000 точек за 15 минут. Так, сервис подходит как для разных отраслей бизнеса: как для курьерских служб и торговых компаний (например, интернет-магазины, дистрибьюторские и транспортные компании), так и для производств и банков. [5; 6]

#### 2) Amazon Supply Chain and Logistics

Это облачная система сервисов от компании Amazon, которая позволяет использовать ее собственные ресурсы для вычисления маршрутов с предоставлением по умолчанию кода алгоритма для решения задачи коммивояжера, минимизирующего расстояния маршрутов. Также у пользователей есть возможность дорабатывать и разрабатывать код под собственные нужды. Можно оценить время и расстояние в пути, проложить маршруты на карте на основе времени отправления, различных видов транспорта (автомобиль, грузовик, пешком), а также данных о дорожном движении и дорожной сети. Максимальное число пунктов отправления и назначения – по 350 шт. [7]

#### 3) SAP Travel Management

Компания SAP предоставляет программное обеспечение *Travel Management* для планирования деловых поездок [8], где одной из предоставляемых функций является планирование маршрутов Route Planning [9] в

рамках компонента Travel Expenses для расчета командировочных расходов. С помощью Route Planning можно вычислить маршрут, предварительно выбрав адреса, и посчитать расстояние, а затем отобразить на масштабируемой карте. При изменении данных рассчитанное расстояние и карта обновятся. [9]

Таким образом, среди рассмотренных систем планирования маршрутов оптимизация производится по стоимости, времени, расстоянию и др. Однако ни в одной из них не рассматривается проблема загрязнения окружающей среды.

### 2. Обзор алгоритмов

#### 1) Задача маршрутизации транспорта

Среди решений проблемы построения маршрутов одним из наиболее известных является решение задачи коммивояжера (Travelling Salesman Problem, или TSP). Это задача комбинаторной оптимизации по поиску выгодного маршрута по различным критериям (минимизация по пройденному расстоянию, стоимости и т.п.), который проходит через указанные города хотя бы раз с последующим возвратом в исходный город [10].

Задача маршрутизации транспорта (Vehicle Routing Problem, или VRP) обобщает задачу коммивояжера [11] и относится к классу NP-трудных задач, то есть вычислительная сложность задачи зависит от размера входных данных экспоненциально [12].

В задаче VRP определяется набор маршрутов до нескольких клиентов для парка транспортных средств, расположенных в одном или нескольких депо [12]. Другими словами, целью решения задачи VRP является поиск наиболее эффективных маршрутов по доставке товаров и грузов для парка транспортных средств. При этом подобранный маршрут должен быть оптимальным по числу задействованных транспортных средств, пройденному расстоянию, времени, затрачиваемому на доставку, и другим факторам [13].

Существует более 20 типов задачи VRP, которые сосредоточены на решении таких проблем, как [13]:

- обслуживание клиентов в определенный временной интервал;
- максимизация общей прибыли при посещении всех клиентов;
- учет ограничений вместительности транспортного средства и времени, а также управления несколькими поездками;
- и др.

#### 2) Задача маршрутизации зеленого транспорта

Но среди них есть один тип, который пытается решить проблему учета влияния выбросов на окружающую среду, а именно задача

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маршрутизации зеленого транспортного средства (Green Vehicle Routing Problem, или GVRP).

Задача GVRP сводится к оптимизации маршрутов таким образом, чтобы одновременно маршруты были эффективными и влияние на окружающую среду было минимальным [14].

К факторам, которые может учитывать GVRP, относят [14]:

- место вывоза товара;
- место доставки товара;
- тип транспортного средства;
- технические характеристики транспортного средства;
- улично-дорожная сеть;
- условия дорожного движения.

Среди основных подходов к решению задачи GVRP выделяют [14] эвристики и метаэвристики, например, генетический алгоритм и алгоритм имитации отжига соответственно.

Количество выбросов углекислого газа пропорционально расходу топлива транспортного средства. На расход топлива, который можно оценить в режиме реального времени, могут влиять пройденное расстояние, средняя скорость движения и ускорение, нагрузка, тип и размер двигателя, уклон дороги и погодные условия. [11]

Чем больше груза будет везти машина, тем больше выбросов будет производиться, значит, его необходимо скорее доставить. При этом большие скорости производят больше выбросов, чем поездки на средних скоростях. Таким образом, при наличии временного ограничения на доставку (например, привезти клиенту посылку в течение 1 ч) необходимо построить оптимальный по времени маршрут с меньшими выбросами. Выбран критерий оптимальности по времени, поскольку по пути могут появиться пробки, которые могут повлиять как на общее время доставки, так и на выбросы (т.к. низкие скорости передвижения тоже дают больше выбросов, чем средняя скорость).

Чтобы учесть выбросы при построении маршрутов, необходимо использовать

аналитическую модель выбросов (МВ). В статье [11] рассматриваются три класса МВ для малотоннажных дизельных автомобилей в зависимости от расстояния. Формулы расчета выбросов  $Emissions$  (1)-(3) определяют класс 1-3 соответственно. [14]

Первый класс МВ описывают формулы (1.1) и (1.2) ниже [11]:

$$Emissions = EF \cdot d, \quad (1.1)$$

$$EF = 147 \frac{r}{км}, \quad (1.2)$$

где  $EF$  (*Emission Factor*) – коэффициент выбросов, определяемый нормами выбросов углекислого газа EU 2020 для легкого коммерческого транспорта [11; 15],  $d$  – расстояние между местом отправки и доставки.

Если учесть нелинейную взаимосвязь между выбросами и скоростью, то формулу (1) можно улучшить:

$$Emissions = EF' \cdot d, \quad (2.1)$$

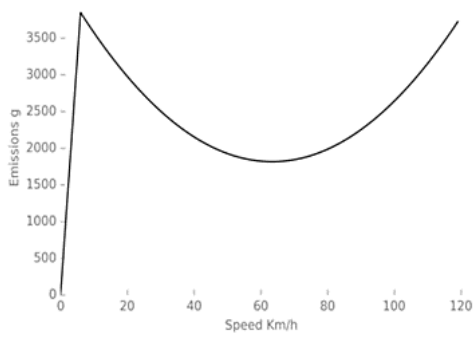
$$EF' = 0,0617 \cdot v^2 - 7,8227 \cdot v + 429,51, \quad (2.2)$$

где  $v$  – средняя скорость транспортного средства в км/ч. Формула для коэффициента выбросов (2.2) определена для дизельного транспорта малой грузоподъемности в отчете «Методологии расчета транспортных выбросов и энергопотребления» в рамках проекта МЕЕТ [16].

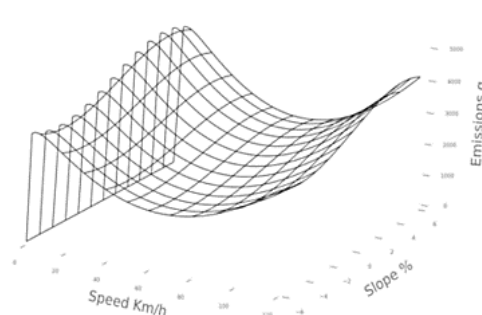
Поскольку уклон дороги и нагрузка на транспортное средство также могут влиять на выбросы, то МВ можно еще усложнить, тогда формула (3) – это модель градиентного веса, которая включает корректировку, основанную на эмпирическом анализе образцов дизельных транспортных средств, где  $g$  – уклон дороги,  $k = 1,27$  – константа, учитывающая вес груза;  $l = 0,0614$ ;  $q = -0,0011$ ;  $r = -0,00235$ ;  $u = -1,33$  – коэффициенты [11; 16]:

$$Emissions = \left( k + l \cdot g + q \cdot g^2 + r \cdot v + \frac{u}{v} \right) \cdot EF' \cdot d. \quad (3)$$

Рис.1 позволяет сравнить модели скорости, определяемых формулами (2) и (3), где выбросы рассчитаны для скорости от 0 до 120 км/ч на расстояние 10 км.



a)



b)

Рисунок 1. Сравнение моделей выбросов, включая: а) модель скорости; б) градиентную модель [11].

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Для анализа маршрутов в режиме онлайн (приближенного к режиму реального времени) воспользуемся решением задачи не на основе генетического алгоритма, предлагаемым в статье [11], а решением задачи динамической маршрутизации транспорта (Dynamic Vehicle Routing Problem, или DVRP). Алгоритм DVRP адаптирован под изменяющиеся условия окружающей среды и спрос клиентов, когда потребительский спрос и время в пути являются неизвестными величинами и меняются с течением времени [13].

Согласно алгоритму, рассмотренному в источнике [17], необходимо определить следующие параметры:

- *capacity* – максимальная вместимость транспортного средства;
- *vehicles* – список транспортных средств в парке (депо);
- *fleet\_size* – количество транспортных средств в парке;
- *total\_waiting\_time* – общее время ожидания;
- *speed* – средняя скорость транспортного средства;
- *t*, *t\_max*, *dt* – время появления заказа, максимальное время моделирования, шаг времени соответственно;

— *origin*, *destination* – пары из места отправления и места назначения;

— *demands* – начальные заказы (спрос).

Алгоритм [17] основан на жадной эвристике. Жадный алгоритм – это однопроходный итерационный алгоритм, с помощью которого итоговое решение получается путем пошагового добавления к текущему решению (пути) нового элемента, выбираемого на основе локального оптимума («наилучший на текущем шаге») [18]. А именно в решении [17] применяются жадные вставки, когда новые вершины вставляются последовательно в частичное решение (путь) [18].

Рассмотрим этапы жадных вставок [18]:

1. Построить начальный путь минимальной стоимости.
  2. Пока в решение входят не все вершины:
    - 2.1. Выбрать новую вершину: ближайшую к какой-либо вершине пути.
    - 2.2. Выбрать пару смежных в пути вершин, между которыми лучше всего вставить новую вершину.
    - 2.3. Произвести вставку новой вершины.
- Временная сложность жадных вставок составляет  $O(n^2)$ .
- На рис.2 представлена блок-схема алгоритма DVRP.

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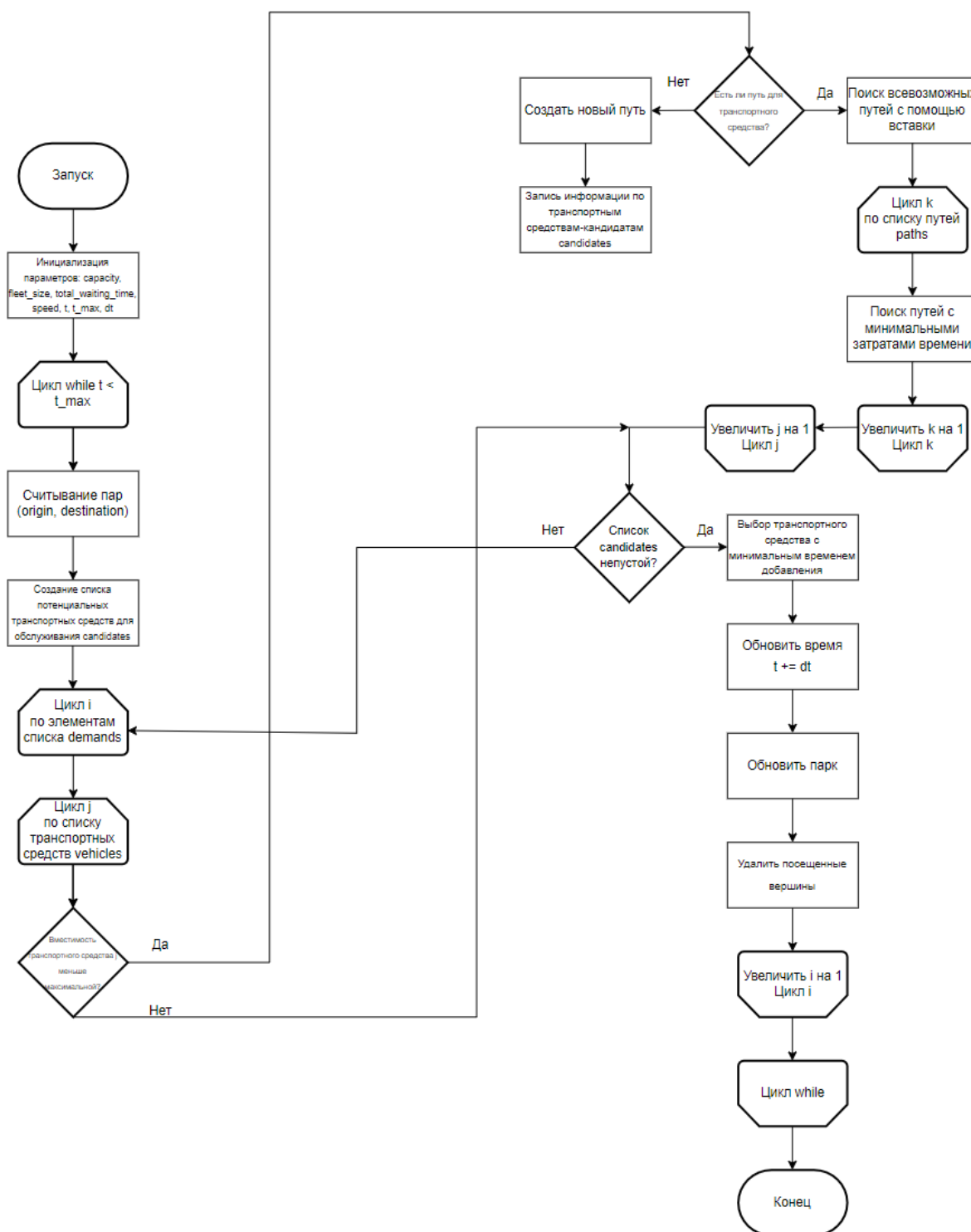


Рисунок 2. Блок-схема алгоритма DVRP.

Чтобы учесть изменения в дорожных условиях, а именно пробки, о которых становится известно заранее, предлагается добавить соответствующий параметр и пересчитывать время ожидания при их возникновении.

### 3. Процесс составления маршрута

Последовательность действий при составлении маршрутов представлена на рис.3. Предлагается входные данные такие, как координаты и другие необходимые параметры, записывать в базу данных PostGIS. PostGIS расширяет возможности реляционной базы данных с открытым исходным кодом PostgreSQL

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и позволяет хранить географические данные, индексировать их и составлять к ним запросы [19].

Затем эти данные поступают на обработку алгоритму на основе DVRP и модели выбросов. Он найдет оптимальные маршруты, однако они будут представлены в виде линейного расстояния между двумя точками. Соответственно, чтобы проложить более детальный маршрут, предлагается использовать алгоритм A\* по данным, полученным по API из открытой карты мира OpenStreetMap (OSM) [20], которая

поддерживается сообществом картографов и содержит данные о дорогах, тропах, кафе, железнодорожных станциях и многом другом по всему миру. Для поддержания карты в актуальном состоянии используются такие источники, как, к примеру, аэрофотоснимки и устройства GPS [20]. Алгоритм A\* [21] в свою очередь представляет собой модификацию алгоритма Дейкстры, которая находит путь к единственной точке и отдает приоритет путям, которые ведут ближе к цели.

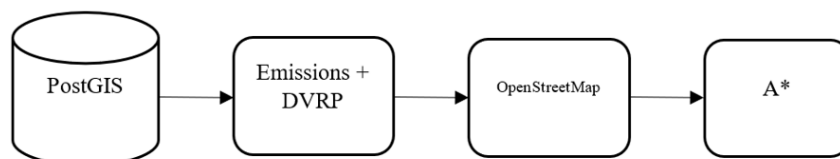


Рисунок 3. Процесс составления маршрута.

Соответственно для решения задачи снижения выбросов при планировании перевозок можно как самостоятельно использовать предлагаемый процесс составления маршрутов, так и встроить при необходимости полностью или отдельные компоненты в существующие системы.

### Заключение

В данной работе рассмотрены системы маршрутизации (Яндекс Маршрутизация, Amazon Supply Chain and Logistics и SAP Travel

Management), а также выявлены их особенности. Для учета характеристики по снижению выбросов в окружающую среду предлагается процесс построения маршрутов на основе технологий PostGIS, GVRP, OpenStreetMap и A\*. Таким образом, достигнута поставленная цель по разработке обеспечения маршрутизации транспорта для снижения негативного воздействия на окружающую среду.

### References:

1. Chevalier, S. (2024). *Retail e-commerce sales worldwide from 2014 to 2027 / Statista*. — 2024. Retrieved 09.02.2024 from <https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>
2. Kuo, M. (2024). *Solving the Vehicle Routing Problem / Routific Solutions Inc*. — 2024. Retrieved 09.02.2024 from <https://www.routific.com/blog/what-is-the-vehicle-routing-problem>
3. Nieuwenhuijsen, M. J. (2020). *Urban and transport planning pathways to carbon neutral, liveable and healthy cities; A review of the current evidence. Environment International*. T. 140. — C. 105661. — DOI <https://doi.org/10.1016/j.envint.2020.105661>
4. (2023). *Fit for 55 / European Council Council of the European Union*. — 2023. Retrieved 11.02.2024 from <https://www.consilium.europa.eu/en/policies/gr>
5. (n.d.). *Sravneniye sistem marshrutizatsii dostavki*. Retrieved 10.02.2024 from <https://efsol.ru/articles/sravnienie-sistem-marshrutizaczii-dostavki.html>
6. (n.d.). *Yandeks Marshrutizatsiya / Ofitsial'nyy sayt*. Retrieved 18.02.2024 from <https://yandex.ru/routing/>
7. Nightingale, M., & Subramanian, S. (2023). *Deploy a serverless application to optimize vehicle routing with Amazon Location Service*. Retrieved 10.02.2024 from <https://aws.amazon.com/blogs/supply-chain/deploy-a-serverless-application-to-optimize-vehicle-routing-with-amazon-location-service/>
8. (n.d.). *Travel Management (FI-TV) / Documentation*. Retrieved 18.02.2024 from [https://help.sap.com/docs/SAP\\_S4HANA\\_ON-](https://help.sap.com/docs/SAP_S4HANA_ON-)

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9. (n.d.). *Business Packages in HCM: Route Planning / Documentation*. Retrieved 14.03.2024 from [https://help.sap.com/docs/HR\\_RENEWAL/f8850892e7134ecb9e99a4bf02971ae4/a6dde353a53d424de1000000a174cb4.html](https://help.sap.com/docs/HR_RENEWAL/f8850892e7134ecb9e99a4bf02971ae4/a6dde353a53d424de1000000a174cb4.html).
  10. B'erczi, K., Mnich, M., & Vincze, R. (2022). Efficient Approximations for Many-Visits Multiple Traveling Salesman Problems / *ArXiv*. — 2022. — Vol. abs/2201.02054. Retrieved 02.03.2024 from <https://api.semanticscholar.org/CorpusID:245769596>
  11. P.R. de Oliveira da Costa P.R., et al. (2018). A Genetic Algorithm for a Green Vehicle Routing Problem / *Electronic Notes in Discrete Mathematics*. Volume 64. — 2018. — Pages 65-74, ISSN 1571-0653. — URL: <https://doi.org/10.1016/j.endm.2018.01.008>
  12. (n.d.). *Zadacha marshrutizatsii transporta. Diskretnaya matematika: algoritmy*. Retrieved 02.03.2024 from [https://www.lobanov-logist.ru/library/all\\_articles/55059/](https://www.lobanov-logist.ru/library/all_articles/55059/).
  13. Patel, R. (2023). *The Vehicle Routing Problem (VRP) Demystified: Solutions for Your Delivery Operations / Upper*. — 2023. Retrieved 28.12.2024 from <https://www.upperinc.com/blog/vehicle-routing-problem/>
  14. Patel, R. (2023). *What is Green Vehicle Routing Problem (GVRP)? [Working and Examples] / Upper*. — 2023. Retrieved 11.02.2024 from <https://www.upperinc.com/glossary/route-optimization/green-vehicle-routing-problem-gvrp/>
  15. (n.d.). *CO<sub>2</sub> emission performance standards for cars and vans*. Retrieved 02.03.2024 from [https://climate.ec.europa.eu/eu-action/transport/road-transport-reducing-co2-emissions-vehicles/co2-emission-performance-standards-cars-and-vans\\_en](https://climate.ec.europa.eu/eu-action/transport/road-transport-reducing-co2-emissions-vehicles/co2-emission-performance-standards-cars-and-vans_en)
  16. (n.d.). *Methodology for Calculating Transport Emissions and Energy Consumption. Project Report SE/491/98 / Transport Research Laboratory*. — ed. by Hickman A.J. — European Commission; Directorate-General for Energy and Transport — 1998. Retrieved from <https://trimis.ec.europa.eu/project/methodology-calculating-transport-emissions-and-energy-consumption>
  17. (n.d.). *Insertion heuristic for dynamic vehicle routing problem (DVRP)*. Retrieved 01.03.2024 from <https://github.com/zuzhaoye/insertion-heuristic-for-dynamic-vehicle-routing-problem-dvrp>.
  18. Adigeyev, M. G. (n.d.). *Algoritmy resheniya vychislitel'no slozhnykh zadach. Lektsiya 13 «Evrsticheskiye algoritmy»*. Retrieved 03.03.2024 <https://edu.mmcs.sfedu.ru/mod/resource/view.php?id=9918>.
  19. (n.d.). *About PostGIS*. Retrieved 01.03.2024 from <https://postgis.net/>.
  20. (n.d.). *OpenStreetMap*. Retrieved 18.02.2024 from <https://www.openstreetmap.org/#map=3/69.62/-74.90>.
  21. Rachmawati, D., & Gustin, L. (2020). Analysis of Dijkstra's Algorithm and A\* Algorithm in Shortest Path Problem / *Journal of Physics: Conference Series*. — Vol. 1566. — 2020. Retrieved 14.02.2024 from <https://dx.doi.org/10.1088/1742-6596/1566/1/012061>

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## THE UZBEK LANGUAGE CORPUS AND THE PRACTICAL SIGNIFICANCE OF FORMING THE BASE OF PHILOLOGICAL TERMS IN IT

**Abstract:** *this in the article uzbek of the language of the corps main features and in it philological terms base of formation importance shows. In the article, the corpus purpose, topics, methods and in it philological materials analysis is displayed. Philological terms base of formation of the corpus education, scientific research, translation and another fields for how useful to be as well philology in the field word and word units with work for how help to give is displayed. Article, Uzbek of the language of the corps philological studies and teaching according to importance showing philological terms base of formation vocabulary and of linguistics development take coming possible emphasizes.*

**Key words:** *Uzbek language corpus, philological terms base, national language corpus, term, linguistic annotation, lemma, token, homonym terms.*

**Language:** English

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### Introduction

Uzbek language corpus, one how much words, texts and articles collected their language their characteristics text types and modern writing to the forms according to classifier electron languages base is considered. This is the case philological studies for big important have lib, uzbek of the language grammar laws, lexicological features and his historical changes about information in getting help will give.

Of the corps main tasks - language interpretation, lexicon-network determination and sure to texts about samples collected to go. This in the corpus philological terms base formation while uzbek of the language scientific problems and new words study for very important. Philological terms the base of the word meanings according to useful information present is enough and this while researchers for necessary has been from tools is one.

Philological terms base in formation uzbek language of the corps importance very big. Because this at the base accumulated language materials philology in the field researchers and lexicographers rich profit for have will be. This materials based on uzbek language about scientific methodical to information have to be possible will be. Of this as a result uzbek of the language historical writing shape increase, new word-making process development and his grammar laws determination opportunity appear will be.

Philological terms base development through in the literature and scientific in articles many p of countries to their languages about of materials translations done increase and in them philological concepts deeper explanation possible will be. From this except this corpus students. It is also rich and effective to the result have will be because they are him explain and learning through uzbek of the language laws makes sense they know.

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Our society national-spiritual the width of the bag uzbek in storage language of the corps importance very big. This corpus through of our nation to the language about features and created to the news about information storage opportunity there is it is while of our society identification in the process important important have.

### Materials and methods

This research " Uzbek language of the corps main features and in it philological terms base in formation on the topic of "importance". Problems study, analysis to do and solutions offer to do with depend.

In research analytical, review, comparisons based on methods applied is uzbek of the language corpus analyze using more is formed and practical importance is determined. Philological terms base formation process comparative and description methods relied on without research reach efficient the result will give.

Subject within data poetic and prose works of scientists scientific research works, electronic resources sources based on studied. Learn statistics data is also evidence to prove source being service did.

Subject within the world and uzbek in linguistics one how much researchers research take that he went separately note reach need In particular, uzbek from scientists A. Abdullayev [1.24-30], S. Ismailov [2.45-53], M. Kadirov [3.112-120], N. Khasanov [4.78-85], D. Yuldashev [5.205-215]. Above note done of scientists scientific research sources, exactly, terminological base formation and change, innovation to enter based on is, gfan and of technology a person thinking product the fact that about the conclusion release possible will be.

These are literature to the topic about information take to go help will give and the subject deeper to your learning possibility will give.

### Results and discussions

Uzbek of the language corpus, language practice development, conversation methods learn the language structure and his society by used words collection as expressed. Philological terms base and your tongue specialty according to special words collection is considered.

National language of the corps its creation main duties and philological terms base formation important important have. Analysis to the results apparently, uzbek language corpus of the tongue structure, speech methods and phraseology according to wide information aggregated without save standing, scientific to research chance creates. This in the case philological terms base while specialty to the field about information integration did without storage opportunity will give and scientific studies more efficient does. As a result uzbek language of the corps main features and in it philological terms base in

formation importance deeper to be understood possible will be This is the topic with practitioners for this article useful data present reached because of, they this knowledge practical in life successful applications for necessary to information have to be can.

To the mouth related was important aspects as the following input can:

- uzbek language corpus, uzbek of the language texts collect, save the rest and them data to the base turned data is a set. This is the case basically linguistic studies for is used;

- philological terms base, uzbek in the language philological concepts expressive word and expressions is a set. These are the terms base linguistics in the field big important have;

- uzbek language of the corps main features, its texts extended in the form Summarize the data automatic way search opportunity will give. And this linguistic researchers for Uzbek of the language structure and development about more to information have to be possibility will give;

- philological terms base of formation importance, uzbek of the language dictionary or explanatory dictionary as working of philologists knowledge level to increase help will give. This terms base filing and in search if used, uzbek in the language philological materials determination and comparison opportunity have will be.

So uzbek language of the corps main features and in it philological terms base in formation importance topic uzbek of the language in studies useful information provide, its structure about concepts to give and philological materials in search of help to give opportunity have to be with depends.

### Conclusion

Uzbek language corpus, uzbek of the language meanings, explanatory dictionaries, creative texts and another important information unifying electron languages base is considered. This is the case acceptable one is a program because his using of the tongue the future for important was data collected, saved and studied.

Philological terms base and your tongue the word realities and their meanings explanation for important. In this base of the tongue grammar laws, lexicon types, phraseology and another philological materials will be located. Here cooperation doer the word or expressions lists are also available will be.

Therefore, Uzbek language of the corps creation and in it philological terms base formation very important is an issue. These are the planets creation through own our knowledge to develop possibility giving to materials have we will be Such corpus with philological terms base formation through own our language more deeper by learning to go and new to information have to be opportunity have will be.



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That's it because, uzbek language of the corps main features and in it philological terms base in formation importance very big. This project through of our language development for necessary was

important materials collect, save and learning opportunity have will be. Also this project through own we know more deeper also possible to develop will give.

## References:

1. Abdullayev, A. (n.d.). O'zbek tili korpusining yaratilishi va uning asosiy vazifalari. *O'zbek tilshunosligi muammolari*, 3(12), 24-30.
2. Ismoilov, S. (n.d.). Filologik terminlar bazasining rivojlanishi: O'zbek tilida xalqaro integratsiya. *Adabiyotshunoslik tadqiqotlari*, 5(2), 45-53.
3. Mahmudov, N. (2013). *O'zbek tilining imlo lug'ati*, Toshkent.
4. (2020). *O'zbek tilining izohli lug'ati*, Toshkent, I jildli.
5. (2000). *O'zbekiston Milliy ensiklopediyasi*. Birinchi jild, Toshkent.
6. Qodirov, M. (n.d.). O'zbek tili korpusi: yangiliklar va mustaqillik. *Tilshunoslik fanlari muammolari*, 7(4), 112-120.
7. Xasanov, N. (n.d.). Filologik terminlarni shakllantirishda kompyuterli texnologiyalardan foydalanish. *Informatika va tillar sohasidagi yangiliklar*, 14(3), 78-85.
8. Yuldashev, D. (n.d.). Korpusning metodologik o'rni: tafakkur usullaridan foydalanish. *Adabiyot fanlari bo'yicha ilmiy izohli lug'at*. 8(1), 205-215.

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