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上合组织国家的科学研究：协同和一体化

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这些会议文结合了会议的材料 – 研究论文和科学工作者的论文报告。它考察了职业化人格的技术和社会学问题。一些文章涉及人格职业化研究问题的理论和方法论方法和原则。

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农业用地租赁是该地区土地利用稳定的一个因素

**LEASE OF AGRICULTURAL LAND AS A FACTOR OF STABILITY
OF LAND USE IN THE REGION**

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摘要。本文讨论了农业租赁土地使用问题，这是哈萨克斯坦共和国土地周转的一个组成部分，确保在农民和农场以及从事农产品生产和开发的其他实体之间有效地重新分配土地。然而，正如哈萨克斯坦总统托卡耶娃在总统致辞中指出的那样，“建设性的公共对话是哈萨克斯坦稳定与繁荣的基础”，他重点关注社会关注的土地问题，“土地资源利用不力的问题越来越紧迫。”他强调，“一大批所谓的‘大庄园主’获得了免费租赁土地的权利，却没有使用土地，尽管与此同时存在‘农民种植饲料作物缺乏土地’的问题。”“现在是时候开始没收未使用的农业用地了，”总统说。“土地是我们的共同财富，应该属于那些在土地上耕种的人。”总统指示政府和议会制定并“提出适当的机制” [1]。

对租赁关系的理论基础进行分析,形成租赁关系的方法论和方法论发展,并改进其具体调节机制。研究的结果是与改进租赁农地合理利用机制有关的一系列问题。

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关键词: 土地周转、农用地、租赁、租赁土地使用、土地地块、租金支付、农民和农场。

Abstract. *The article deals with the issues of agricultural rental land use, which is an integral part of the land turnover of the Republic of Kazakhstan, which ensures effective redistribution of land between peasant and farmer farms, as well as other entities engaged in the production and development of agricultural products. However, as President KK Tokayeva noted in the Message of the President of the Republic of Kazakhstan, “Constructive public dialogue is the basis for stability and prosperity of Kazakhstan,” he focused on the land issue of concern to society, “the issue of ineffective use of land resources is becoming more and more urgent.” He is stressed that “a whole layer of so-called “latifundists” who have received the right to lease land for free and do not use the land, although at the same time there was a problem of “lack of land for farmers to grow forage crops.” “It’s time to start seizing unused agricultural land,” the President said. “The land is our common wealth and should belong to those who work on it.” The President instructed the Government and Parliament to develop and “propose appropriate mechanisms “[1].*

The analysis of the theoretical foundations of rental relations, the formation of methodological and methodological development of rental relations and the improvement of specific mechanisms of its regulation are carried out. The results of the study are a number of issues related to the improvement of the mechanism of rational use of leased agricultural land.

The analysis of the theoretical foundations of rental relations, the formation of methodological and methodological development of rental relations and the improvement of specific mechanisms of its regulation are carried out. The results of the study are a number of issues related to the improvement of the mechanism of rational use of leased agricultural land.

Keywords: *land turnover, agricultural land, lease, rental land use, land plots, rent payments, peasant and farm farms.*

Introduction

The relevance of this article is due to the study of not only the practice of rational use of leased lands, but also the regulation of land relations and its theory. At the same time, due to insufficient theoretical development of the economic

nature and features of the development of lease relations in the context of a variety of forms of land ownership, lease land use cannot develop effectively.

The article examines the theoretical foundations and practical aspects of the development of lease relations in agriculture. It should be noted that, in general, the formation of the methodological basis for lease relations has been completed. Despite this, a number of issues related to improving the mechanism for the rational use of leased agricultural lands remain incompletely developed, and some provisions are debatable and require additional research.

Materials and methods

The research was based on the use of a systems approach to the subject area under study, as well as monographic, computational-constructive, economic-statistical and other methods of economic research.

The work is aimed at solving complex problems of coordinating economic, environmental, social and other aspects of sustainable development of rural areas, while the lease of agricultural land acts as one of the important factors in the stability of land use in the region [2-7].

It should be noted that in the case of property hiring (rental), property is the most important economic category, which is a set of rights that ensure complete power over a thing. This interpretation of the concept of property follows from the Civil Code of the Republic of Kazakhstan, where property is considered as a set of rights of ownership, use and disposal. Of the entire set of powers that make up property, use is directly related to the creation of material and other goods, and most fully realizes its economic essence of property.

Currently, private ownership of agricultural land in the Republic, according to the land balance as of November 1, 2023 and other land records, is listed as privately owned by citizens and non-state legal entities as 2678.3 thousand hectares of land of various categories (Table 1). The main areas of land resources are concentrated in state ownership. of the total area of agricultural land.

All lands occupied by specially protected natural areas are in state ownership; land plots under objects for defense and national security needs, for the protection and security of the State Border of the Republic of Kazakhstan, for customs needs; lands occupied by main railway networks and public roads. According to the Land Code, these lands cannot be in private ownership [8]

Table 1

Distribution of the land fund of the Republic of Kazakhstan by types of ownership as of November 1, 2023 [9]

| Land categories | Square, thousand hectares | of which: | | | |
|--------------------|------------------------------|------------------------|-----|--------------------------|------|
| | | in private property | | in the state property | |
| | | thousand hectares | % | thousand hectares | % |
| Land fund | 262930,8 | 2678.3 | 1.0 | 260252,5 | 99.0 |
| Agricultural lands | 116447,8 | 1525.4 | 1.3 | 114922,4 | 98.7 |

State property also includes land plots granted to government bodies, state organizations and institutions from among lands of all categories; common use on the lands of populated areas; pasture and hayfield lands near villages and rural settlements; reserve lands (including special land fund), as well as lands of forest and water funds.

This circumstance explains that the majority of land share owners manage their property through the mechanism of land lease mainly to agricultural organizations. Thus, the formation of effective land use due to the current crisis state of the agrarian economy is the development of lease relations in agricultural land use.

The massive development of leased land use in the country allows most agricultural producers to participate in land turnover more effectively than through other market forms. Participation in land lease solves not only the economic and legal problem - the formation of a middle class of entrepreneurs in the countryside, but also, as previously noted, the social problem - the sustainable development of rural areas.

Land payment receipts are reflected in Table 2. There is an increase in budget revenues from both land tax and land lease. If in the republic as a whole in 2015 - 14935.1 million tenge and 14304.5 million tenge, respectively, then for 10 months of 2023 - 12625.5 million tenge and 17419.4 million tenge, respectively. Thus, if in 2015 approximately the same amount was received from these two types of land payments, then in 2023, revenues from land lease exceeded revenues from land tax by 38%, which indicates an increase in their role in the development of economic land ownership relations.

Table 2

Dynamics receiptslandpaymentsin the Republic of Kazakhstan for2015-2023years, million tenge

| | Land tax | Land lease |
|------|----------|------------|
| 2015 | 14935,1 | 14304,5 |

| | | |
|---------------------|---------|---------|
| 2016 | 15255,1 | 14873,1 |
| 2017 | 15353,3 | 16224,0 |
| 2018 | 16875,8 | 16452,0 |
| 2019 | 18712,2 | 18813,9 |
| 2020 | 17087,5 | 18520,1 |
| 2021 | 16254,1 | 19663,8 |
| 2022 | 15566,8 | 21239,9 |
| 2023 (in 10 months) | 12625,5 | 17419,4 |

At the same time, insufficient theoretical development of the economic and legal system of leased land use and the introduction of achievements of foreign countries in the development of lease relations in the context of a variety of forms of land ownership made it possible to obtain even more significant results.

Results and discussion

However, an analysis of the current situation of leased land use in the Republic of Kazakhstan shows that the existing mechanism for regulating leased land relations has a number of shortcomings, including the underdevelopment of the system of instruments for balancing the interests of land users of leased lands and stimulating rational and efficient land use.

The reasons for the failure to develop land resources are the following problems:

- discrepancy between the intended use of lands in populated areas and the locality planning plans;
- lack of infrastructure, utility networks;
- the mechanism for seizing land through the courts is not effective enough (in accordance with Article 94 of the Land Code of the Republic of Kazakhstan, the seized land plot does not go to the state fund, but is sold, as indicated above, by bailiffs through an auction) [8];
- the lack of transparency in the system of granting land use rights by local executive bodies, the closed nature of information on the presence or absence of detailed planning projects for a settlement, the availability of free land plots indicating their intended purpose;
- improper performance by officials of their functional duties.

At present, a systemic view of the institutional and economic nature of leased land use has not yet been fully developed.

The process of reforming large land uses carried out during the land reform with the allocation of a large number of small land plots for the organization of peasant, farming and other forms of management, performing a positive function in establishing a real owner on the land, revealed a number of shortcomings that negatively affect the level of efficiency of agricultural production, the implementa-

tion of measures to organize the rational use and protection of land. As a result, some economic entities are unable to carry out their economic activities [10].

It should be noted that the akimat of any district of the region cannot organize agricultural production on its own on existing lands. Consequently, there is a need to involve unused lands in agricultural circulation and provide them for use on a lease basis. Peasant farms and other users of agricultural lands will act as the main tenants. Thus, as of November 1, 2022, the agricultural sector of the republic includes 217,771 peasant and farm households, which are assigned 72.8 million hectares (63.5%) of agricultural land, 1858 agricultural production cooperatives on an area of 2.6 million hectares (2.3%), 9,439 business partnerships of all forms and joint-stock companies on an area of 37.4 million hectares (32.6%). State agricultural enterprises occupy 0.87 million hectares or 0.8% of agricultural land.

In addition to state lands, the main source for lease has become the share plots of pensioners, social workers and other individuals who received land shares as a result of the reform, but are unable (or unwilling) to cultivate them. To prevent these lands from being empty, the owners lease them out. In this case, the main lessees are also large agricultural enterprises and farms. As a rule, the land is leased to the farm where the owners received their land shares. Land plots of large agricultural enterprises can also be leased out. There are many reasons for leasing in this case: a lack of agricultural machinery to cultivate all of their lands, the remoteness of a plot from the main land mass, the desire to attract investors, etc. For such reasons, agricultural enterprises lease out their plots to outsiders [11]. The main lessees here are agricultural enterprises, local farmers and entrepreneurs. When leasing agricultural land, regardless of who is the lessor and who is the lessee, there are several fundamental positions that must be reflected in the relationship between the parties and recorded in the terms of the lease agreement [12,13].

Therefore, its main purpose should be the production of agricultural products, i.e. the lease should not remove the plots from agricultural circulation. This does not exclude the possibility for the lessee to engage in secondary activities on the leased plots. The leased lands must maintain its soil fertility. Given the social significance and uniqueness of agricultural lands, the deterioration of their properties, withdrawal from circulation is unacceptable regardless of who is the owner or user of the plot. Therefore, the lease agreement should provide not only for liability measures for the deterioration of fertility, but also incentives for its improvement.

Conclusion

Thus, for the further development of leased land use in the Republic of Kazakhstan, it is necessary to adhere to the following provisions:

- the economic mechanism of leasing must be built on a set of legal, methodological and organizational levers and methods, among which an important role is played by the methods and procedures for applying economic means in order to influence leasing processes;

- the determination of the appropriate amount of rent, from the position of the lessor and lessee, as well as the fee for acquiring the right to lease land, should be based on the use of scientifically substantiated information on the valuation of agricultural land and its rent component;

- specific measures to improve lease relations should be analyzed, ensuring the coordinated application of economic and legal mechanisms for leased land use. The development of the economic function of lease is based on the implementation of the following basic principles: creation of equal conditions for access to lease of land plots, transition to the establishment of lease rates based on market mechanisms.

- in order to improve the system of rental relations, it is proposed to study the institutional foundations of land leasing, its organizational and economic structure, substantiated by the need for state regulation of agricultural land leasing, based on the identification of specific features of the land market that has formed in modern conditions in the Republic of Kazakhstan, associated with a number of negative socio-economic consequences that must be compensated for through mechanisms for its regulation by the state.

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组织中人员适应的现代方法
MODERN METHODS OF PERSONNEL ADAPTATION IN THE ORGANIZATION

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摘要。本文探讨了组织中人员适应的现代方法。描述了适应的内容，以及适应对于组织中新员工的重要性。

关键词：人员适应、工作环境、新人、团队、劳动生产率。

Abstract. *The article considers modern methods of personnel adaptation in the organization. The content of adaptation is described, as well as the importance of adaptation for a new employee in the organization.*

Keywords: *personnel adaptation, work environment, newcomer, team, labor productivity.*

A high-quality personnel adaptation system in an organization allows to minimize employee turnover, speed up the process of entering the position, and also helps to increase the productivity of new employees, which is reflected in the efficiency of the entire organization as a whole.

The personnel adaptation system includes two stages: preboarding and onboarding. The essence of these processes is that a potential employee goes through preboarding before being hired. At this stage, it is determined whether the values of the future employee coincide with the values of the organization and whether he will be comfortable working in the organization, which generally saves time and resources for both the employer and the candidate for the vacancy. If the first stage is passed successfully, the candidate moves on to the second - onboarding - this is

the direct process of training the candidate in a new workplace, which takes place after employment.

There is no single adaptation scheme. However, in the context of work, adaptation is a social process during which an individual is introduced to a new work environment, while both he and the work environment actively influence each other, functioning as adaptive systems. During this process, three main scenarios may unfold:

- 1) the predominant influence of the individual on the work environment with minimal influence of the latter;
- 2) the dominant influence of the work environment on the individual, which may lead to changes in his or her behavior;
- 3) harmonious and balanced interaction between the individual and the work environment, affecting both parties.

With a new place of work, the individual is integrated into a unique structure of professional and socio-psychological relationships, mastering special social, work standards and principles. This is accompanied by the adaptation of his or her individual ambitions to the mission and plans of the team, which prescribes bringing his or her work behavior into line with the rules and procedures of the organization. At the same time, upon taking up a position, the employee already has his or her own life goals and value system, which he or she projects onto the requirements of the new work environment. On the other hand, the organization, based on its strategic goals, formulates certain expectations from the newly arrived employee. During the interaction and mutual adaptations between the employee and the management, adaptation to the working conditions occurs. Accordingly, the process of labor integration is a synergy of two parties in the context of adaptation to a new social environment.

Social and psychological adaptation of an individual to a team occurs through the assimilation of the characteristics and values of the work environment, integration into the established system of communication and cooperation with colleagues [2]. This process implies active immersion of the employee in the socio-cultural context of the organization, acceptance of its customs, rules and value systems. In the process of adaptation, the employee gradually masters information about the norms, values, official and informal connections in the team. When it comes to social organizational adaptation, it should be noted that such adaptation is the understanding by new members of the team of the structure of the management and service departments of the organization, as well as the mastery of work and rest modes.

As the practical and scientific application of adaptation in organizations develops, various methodological approaches are developed to make it systematic. At the same time, over time, the approaches used have been modernized and, in ad-

dition to the typical ones, new forms of implementing employee adaptation have begun to emerge [1].

Modern methods of implementing personnel adaptation in an organization are described in Fig. 1.

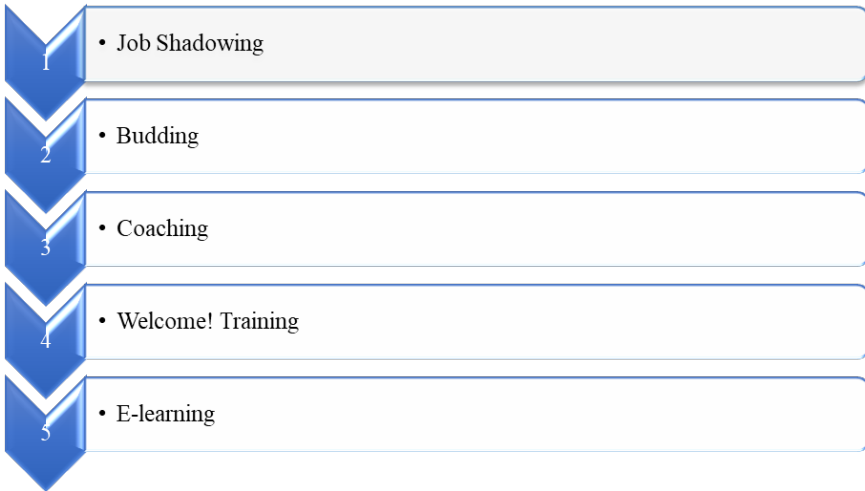


Figure 1. *Modern methods of personnel adaptation [Compiled by the author based on [3]]*

1. «JobShadowing» assumes that a new employee accompanies a more experienced employee «like a shadow» during the first days of adaptation. This method is similar to mentoring, but it assumes a greater scope of interaction between an experienced specialist and a newcomer [3].

2. «Budding» is based on a friendly atmosphere when a newcomer enters a new position and informs him about a new workplace in a friendly manner. At the same time, even after adaptation, a newcomer can turn to a «partner» for advice, as well as enlist his support in building relationships in the team [3].

3. Coaching is a new effective tool in personnel adaptation. This method is aimed more at revealing one’s own potential and achieving certain goals rather than at transferring knowledge to a newcomer. A coach promotes continuous self-improvement, development and training to solve problems and issues, provides objective feedback, helps an employee evaluate his progress and find ways for further growth.

4. «Welcome! Training» is a pre-developed and well-planned program for obtaining the most important information by a new employee at first. This training

includes the most important information about the company, rights and responsibilities within the new position (workplace), contacts for communication with immediate supervisors, as well as information about organizational values and culture.

5. “E-learning” is an adaptation method based on distance learning of employees. The advantage of this method is the convenience of obtaining information, as well as interactivity. A new employee can master the necessary information as he or she faces the need to master it, and this contributes to its more effective assimilation and practical application in the new workplace.

It should be noted that the adaptation method used must correspond to the specifics of the organization’s activities and be aimed at the most effective use of the initial stage of the new employee’s entry into all areas: professional, social and psychological [4].

Thus, employee adaptation is a multifaceted process during which employees adapt to the conditions of work and the social environment. This process requires mutual activity and interest from employees and the team. Currently, there are different methods of organizing this process in an organization. At the same time, modern methods are aimed at using all advanced tools for organizing work and training that a new employee can use to reduce the integration period into a new workspace.

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无人机服务市场参与者互动方法，确保运输过程的质量
**METHODOLOGY OF INTERACTION OF PARTICIPANTS IN THE
MARKET OF SERVICES PROVIDED BY UNMANNED AIRCRAFT
TO ENSURE THE QUALITY OF THE TRANSPORTATION
PROCESS**

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注释。本文探讨了无人机在现阶段和长期内对国家运输系统及其经济的作用和重要性。本文考虑了改进方法的现代方法，以评估无人机服务市场运作的有效性，同时考虑到俄罗斯联邦货运和客运市场的所有参与者。确定了使用无人机系统的基本特征。提出了一个模型，用于评估在当前运输基础设施维护和维修管理系统数字化的背景下对无人机机队的经济可行性需求。

关键词：运输系统、无人机系统、运输战略、数字化转型、商业建模。

Annotation. *The article examines the role and importance of unmanned aircraft in the country's transport system and its economy at the present stage and in the long term. Modern approaches to improving methodological approaches to assessing the effectiveness of the functioning of the market of services provided by unmanned aircraft, taking into account all participants in the freight and passenger transportation market in the Russian Federation, are considered. The essential features of the use of unmanned aircraft systems have been identified. A model is proposed for assessing the economically feasible need for a fleet of unmanned aircraft in the context of digitalization of the management system for the current maintenance and repair of transport infrastructure.*

Keywords: *Transport system, unmanned aircraft systems, transport strategy, digital transformation, business modeling.*

One of the most important strategic goals of the Russian Federation in the transport sector is the digital and low-carbon transformation of the industry and the accelerated development of new technologies to meet the expectations of consumers of transport services ahead of schedule and ensure high rates of economic development [1].

Considering transport as an industry deeply integrated into the country's economy, where the transportation of each specific cargo and passenger requires the fulfillment of a number of conditions to ensure speed characteristics, cargo safety, passenger comfort and transportation safety, it is necessary to note the importance of total monitoring of the state of the transport infrastructure and, as a result, timely implementation of work on its repair and current maintenance to ensure the above conditions for the functioning of the transport complex. A significant role in this process will be played by unmanned transport and, in particular, unmanned aircraft systems, which will take their place both in the transportation market and for carrying out work on the construction and repair of transport infrastructure.

The consistent implementation of digital solutions in the Russian economy indicates the need for an evolutionary approach in almost all types of activity, which in turn can be realized through the use of unmanned aircraft systems (UAS). The development of unmanned aviation will allow for a qualitative transformation of production processes and ensure priorities in the implementation of digital services. The main areas of development of unmanned aviation systems are enshrined in the Strategy for the Development of Unmanned Aviation of the Russian Federation for the Period up to 2030 and for the Perspective up to 2035 [2] and are presented in Fig. 1.

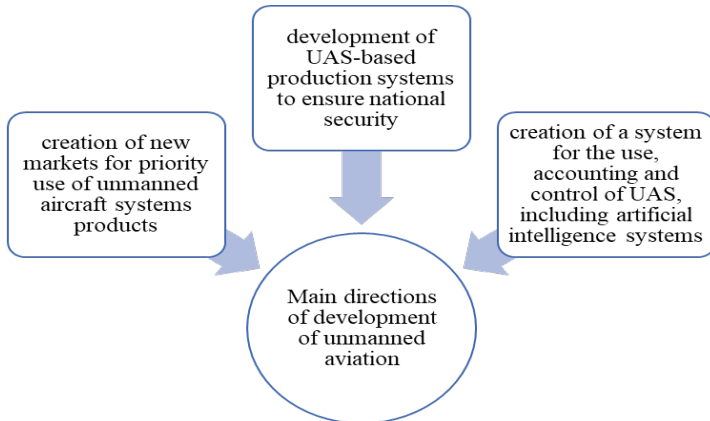


Figure 1. Main directions of development of unmanned aviation in the economy of the Russian Federation

Among the most important features of the use of UAS, formulated in [2], the following can be highlighted:

- performing flights without a pilot on board, which excludes the presence of life support and human rescue systems on board;
- using the latest navigation systems to avoid collisions with other aircraft;
- the presence of a digital radio communication line protected from unauthorized interference for UAS control.

The development of unmanned aviation necessitates the formation of completely new markets:

1) the market of unmanned aerial vehicles, in which the players will be manufacturers of flight equipment and buyers-producers of services using aviation equipment;

2) the market of services provided using UAS, where the players can be considered: aircraft owners, owners of aviation infrastructure and enterprises-consumers of services.

The activity and interaction of participants in these markets is shown in Fig. 2.

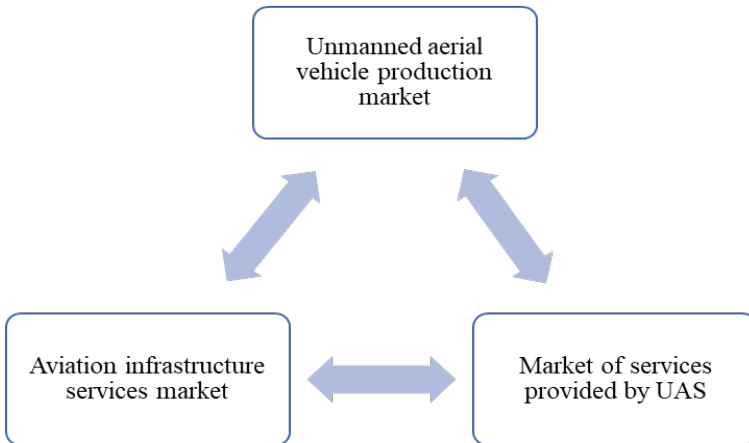


Figure 2. Interaction of market participants in the implementation of unmanned aircraft systems services

The organization of such interaction does not imply the formation of a single information space, but requires the creation of effective mechanisms of market interaction.

The greatest efficiency is ensured with the closest possible interaction of all participants in these markets. This should be understood in such a way that aircraft manufacturers should be focused on the types of services and consumer demands

of market clients who require these services to organize their production processes. In turn, enterprises providing UAS infrastructure support services should interact with aircraft owners participating in the market for these services, but in turn, focus on the technical and technological characteristics laid down by aircraft manufacturers. The organization of such interaction

does not imply the formation of a single information space, but requires the creation of effective mechanisms of market influence.

Characterizing the market for services provided by UAS [2], it should be noted that unmanned technologies can be used in the following work:

- data collection and transmission, remote monitoring (data collection and transmission), i.e. performance of works using optical, radar, aeromagnetic, thermal imaging, multispectral, measuring and other devices;

- aerological logistics, i.e. transportation of goods in the fuselage or in an external container;

- aerial reconnaissance and protection of the territory and objects to minimize threats to the safety of persons and property;

- performance of works for the purpose of introducing sprayed substances (liquid, powder, gaseous);

- providing communications during the operational organization of fragments of mobile radio networks, retransmission of optical and radio signals;

- performance of works for the organization of educational activities in order to develop engineering competencies in schoolchildren and students;

- visual installations for the purposes of advertising and visual effects;

- other works, including construction and installation works, fire extinguishing, emergency rescue operations.

The drivers of UAS market growth are digitalization and digital transformation of almost all sectors of the economy; the growing popularity of UAS use, due to the advantages of using unmanned technologies in performing various tasks, the achieved economic effects, the development of information technologies, including artificial intelligence technologies, as well as the availability of the necessary production and technical base.

The current economic situation requires fundamental changes in the methodology for forming and assessing the market situation and competitive advantages in almost all commodity and service markets.

An effective business model of any economic entity, including those operating in the transport market, must meet the following conditions:

- customer focus on cargo owners and passengers;

- effective pricing policy when interacting with customers and suppliers;

- digitalization of business processes and robotics.

Functioning in a competitive market forces transport companies to build up competitive advantages, which largely depend on both the use of innovative vehicles and the quality of the transport infrastructure.

Timely diagnostics of railways and roads allows you to detect infrastructure defects in order to prevent violations of the safety of the transportation process.

The possibility of using unmanned aerial vehicles for monitoring will provide predictive analytics for making decisions on the appointment of a specific type of repair. Considering that the length of the railways of the Russian Federation is over 87 thousand km, and highways - 1.5 million km, current monitoring requires significant resource support, including labor resources. The interaction of infrastructure owners with companies that own unmanned aerial vehicles and companies that own airport structures allows for the transfer of the management of current maintenance and repair of infrastructure to a digital platform. In this case, it is necessary to methodologically resolve the issue of determining the need for a fleet (N_i) of unmanned aerial vehicles for a comprehensive assessment of transport infrastructure facilities:

$$N_i = f(L_{\text{ЖД}}; L_{\text{АВТ}}; v_i; K_j),$$

where N_i – the need for i -type unmanned aerial vehicles used for monitoring transport infrastructure;

$L_{\text{ЖД}}$ – length of railway tracks, km;

$L_{\text{АВТ}}$ – length of motorways, km;

v_i – speed of unmanned aerial vehicle, km/h;

K_j – coefficient taking into account climatic, geographical and weather conditions of flight operations.

Thus, determining the need for unmanned aerial vehicles will help generate demand for these products among their manufacturers, which in turn will satisfy the demand for transport infrastructure diagnostic services among its owners. Solving this problem will help balance the business models of unmanned aerial vehicle manufacturers, unmanned aerial vehicle owners and transport companies.

Organizing a system of interaction between all market participants where unmanned aerial vehicles are sold, the services they provide and the services provided by transport companies in the transportation market will help achieve sustainable economic growth in the long term.

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加拿大国家和地区出口支持计划研究
**A STUDY OF NATIONAL AND REGIONAL EXPORT SUPPORT
PROGRAMS IN CANADA**

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注释。本文致力于讨论加拿大的出口支持问题。研究了在国家和地区层面上支持出口商的措施和计划的数字信息系统。考虑了当前的支持计划及其目标。研究表明，出口支持措施是加拿大企业总体支持计划不可或缺的一部分，并且在国家和地区层面相互关联。现有计划的信息以数字环境的方式提供，任何潜在的支持接受者都可以通过访问活动链接从政府页面开始工作来获得他们感兴趣的所有信息。

关键词：加拿大，加拿大出口信贷机构，出口支持，出口支持计划。

Annotation. *The article is devoted to the issues of export support in Canada. The digital information system on measures and programs to support exporters at the national and regional levels is studied. The current support programs and their goals are considered. The study revealed that export support measures are an integral part of support programs for Canadian enterprises in general and are interconnected at the national and regional levels. Information on existing programs is provided in the digital environment in such a way that any potential recipient of support can get all the information they are interested in by starting work from the government page by visiting active links.*

Keywords: *Canada, Export Credit Agency of Canada, Export Support, Export Support Programs.*

Recently, almost all countries have paid much attention to export support issues. For the purposes of such support, export strategies, national and regional programs are being developed to promote export development. Canada actively uses digital technologies in the field of export support. Such support is provided at several levels: national, subregional and regional. On the website of the Government of Canada, there are sections of the Ministry of International Relations [1], the Ministry of Agriculture and Agri-Food Canada [2] and the Trade Commission-

er Service [3], for which export support is the main task. From each portal, it is possible to access the portal dedicated to export support [4].

Let's take a closer look at the content of each section. The section titled "Support for Business Growth and Scaling [5]" provides information from the Accelerated Growth Service (AGS), which helps established Canadian businesses identify and access the government support they need to grow and scale. Support ranges from funding research and development to expanding into new markets. The Accelerator Service's primary goal is to provide businesses with the right support at the right time.

An important area of the service's work is to support companies with complex growth plans and business goals seeking long-term government support. This support is provided by experienced business innovation consultants. AGS works with 50 partners across Canada focused on the continued growth of Canadian companies.

The program operates in three areas: Global Innovation Clusters, the Fund strategic, Program digital.

In the "Trade Ideas" section, by closed subscription for participants in foreign trade activities and tools to improve the efficiency of foreign trade cooperation with government agencies. The section presents a database containing more than 1 million proposals from federal, regional and the opportunity to use the online tool Country Risk Quarterly from EDC. This is an interactive tool offering historical data and trends for Canada's 75 largest trading partners. Among the presented indicators are such dynamics as: gross domestic product (GDP), population, employment, volumes of Canadian exports, investment, inflation, etc.

Country risk expert information is provided for all countries to help exporters stay informed about market opportunities and make informed business decisions.

The section "Information for exporters" deals with government procurement issues. It contains both educational and specialized commercial information that helps to work in the government procurement market abroad.

The Foreign Government Selling Tips section provides information on how exporters can obtain assistance, practical advice, and guidance from local governments. Exporters collaborate through CCC, Canada's government contracting agency and the only Canadian agency with expertise in international contracting [6]. It is a government agency that reports to the Minister of Canada responsible for international trade. The agency supports Canadian businesses through its International Prime Contracting Service, which assists in the development of government-to-government (G2G) contracts that connect foreign government buyers with Canadian businesses for public sector contracting opportunities. CCC is a prime contractor for the U.S. Department of Defense and provides assistance to Canadians selling to the U.S. military. The agency's website features a global search capability for Government Based Opportunities (GBOFs).

The agency assumes the role of prime contractor with the international government buyer, enters into a procurement agreement with the Canadian supplier, performs all supervision of execution, and provides the Government of Canada's assurance that the contract will be performed in accordance with the terms and conditions of the contract. CCC provides services to companies from a variety of Canadian industries. The result of their the successful approach was concluded by Canadian enterprises contracts worth \$24.7 billion between 2013 and 2023.

The section "Preparing your business for export" provides a step-by-step guide to exporting, which allows you to assess the foreign trade potential of an exporting company, prepare your business for export, and take advantage of the opportunity for commercial success abroad.

The "Identify Your Advantages" section features a business search engine that allows you to find specific information that an exporter needs. The search engine functionality also provides the ability to select a threshold amount of assistance depending on the specialization and maturity level of the foreign trade organization, as well as its geographic location.

As part of the training, the exporter receives a link to the Trade Commissioner Service. It carries out individual work with each exporter in the market of interest to them through Canadian trade missions.

Team Canada has a long and successful history of helping companies gain access to domestic markets around the world. Today's Team Canada trade missions take a pan-Canadian approach to showcasing the broad range of opportunities and competitiveness of Canadian products and businesses.

Trade commissioners provide assistance both before and after a company's participation in a trade mission.

The Department of Agriculture and Rural Food operates a one-stop shop to help you: identify markets with the greatest export potential, resolve market access issues or barriers that may prevent products from entering foreign markets, promote products at key international trade shows, stay informed about activities to support the development of international markets for Canadian agriculture and food products, use the Canada Brand program to promote your food products, and access an international network of trade commissioners and market experts.

Thus, direct support for exports in Canada is provided at the state level. The main support institutions with which the provinces interact are:

- Export Agency of Canada
- Business Development Bank of Canada
- Global Affairs Canada.

The task of the regional level in the export support system is to work on the country's export potential. For this purpose, the Regional Development Agency of Canada (RDA) was established, with the help of which the government imple-

ments its plan for the introduction of innovations and skills in the regions. RDAs across Canada deliver two broad programs that help entrepreneurs start and grow businesses, and create conditions for the development of strong, vibrant and inclusive regional innovation ecosystems across the country. Regional governments select the programs they will implement in their territories and tailor them to local conditions. Let’s look at the programs RDA delivers that ultimately help develop Canada’s export potential.

The Regional Artificial Intelligence Initiative aims to create conditions for the development and deployment of AI in regions. The Government of Canada is making strategic investments to provide businesses with the tools they need to implement artificial intelligence (AI) to develop new technologies and processes in sectors from coast to coast. The Program is providing \$200 million.

For example, in Northern Ontario, funding under this program is aimed at bringing new technologies to market and helping to accelerate the adoption of AI in critical sectors such as agriculture, healthcare, manufacturing, mining and forestry in Northern Ontario.

The Northern Ontario Export Diversification and Growth Support Program helps small businesses looking to export their products get the support they need.

In addition to national programs, Northern Ontario entrepreneurs may receive support through regional programs (Table 1). For a project to be considered eligible, its benefits must flow to Northern Ontario.

Table 1
Regional support programs for entrepreneurs wishing to export their products to the province of Northern Ontario

| Program | Target | Project support | Eligible candidates |
|--|--|---|---|
| Regional Innovation Ecosystems - for non-profit organizations seeking to enhance the innovation potential of a region. | Funding under this program area helps to create, develop and nurture strong and inclusive regional networks that support business growth and innovation. Developing the entrepreneurial environment needed for a more innovative regional economy and increasing the competitiveness of small and medium-sized enterprises. In particular, | -Northern Ontario businesses investing in the development and commercialization of innovative technologies, products, services and processes. - Northern Ontario businesses that are innovative and growing. - Northern Ontario communities are | - Non-profit organizations -Indigenous Peoples (First Nations/Métis/ Inuit) - Municipalities and municipal organizations - A group of eligible recipients (e.g. an alliance or consortium) that includes non-profit organizations, |

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| | | | |
|--|---|---|--|
| | further strengthening business support networks for underrepresented groups, including women, Aboriginal peoples (First Nations/Métis/Inuit) and young entrepreneurs | economically diversified. | small and medium-sized enterprises, postgraduate institutions, industry associations |
| Regional Housing Innovation Initiative for Northern Ontario | Funding under this program supports new approaches to home building, including the design and scaling of modular homes, the use of 3D printing, mass timber construction, panelized construction, and the adoption of zero-emission and climate-resilient home building methods. | Aimed at promoting innovative solutions in housing construction, increasing the efficiency and productivity of production | - Joint-stock small and medium enterprises (SMEs); -Registered non-profit organizations; - Indigenous (First Nations/Métis/Inuit) businesses and organizations; - Municipalities and municipal organizations. |
| Business Scaling and Productivity - for ambitious companies in need of growth funding | Funding under this program is aimed at accelerating the growth of companies and helping them adopt and adapt new innovative technologies that support scaling, productivity, growth and entry into new markets, helping companies become competitive in both domestic and global markets. | -Northern Ontario businesses investing in the development and commercialization of innovative technologies, products, services and processes. - Northern Ontario businesses that are innovative and growing. - Northern Ontario communities are economically diversified. | - Joint-stock small and medium enterprises (SMEs); -Indigenous (First Nations/Métis/Inuit) businesses and organizations. Note: Retail and service businesses will not be considered under the program. |
| Regional Initiative on Artificial Intelligence – to develop and implement AI in the region (in addition to the national one) | Funding offered under this program stream helps businesses at various stages of development, including high-growth companies, accelerate growth and implement innovative technologies that support scaling, | -Supporting AI at scale helps address common challenges along the path from lab prototypes to real-world applications, including securing growth capital, attracting talent, | - Joint-stock small and medium enterprises; -Registered non-profit organizations; -Indigenous communities and organizations (First |

| | | | |
|--|---|---|---|
| | commercialization, productivity, and market expansion to become more competitive in the global marketplace. Two types of projects are supported: Productivization and commercialization of AI; - Implementation of AI applications | managing data, and navigating regulatory and business frameworks. – The support will be aimed at addressing the gap in AI adoption among small and medium-sized enterprises. | Nations/Métis/Inuit); and -Municipalities and municipal organizations. |
| Targeted Manufacturing Initiative for Northern Ontario | Funding under this program area contributes to: - expansion of production capabilities; - increasing the efficiency of production capacities; -modernization and competitiveness manufacturing sector in Northern Ontario; - increasing export sales and profitability. | Northern Ontario manufacturers looking to improve productivity, increase sales and exports, and create jobs | Established manufacturers located inNorthern Ontario. (Firms that are currently operating, whose primary activity is the production of a commercial product and that plan to grow). |

Within the framework of regional export promotion, integrated programs are often developed for macro-regions, for example, consider such a program for the Atlantic region, which includes the provinces of New Brunswick, Nova Scotia, and Prince Edward Island.

Launched in July 2016, the Atlantic Growth Strategy (AGS) was created by the Government of Canada and the Atlantic provincial governments to accelerate economic growth in Atlantic Canada. The key priorities for engagement within the Atlantic Growth Strategy are:

- Using population growth to create a stronger workforce
- Stimulating growth in productivity and competitiveness
- Supporting the transition to a green economy

As a result of the conducted research, it seems possible to draw the following conclusions:

1. All national programs are aimed to a greater extent at internal development and assistance to domestic, mainly small businesses, and only then at developing their export capabilities.
2. Support programs are developed both for macro-regions with approximately the same situation and socio-economic development, and directly for individual regions. Each region has the opportunity,

within the framework of pan-Canadian programs, to choose those that will improve the business environment of the region and adapt it to its own needs as much as possible.

3. The system of support for entrepreneurs is designed to make maximum use of funding from international funds to expand the business of Canadian companies working in areas such as ecology, green economy, and climate finance.
4. The Government website allows, through multi-level links, to find all the necessary information on both national support programs and regional programs; on sources of international funding; on educational resources/

Thus, Canada has created a comprehensive resource containing information on export support based on the official government website, allowing exporters to learn about all resources and support programs. This experience can certainly be useful in the Russian Federation.

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医疗机构医疗设备的管理。解决操作、维护和维修问题
MANAGEMENT OF MEDICAL EQUIPMENT IN HEALTHCARE
ORGANIZATIONS. SOLVING PROBLEMS OF OPERATION,
MAINTENANCE AND REPAIR

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注释。本文探讨了医疗机构中组织有效使用医疗设备的问题。证实了使用现代系统组织设备不间断运行的必要性。考虑到医疗设备生命周期的特点，提出了一种积极的方法，以引入新的方法来维护医疗机构的可操作性和人员配备。

关键词：医疗设备、设备维护、设备维修、技术人员。

Annotation. *The article considers the issues of organizing the effective use of medical equipment in healthcare organizations. The necessity of using modern systems for organizing the uninterrupted operation of equipment is substantiated. Taking into account the features of the life cycle of medical equipment, an active approach to the introduction of new methods of maintaining the operability and staffing of medical organizations is proposed.*

Keywords: *Medical equipment, equipment maintenance, equipment repair, technical personnel.*

Modern medical equipment is an integral part of the material and technical base of almost any medical organization. A medical institution can effectively perform its tasks only if it is sufficiently equipped with equipment and in working condition. When operating equipment without a qualified specialist, it can pose a danger to the patient and medical staff. One of the issues that the management of a medical organization faces is training personnel in the proper use of medical equipment.

Thus, all medical products are divided into four classes. The classes are designated 1, 2a, 2b and 3. [1]

- Class 1 - low-risk medical devices. This class includes some surgical instruments, non-invasive electrodes, etc.

- Class 2a — medical devices with a medium risk level. This class includes, in particular: diagnostic ultrasound equipment, physiotherapy equipment.
- Class 2b — medical devices with a high degree of risk. This group includes: Anesthesia and respiratory devices, equipment for parenteral administration of drugs, etc. Class 3 — medical devices with a high degree of risk. This class includes implantable pacemakers, artificial heart valves, hemodialysis equipment.
- Class 3 - medical devices with high individual risk and high risk to public health.

One of the issues that the management of a medical organization faces is training staff in the proper use of medical equipment [4pp. 590-591]. Despite the large number of educational centers specializing in the training of medical personnel, it is extremely rare that sufficient attention is paid to the correct operation of high-tech and complex medical and diagnostic equipment during the training process. Often, training in the operation of medical devices occurs directly at the workplace, through communication with colleagues, operation engineers or representatives of equipment supplier companies. Due to insufficient theoretical and practical knowledge, a specialist often does not have the opportunity to check the serviceability of the device or its completeness, which in turn can lead to the emergence of a danger during its operation for medical personnel and the patient. From the above, we can conclude that medical and non-medical personnel are insufficiently trained in the operation of high-tech medical equipment. One way to solve this problem would be to create training centers for training medical professionals in the safe and correct operation of equipment used in their area of activity. Also, one of the ways to solve the above problem would be to change and adjust the current educational programs for the training, advanced training and retraining of medical workers.

It is also important to maintain the equipment in good technical condition, as well as its timely maintenance and replacement of consumables. Such a measure will significantly increase the service life of the already operating medical equipment fleet, as well as reduce the possibility of its sudden failure during further operation. [5. p. 52] One of the key problems in servicing this type of equipment is the complete lack of state programs for training specialists with higher and secondary specialized education. Unfortunately, the repair of such high-tech and technically complex equipment is currently carried out by people from related fields: radio engineers, radio-electronic industry engineers, electronic equipment assemblers, mechanics, etc.[2.[pp. 38-39]It is also worth noting that despite the existence of non-governmental organizations involved in training personnel for the operation, repair and maintenance of medical equipment, organizations are in no hurry to send their specialists for training. An employee engaged in this type

of activity must combine a large number of skills, such as: knowledge of radio engineering and electronics, the ability to read electrical circuits, the ability to work with technical documentation, knowledge of mechanics, metalworking and metal science, etc. Accordingly, it is almost impossible to instill these competencies in a specialist during a 2–3-week training course. Also important will be at least minimal knowledge of human anatomy, to understand the principle and mechanism of operation of the equipment. From the above, we can conclude that a specialist in the repair and maintenance of medical equipment must have a large amount of knowledge and competencies, often from unrelated professions. This problem is quite acute, especially in the regions of the Russian Federation. One of the proposed solutions to this problem will be the creation and implementation of educational programs in colleges and higher educational institutions, as well as industrial practice. It is worth noting that a good help for currently working technical specialists is the provision of complete technical documentation and/or its translation into Russian, as well as their logistical support with consumables and tools.

It is worth noting that in small organizations, there is no need to maintain a specialist of this level. In this case, it is proposed to create a centralized service center for medical equipment. Of course, this measure will require costs for the purchase of equipment and tools, such as: metalworking equipment, soldering equipment, 3D printing systems, etc. [3 p. 433-437]

Of course, it is not always possible to repair equipment “on site”, due to its impracticality, weight and dimensions, lack of necessary spare parts. In order to minimize costs and improve the medical services provided to the population, it is proposed to create single centers for the exchange fund of medical equipment. In the event of equipment failure, impossibility of its repair or large expenditures of time for re-commissioning of the equipment, it is proposed to provide equipment with the necessary functions and characteristics by delivering the necessary medical equipment to the medical organization.

One of the ways to minimize the human factor may be the implementation of a system for monitoring the condition of the equipment and its operating time. Often, routine maintenance work on equipment is associated with its operating hours. Interruptions in the operation of devices, temporary stops, non-working functions of medical equipment - all these points reduce the quality and availability of medical services for the population. It is impossible not to note the possibility of injury or disability for employees and patients arising from the operation of faulty equipment or its use by a person who does not have sufficient knowledge and skills in the field of operation of medical equipment.

Thus, we can conclude that the solution to this problem can be a combination of the above-described theses, of course, the implementation of some of them will require years or decades invested in the training of qualitatively new personnel,

and the improvement of the skills of current workers. Of course, the training and staffing of specialists will require serious financial investments from the state or investors, but as this difficult path is passed, the quality of medical services to the population will certainly increase and the number of accidents associated with the operation of medical equipment will decrease.

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社交网络作为招聘和人力资源管理的工具
**SOCIAL NETWORKS AS A TOOL FOR RECRUITMENT AND HR-
MANAGEMENT**

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摘要。本文探讨了社交网络作为招聘和人事管理工具的作用，它使雇主能够有效地与候选人互动并分析他们的个人特征。概述了社交网络在人力资源管理中的关键应用领域。还强调了“社交招聘”的概念，描述了其优势以及在实践中实施过程中出现的典型错误。通过进行的分析，我们得出结论，综合的社会招聘方法很重要，将社交网络数据的分析与其他评估工具相结合，并需要对社交网络数据进行批判性解释。

关键词：人事管理，人事管理，社会心理方法，虚拟社交网络，社交招聘。

Abstract. *The article examines the role of social networks as a recruiting and personnel management tool that allows employers to effectively interact with candidates and analyze their personal characteristics. The key areas of application of social networks in HR management are outlined. The concept of “social recruitment” is also highlighted, its advantages and typical mistakes that occur during implementation in practice are described. The conducted analysis allowed us to conclude that an integrated approach to social recruitment is important, combining the analysis of data from social networks with other assessment tools, and the need for a critical interpretation of social network data.*

Keywords: *personnel management, personnel management, socio-psychological methods, virtual social networks, social recruitment.*

The spread of digital technologies in modern society is accompanied by the virtualization of social connections. The audience of social networks on the Internet is growing every year, and by the beginning of 2024, the number of active accounts exceeded 5 billion (Figure 1) [9], which is 5.6% more than in 2023 and 2.5 times more than ten years ago. In 2023 alone, the number of social network users increased by 266 million. At the same time, the time spent on social networks is

enormous: on average, one user spends 2 hours 23 minutes on them daily, and all users in the world - 15 billion hours. With such popularity and involvement, social networks not only act as a way of social interaction and uniting people into groups, but also become a kind of hub in which a huge amount of information is collected. It is of great interest for management purposes, including personnel management, since thanks to information voluntarily posted on social networks, employers can obtain valuable data for compiling a personal portrait of both current and potential employees.

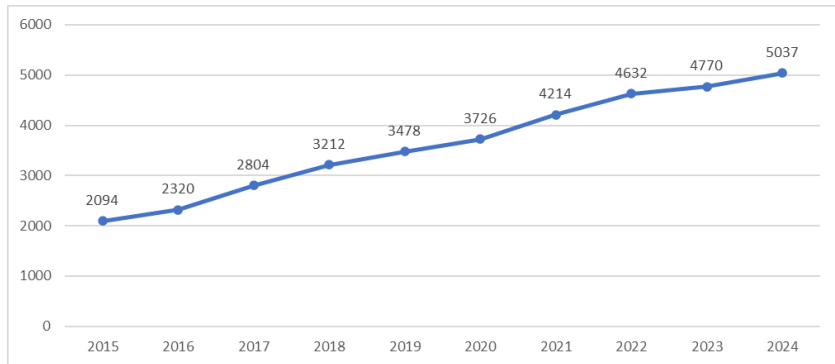


Figure 1. Number of active accounts in the world, at the beginning of the year, million units.

Social networks as an HR management tool are actively studied by scientists. The studies note that social network data have enormous potential for analysis, providing the opportunity to identify key aspects of user behavior, their characteristics, and track changes in mood [1, 2, 8, 10]. Monitoring and analyzing social networks opens up new horizons for companies, allowing them to successfully cope with internal challenges and formulate strategic decisions for growth. As noted by Zotkina A.A., by studying various digital traces in social networks – publications, comments, activity in groups and other human interactions in the online space – it becomes possible to identify complex psychological states, including depression or suicidal tendencies [4, p. 8].

The practice of using social networks to interact with potential candidates in scientific research has already received its designation - social recruitment [3, p. 25]. When solving recruiting problems, social networks allow searching for personnel, forming the company’s HR brand, compiling a psychological portrait and analyzing the personality of applicants. Zakharov D.K. identifies the following methods of interaction between employers and potential employees in social networks: creating thematic communities, distributing vacancies through publica-

tions and reposts, conducting business correspondence, promoting the company’s brand and involving current employees in popularizing corporate values in the online environment [3, p. 25]. For current employees, the motives for carrying out work activities are important, and here social networks can be useful as a tool for non-material incentives by posting information about the best employees, their achievements on the company’s page, holding competitions among employees on social networks, etc.

It should be noted that for people looking for work, information from social networks is of practical interest. According to some estimates, more than 40% of job seekers use social networks when looking for work to better understand the company’s culture and work environment [6]. As a tool for HR management, social recruitment has a number of advantages:

- interactive dialogue in an informal setting;
- dissemination of information about vacancies among a large number of potential candidates;
- designation of the company’s values and culture before hiring;
- analysis of the candidate’s personality before direct contact with him about the vacancy.

The following information from social networks is of greatest interest when analyzing the personality of the applicant: photos and videos, groups, environment, posts and comments (Table 1).

Table 1
Directions of analysis of the personality of the applicant based on information from social networks

| Direction of analysis | Main content |
|------------------------------|---|
| Personal data analysis | Personal data, education, and employment information are analyzed. Information obtained from other sources is compared; contradictions are identified and assessed; gaps are filled |
| Content analysis | Content is assessed: photo, video, and audio materials. The candidate’s tastes and preferences are identified, with attention paid to materials with both positive and negative aspects in the context of possible employment in the company |
| Group analysis | The interests and preferences of the individual are analyzed based on the groups and communities the candidate is a member of. Based on participation in the life of certain groups, risks associated with drug use, alcohol, gambling, and deviant behavior are identified, excluded, or confirmed |
| Post and comment analysis | The frequency, time, and content of posts and comments are assessed. It is possible to identify signs of Internet addiction, excessive dependence on public opinion, a tendency to troll, conflicts, depression, apathy, etc. |

| | |
|--------------------------------------|--|
| Analysis of connections, environment | An analysis of the person’s environment is carried out: friends, relatives, classmates, fellow students, colleagues. It is possible to identify individuals with radical views, xenophobia, drug addicts and other individuals in the environment, connections with whom employees may harm the company’s image in the future. |
|--------------------------------------|--|

Analysis of job candidates’ personalities based on information from social networks is a powerful tool in modern recruitment, but its use is associated with a number of errors that can reduce its effectiveness [7]. Typical errors inherent in the work of recruiters in the digital space can be divided into four groups (Table 1). A summary of publications on the topic under study made it possible to identify measures that can help prevent (correct) such errors.

Table 1

Typical errors in social recruitment and their prevention (correction)

| Errors | Preventive (corrective) measures |
|--|--|
| <i>1. Strategic mistakes</i> | |
| Lack of a clear strategy for using social media to find employees | Applying a strategic approach to social recruitment within the overall strategy of the company’s HR policy |
| Replacing targeted communications with mass mailings | Rejecting mass mailings in favor of «narrow» ones that take into account the needs and interests of individual segments of the target audience |
| Unrealistic expectations, striving for quick, cheap and large-scale returns | Realistic assessment of the potential of social networks in recruiting: social networks are an effective, but at the same time expensive tool |
| Insufficient work on building trusting relationships with potential candidates | Building trusting relationships with potential candidates before offering them a job in the company |
| <i>2. Methodological errors</i> | |
| Narrowing the reach to too narrow channels | Don’t limit yourself to the most popular recruiting networks, but also consider less popular but specialized networks |
| Insufficient understanding of the needs of the target audience | Conduct research to identify key needs, interests, and other characteristics of candidates |
| Limiting work tools to only posting vacancies or sending out the same type of mailings | Use a broader range of tools, including comments on issues related to the company’s area of activity, distribution of professional multimedia content, coverage of successful company practices on social networks, etc. |
| <i>3. Communication and audience outreach errors</i> | |
| Sending generic messages that look like spam | Refusal of «spam-like» mailings, cliches and stereotypical messages, greater focus in communications on the interests of a specific addressee |

| | |
|---|--|
| Ignoring audience characteristics when creating content | Using the type of messages that are convenient and familiar to the target audience, and not to the recruiting service |
| No practice of involving new employees in promoting the company through their own social networks | Introduction of the practice of using incentives for new employees for posting information on social networks about a new place of work |
| 4. Organizational errors | |
| Lack of training materials and recommendations for recruiters on effective social recruitment | Providing recruitment service employees with instructional, methodological and other materials for use in assessing the personal characteristics of candidates based on information from social networks |
| Poor organization of processes within the framework of referral recruitment | Mandatory processing of all potential candidates who were notified via social networks by current employees |

The above typical mistakes highlight the importance of a well-thought-out approach and a comprehensive strategy when using social networks to attract employees who can later organically, without significant risks, join the company team. When evaluating job candidates on social networks, it is extremely important not to consider them as the only source of information about the candidate's personality and to use social recruitment with other recruiting tools [5]. It should also be taken into account that in some cases, social network analysis may be ineffective. For example, if the page is professional, is a way to implement some commercial projects, and there is a high probability that the page is not maintained by the owner himself, but by a hired specialist. It will be extremely difficult to assess the owner's personality based on such a page.

Thus, modern social networks have become an important HR management tool. The growth of their audience and involvement opens up wide opportunities for analyzing the behavior, preferences and personality traits of potential candidates. Information posted on social networks allows employers not only to search for and attract employees, but also to form a corporate HR brand, study the psychological characteristics of candidates and motivate existing employees. Social media analysis can be widely and effectively used in recruiting activities as part of a comprehensive strategy that combines digital and offline tools. Social networks are just one source of information, and their use should be supplemented by other assessment methods. This approach allows not only to avoid many typical mistakes, but also to attract employees who are able to harmoniously integrate into the corporate culture of the company.

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高等法学教育的当前问题

CURRENT ISSUES OF HIGHER LEGAL EDUCATION

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注释。俄罗斯高等教育正在准备进行改革，改革的总体方向由2023年2月21日俄罗斯联邦总统致联邦议会的讲话和2023年5月12日俄罗斯联邦总统“关于改善高等教育体系的某些问题”的法令确定。这些改革的主要意义在于将俄罗斯国家高等教育体系重新推向新的水平。本文重点探讨俄罗斯高等法学教育在这方面的发展问题。分析了法学专业学生队伍建设、教育课程的实质性内容以及研究生培养的基础性水平等问题。结合高等法学教育体系运作的以往经验，提出了解决所发现问题的方法。

关键词：高等教育改革、法学教育特点、竞争性选拔、课程内容、法学教育的基本性质。

Annotation. *Changes are being prepared in Russian higher education, the general direction of which is defined by the Address of the President of the Russian Federation to the Federal Assembly on February 21, 2023 and the Decree of the President of the Russian Federation of May 12, 2023 “On Certain Issues of Improving the Higher Education System”. The main meaning of these changes is to return to the Russian national system of higher education at a new level. The article focuses on the problems of development of Russian higher legal education in this regard. The problems of forming a contingent of law students, the substantive content of educational courses, and the level of fundamentality of graduate training are analyzed. Taking into account the previous experience of*

the functioning of the higher legal education system, ways to solve the identified problems are proposed.

Keywords: *reform of higher education, features of legal education, competitive selection, content of curricula, fundamental nature of legal education.*

In the development of any country, each stage puts forward relatively simple and complex practical tasks. One of the most urgent at the present time is the task of consolidating the social forces of society, unity in achieving the goals of the people and the government, decisively cutting off everything that hinders its strengthening, overcoming natural and artificially created contradictions and difficulties.

The legal system of society plays a special role in solving these problems, without undermining the importance of other elements of public life. Its effective functioning ensures the coherence of the economic, social, political, and spiritual activities of society, establishes a historically acceptable balance of interests of the main social groups, society, and the individual, the necessary structure and productive order of functioning of public authority, and prevents and eliminates various types of negative social deviations.

When it comes to the legal system as a complex entity, most often attention is paid to its institutions and the results of their activities. It is hardly possible to deny the special significance for society of lawmaking or the application of law, regulatory acts or the systematization of legal norms, legislative bodies or the judicial system, etc.

At the same time, in the legal system of society, as in any other sphere of social life, the key element is people, and first of all, those professionally engaged in this type of social activity. In the legal system, they are the ones who prepare the texts of normative acts of various levels, carry out work on systematization of legal norms and elimination of their conflicts; working in jurisdictional bodies, they record facts of legal significance, apply legal norms, resolve disputes between legal entities, establish the presence of offenses in the acts of legal entities, determine the measures of legal liability, etc.

It is clear that the efficiency of functioning of both individual links of the content of law and the legal system as a whole directly depends on the legally significant quality of these people, on their legal professionalism. Sometimes it seems that these goals can be achieved by simply reformatting the elements of the legal system, replacing certain bodies implementing jurisdictional activities, rearranging personnel, etc. The path seems to be clear and simple enough, but in the end the results of such an external structural approach are usually not very noticeable.

The whole point is that a new quality is acquired by a person, including a professional lawyer, not because he gets to another more or less significant posi-

tion, but because he becomes a bearer and conductor of new knowledge about his professional activity, which he strives to embody in legal reality. The main source of this knowledge was, is and will be legal science, transmitted to legal practical thinking through the system of legal education, mainly higher education.

In this sense, legal science and legal education are the leading generators of the progressive development of the legal system of society, and through it other main spheres of social life. It remains only to regret that in the categorical apparatus of the theory of law, if there is any talk about legal science, then very little, and the role and significance of legal education in the formation of the legal system of society, as a rule, is not mentioned at all.

Contemporary Russian legal education, if taken as a whole, to a certain extent fulfills its purpose as a conductor of the achievements of legal science into legal practical thinking. However, in the post-Soviet period, legal education and, consequently, its function have been subjected to significant corrosion, have become overgrown with a mass of problems that have been repeatedly discussed at various forums of the legal community, in articles, monographs, including by the authors of this article.

Recently, significant qualitative shifts have been noticeable in approaches to solving the problems of legal education. They were initiated in the Address of the President of the Russian Federation to the Federal Assembly on February 21, 2023. In particular, it pointed out the overdue significant changes taking into account the new requirements for specialists in the economy, social sectors, in all spheres of our life and the need to synthesize all the best that was in the Soviet education system and the experience of recent decades; it was proposed to return to the basic training of specialists with higher education, traditional for our country [1].

Further specific steps were taken in the Decree of the President of the Russian Federation of May 12, 2023 “On Certain Issues of Improving the Higher Education System”. The Decree defined the need to implement a pilot project in the 2023/24 and 2025/26 academic years aimed at changing the levels of professional education, identified the universities implementing the pilot project, and established the main parameters of the pilot project and the tasks of its subjects [2].

The directions of higher education reform outlined in official documents were discussed at various levels, of which we will note the parliamentary hearings specifically devoted to this issue. Let us pay attention here to the speech of the Minister of Science and Higher Education, where, perhaps for the first time at the official level, it was noted that unconditional adherence to the principles of the Bologna system, despite some of its positive results, led Russian higher education along a path that does not correspond to national needs, which could not but affect the effectiveness of this education [3].

While supporting the planned changes in the higher education system in accordance with the national interests of the country, we would like to draw attention to the following. The allocation of the levels of education necessary for high-quality training and the determination of the terms of study are undoubtedly important and contain significant potential for all branches of higher education, but do not exhaust the entire spectrum of problems of returning to the national path of development of higher education.

For specialists who know the path of Russian education in the post-Soviet period, it is clear that the essence of the problems of Russian higher education in general and legal education in particular lies not only and not so much in the Bologna process, which solved the problems of consolidating education in Western Europe.

Without claiming to solve the problems of higher education as a whole, we will try, taking into account the experience of organizing training in the legal specialty, including personal experience, to identify those elements that today, as it seems, have become a serious obstacle to the productive development of higher legal education in the country. We have spoken out about some of these problems before, but they remain unresolved for legal education [4, pp. 122-130].

Let's start, firstly, from the beginning, noting that the existing system of admission to legal specialties and areas of training does not, as it seems, ensure the selection of a contingent that meets all the parameters of the possibility of obtaining a legal profession. In the current situation, universities have found themselves effectively removed from the competitive selection of applicants, since through the Unified State Exam they are presented to them from the outside, so to speak, on a silver platter.

While one can still agree with the fixation of a level of intellectual development sufficient for obtaining higher education through the Unified State Exam, although it is clear that mastering a legal specialty requires a special type of rational thinking, it is somehow forgotten that there are also other parameters required for the legal profession.

They belong to the category of socio-political and should record the necessary level of moral and civic positions of the future student, without which it is impossible to obtain a lawyer in the process of university education, who is ready to correctly and consistently defend the interests of society and the state. No Unified State Exam records these parameters and therefore the introduction of a mandatory competitive subject selection for all legal specialties at the level of a law school, possibly in combination with the Unified State Exam, seems necessary and justified in the conditions of the modern reform.

Then, secondly, let us pay attention to the content of the training of lawyers in terms of what and in what sequence lawyers study. Modern standards leave a

feeling of bewilderment in this regard, since they do not provide a clear list of disciplines required for the formation of professional legal thinking and relevant skills, do not determine, accordingly, the volume of these disciplines and do not fix the necessary sequence of their study. Each university therefore chooses its own training trajectory depending on its capabilities and conditions, ultimately graduating lawyers with diverse training.

It is possible that for some areas of higher education this subject freedom is useful, but not for the sphere of jurisprudence. We think that many still remember the words of one of the classics of Russian political thought about the impossibility of the existence of the legality of Kaluga and Kazan when it is necessary to maintain a single legal field of the country, in this case through the prosecutor's office. The task of maintaining the unity of the legal system in the country has always been and remains, only becoming more urgent. How are we going to solve this problem, preparing lawyers in different universities with different nomenclature, volume and quality of professional legal knowledge?

Therefore, we consider it objectively necessary to return to the system of standards, in which for the legal specialty, as we recall, in Soviet times in the standard curricula, the subjects required for study were clearly spelled out in the main part, in the established volumes, sequence and forms of final reporting, as well as the mandatory list of state examinations. We will leave deviations from the professionally strictly maintained line of content of legal education to the share of optional disciplines and elective disciplines.

Thirdly, it is impossible not to notice that in recent decades the level of fundamentality of legal education has significantly decreased. This is happening by excluding a number of fundamental theoretical disciplines from their curricula, reducing the volume of their hours, replacing them with applied legal disciplines, etc. This process is usually explained by the need for a closer connection with practice, practical orientation of legal education, etc.

Let us, however, pay attention to the fact that with the loss of fundamentality, the principle of universality of legal education is also lost. Instead of specialists who, upon graduation, can work as a judge, prosecutor, investigator, lawyer, notary, legal adviser, we are starting to graduate specialists with a narrow professional focus, say, servicing road accidents or the advertising business. What benefit is there for legal practice, if we take it as a whole? Rather, it is a gradually emerging and not yet fully realized disadvantage for it.

It should also not be forgotten that the fundamental nature of legal education is inextricably linked to its ideological orientation [5, pp. 4-7]. We are not training lawyers in general, who can do anything, anywhere and in any way, but first of all servants of the sovereign, who serve Russian society and the state, who must live by their interests and ensure the most adequate implementation of socially signifi-

cant needs. The calling of legal specialists to this mission is formed and developed mainly through a block of fundamental disciplines, both social and legal, which clearly needs to be revised quantitatively and qualitatively, expanded and substantively changed, taking into account, first of all, the achievements of domestic philosophical, social and legal science at all stages of its development.

It would not be out of place to remark here that as soon as the list of disciplines, including philosophy of law, was removed from the standards of the Master's degree in jurisprudence, a number of proposals immediately appeared to exclude this discipline from the curriculum. And this is at a university whose goal, unlike higher educational institutions of another level, is to ensure the utmost fundamentality of legal education.

The general conclusion from the above is as follows. Changes in the system of higher professional education are necessary, they are defined in the right direction of returning to the Russian national system of higher education at a new level. At the same time, they require more detailed elaboration and adjustment in relation to individual specialties, in particular, legal ones.

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美国第 51 个州或“大黄蜂”反对唐纳德·特朗普
THE 51ST US STATE OR “HORNET” AGAINST DONALD TRUMP

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摘要。作者分析了美国在北美获得新领土的可能性以及乌克兰冒险的结局，如果没有美国“鹰派”的支持，这场冒险很快就会以俄罗斯的胜利告终。同时，如果泽连斯基派往美国的“大黄蜂”小组的杀手成功暗杀特朗普，则可能进一步升级的风险。

关键词：俄罗斯、SMO、弗拉基米尔·普京、美国、乌克兰、凯洛格计划、约瑟夫·拜登、唐纳德·特朗普、弗拉基米尔·泽连斯基。

Abstract. *The author analyzes the possibilities of the United States acquiring new territories in North America and the finale of the Ukrainian adventure, which without the support of American “hawks” will very quickly end in Russia’s victory. At the same time, the risks of further escalation can be realized in the event of a successful attempt to assassinate D. Trump by killers from the Hornet group sent to the United States by V. Zelensky.*

Keywords: *Russia, SMO, Vladimir Putin, USA, Ukraine, Kellogg plan, Joseph Biden, Donald Trump, Vladimir Zelensky.*

The winter that has begun continues the successful autumn of 2024, when Russia continues to demonstrate a series of active actions and Russian President V.V. Putin, after his trip to China, and then to the DPRK and the SRV, was able to create the impression in the whole world of a certain adjustment and balancing of forces to polarize processes in the Asia-Pacific region from the standpoint of Russia’s return as a key player, and showed the revival of once powerful, but then almost completely lost ties. It is the revived agenda of assistance and partnership in the strategic deployment of a community of interests with these countries not only as former colleagues in the socialist camp, but also as states maintaining their sovereign priorities within the framework of a national ideology of justice and social institutions of progressive development, emerging from under the cor-

poratocracy dictate, that gives hope to the world for fair relations between states and peoples and the expected peace of the era of the collapse of the neocons and the ideas of unrestrained consumption of the “golden billion” at the expense of everyone else. All these states have the imprint of a pro-communist ideology and utopianly expected attitudes of equality and brotherhood, which really contributed to the division of the world into 2 camps and, after the end of the “cold war”, gave a second chance to evaluate their own interests from the position of the elites and the expression of the will of the people, continue to wait by inertia for initiatives from Russia. At the same time, communism in Asia has always had a communal and community tint, either flaring up with the unbridled tyranny of the Khmer Rouge or growing into variants of matrix or network cooperation of economic chains of pro-Chinese orientation, implemented in historical supply routes, and reviving today from the positions of fragmentation and further glocalization in ensuring the countries’ own technological and food security and their sovereignty-gaining industries. [1]

The result of such geopolitical zoning to date has become a deeply debugged mechanism for accumulating and clustering competitive advantages and technological competencies, without which, according to EU statistics, up to 42% of the Old World’s GDP still cannot do, and China, which is buying up the infrastructure of European countries, has advanced in these expansionist tendencies more deeply, pulling out the basic foundations in technology and logistics, in energy and in the “brain drain” like Hermann Simon’s “hidden champions” at the end of the Marshall Plan, by no means a pro-American choice. At the same time, the ongoing dicapping in ICT has already shown the futility of Anglo-Saxon retorts and reprisals in the sanctions field, the inability to resolve issues of material and component support without old Asian tigers and the growing “Asian tiger cubs of the second wave” who are waiting for their “meat” from the body of the decrepit and tired of their own hegemony and greatness of the “golden billion” states. [2] The invented game in the colonies and in the metropolis is still trying to turn neocolonialism into the basic priorities of the modern world, and therefore Mongolia and Azerbaijan, the basic countries in Asia and Transcaucasia, should receive their share of the reward for the correct choice of their place in a rapidly changing world. The possibilities of using AI and creating digital infrastructures in distant regions can be perceived by the parties not only as an accompaniment to the OBOR, which, in the event of the mobilization of states in a military confrontation, will help them use the IPSO standards, developing the successes of ground forces from the air and from space. [3]

Therefore, Azerbaijan wants to build an oil tanker fleet with Russia and promote new routes through its territory to replace the Nord Streams blown up by the collective West, especially when the Ukronazis tried to reduce everything to the

autumn blackmail of the European energy sector, which signed up for expensive and long-term LNG, which is not yet capable of being delivered in full volume either by transport or infrastructure to end consumers in the Old World from the New. Here, the role of AI is also quite important, because it does not yet allow us to talk about the unity of standards in the energy sector (the Third Energy Package of the EU without Russia is on the verge of collapse due to the replacement of cheap raw material flows with LNG from the New World and Norwegian hydrocarbon supplies), which are not capable of closing the issues of European reindustrialization and preparation for a mobilization economy, obviously arising in the confrontation of the collective West with Moscow, by more than 56%. The Kursk adventure showed that the fight for the PAO Gazprom hub in Sudzha is the main task of mastering the energy lever during the period of maximum demand for gas in Europe, which is already afraid of nuclear provocations in Kurchatov and Zaporozhye at Russian nuclear power plants, which are constantly subjected to cyberattacks and drone attacks by the Ukrainian Armed Forces under the control of NATO instructors and Western PMCs. The American task of creating “dead lands” of potential contamination in new Russian territories through “dirty bombs” or leaks from nuclear power plants, and also knocking Russia out of the game of civilized energy security and self-sufficiency of Europe forever is becoming real, since without hopes and without really declared and existing opportunities for Azerbaijan to help itself and Russia saturate European hubs with hydrocarbons, there will no longer be a stable and innovative economy of the EU. Understanding all the advantages of such multi-vectorism, possessing the ability to be a real diplomat gives Ilham Aliyev the opportunity to apply to BRICS, which, together with the Turkish request to accept alternative Anglo-Saxon ideas and opportunities into this business club, makes this story strategically in demand, and the logistics and energy of opportunities are simply off the charts: and this is not only the North-South corridor, but this is the ability to combine their interests with Russia and strengthen the understanding of what kind of configuration is needed for an integration platform, allowing each participant to build their IEO preferences and loop their priorities in the NBICS technologies of Industry 4.0. [4] The tasks for the Mongolian comrades are to maintain not only the first places in the world in food security and raw materials, especially in terms of polymetallic ores and rare earths, but not to dissolve in the “embrace of the Celestial Empire”, which believes that everything that is good for it, of course, is good for the rest of the world. Therefore, the border with such a loving neighbor gives the MPR only one chance to survive in an alliance with the Russian Federation, as evidenced by the military parades on May 9, and joint exercises, and the desire to conduct accelerated reindustrialization with the help of Russian technologies and innovations capable of competing with the PRC for many industries within the still sov-

oreign and peacefully reviving Mongolia. Therefore, realizing this, Khurelsukh declared that the Mongolian side will develop trade and economic cooperation with the Russian Federation and will bring significant prosperity and well-being to the peoples of the two countries, will become a labor and energy bridge in Eurasia to protect food reserves from the standpoint of agriculture and crop production, horned and breeding cattle. [5]

At the same time, V.V. Putin stated that relations with Mongolia are one of the priorities of the foreign policy of the Russian Federation and Asia, and therefore the completion of work on a temporary trade agreement between the Eurasian Economic Union (EAEU) and Mongolia, which should simplify the supply of Mongolian export goods to the Russian market, is becoming a conscious matter and a support for all those who are close to the ideas of developing Asia without the traditional English and the structures of the “European runners” taking away their remnants of former greatness from the African continent and believing in the continuation of Rudyard Kipling’s “Great Game” in the world of corporations and the formed capitalism of netocratic images and bankster extreme. And the electronic intelligence systems from the territory of the Mongolian People’s Republic will be able to get the direction finding of communications of members of the Asian NATO and loyal participants of the AUKUS cooperation - South Korea, which already sees the outcome of all the efforts of the Ukrainian Armed Forces on the Russian front and officially refuses to supply any weapons, so as not to become a party to the conflict. At the same time, it was the South Korean special forces that were considered by the CIA as the support forces for conscious operations-provocations in Central Asia and were hedged by the involvement of the North Korean military in various joint projects: from exercises to staff and team games on the paralysis of the Korean Peninsula by the IPSO method and cyberterrorism in the event of a probable conflict around the 38th parallel. Moreover, “Oreshnik”, which flew to “Yuzhmash” in Dnepropetrovsk instead of Kyiv, showed that we are also capable students in IPSO, if it concerns “dirty bombs” or other provocations that were prepared in the workshops of the military-industrial complex giant. At the same time, both the BM-18 Voevoda missile (SS-18) previously created by Yuzhmash and the sea launch for our options for splashing down our own spacecraft at sea for pennies went to NATO manufacturers in 2014, who immediately thought about options for Russia’s retaliation, a kind of “plan B”, in the event of a possible, and now guaranteed, defeat of the Ukrainian Armed Forces on the ground. The communications and electronics themselves are part of the component base that is used for unified geolocation systems, capable of having various application options, including a connection with Elon Musk’s Starlink, who did not want to provide the necessary satellite and mobile communications for a consistent response to the Ukrainian Armed Forces in Crimea. [6]

The ongoing total digitalization in all industries, within the framework of the “explosive leap” proclaimed since 2001, in all previously globalized and post-COVID sovereignty industries, in particular, with unique systems and with elements of AI and Big Data technologies allow neural algorithms to analyze trends in geopolitical instability and offer a choice of various scenarios capable of describing the situation of the formation of a new world order, and communicating, at their choice, several options for action to the customer. The official name of the new product is the “combat control information system”, which can be used both for the armed forces and for damaging infrastructure facilities, in particular, energy ones through pinpoint and dagger passages of special forces troops in the IPSO and in provocative approaches to enemy territory. According to combat regulations, the commander must make a decision on a battle, taking into account dozens of factors: the number of his own forces and assets, intelligence about the enemy, road conditions, weather conditions, the amount of ammunition, fuel and lubricants and material and technical resources, the moral and psychological state of the personnel and much more. All this data, expressed in specific indicators, is calculated using special algorithms, after which a combat order is drawn up: how many forces to send in a certain direction, at what targets and areas and with what amount of ammunition to fire artillery, where to locate reserves, how to organize the delivery of provisions, the evacuation of the wounded and damaged equipment, etc. The combat control information system collects data from all services, processes them and makes decisions in a matter of seconds. The various scenarios presented to the commander are ranked, starting with the most potentially successful. In the military department, the system uses elements of artificial intelligence and Big Data technology. It allows to significantly, by an order of magnitude, reduce the time that the commander spends on making a decision, as well as increase its accuracy.¹

In fact, this is one of the elements of an automated control system, a special software package that can be used at all levels: from tactical to strategic. Its main task is to automate operational and tactical calculations, solve information and communication problems. Previously, data was collected and analyzed almost manually: chiefs of staff and operating officers received information from subordinate units and summarized it. Of course, they calculated in much smaller volumes, took into account significantly fewer parameters, and it took many times more time. The new algorithm is capable of supporting all types of combat, including conducting a combined arms operation using various types of troops and weapons. [7] In real time, artificial intelligence and Big Data technologies can be used with great efficiency in the military sphere, thereby saving the lives of hundreds of

¹ in the direction of “Artificial Intelligence”; 2022. Almanac Artificial Intelligence. Analytical Digest No. 10. Index 2021. Moscow. Available at: < https://aireport.ru/ai_index_russia-2021 >

military personnel. In the civilian sphere, digital infrastructures and ecosystems are being formed, tied to the points of mineral extraction and the distribution of renewable energy sources across the territories of greatest suitability for them. Big Data technology makes it possible to transmit virtually unlimited amounts of data, including video, text and graphic information. In combat, this data will come from military personnel, equipment, various reconnaissance assets, including unmanned aerial vehicles. All this will happen in real time. With the help of an artificial intelligence system, information will be instantly processed, summarized and analyzed. This will undoubtedly help the commander understand and decide how best to use troops and resources².

The limitations for these ICT processes may be regulatory barriers and the polarization of the world in the use of digital technologies within military blocs and alliances, which after 2.5 years of the SVO began to have a multifaceted nature of responses to all types of threats, with the polarization of tasks in AUKUS and with the expanding transformation of NATO taking into account the wishes of Sweden and Finland, as its new members, as well as for South Korea and Japan, as elemental and material science bases for further integral and chip groundwork in Industry 4.0. [8] This may become quite noticeable after the activation of nuclear programs on the Korean Peninsula, in the area of the 38th parallel, by both Korean states, as well as increased activity in their further military industrialization and the growth of offensive power by the Japan Self-Defense Forces. And this aspect of the growth of activity in the potential theater of military operations in the Asia-Pacific region is becoming another driver of the growth of political instability and US attempts to reach the level of world hegemony and slow down the strengthening of China in its geopolitical expansion, especially in places of its historical dominance and influence, as is happening today in the battle for Taiwan. It is also especially sensitive to any military exercises, such as the Ocean-24 naval exercises, taking place in September 2024, in the Asia-Pacific region, near continental China and with the participation of China and Russia. This is especially relevant when Russia can continue, and already announced this at the end of November 2024, its nuclear tests, interrupted in 2001 in anticipation of further permission from Washington to Kyiv: and continue to use long-range weapons systems of the Armed Forces of Ukraine in strikes on Russian territory in the future confrontation. AI itself is becoming increasingly complex (after deep and machine learning, it is going through a phase of accommodation of algorithms and their practical use in generative AI systems, which is especially valuable for “smart homes”, cities and networks of smart and energy-saving generation, which are used in increasingly innovatively oriented sectors of the global economy, especially in the arms

² Klinov V.G. Forecasting long-term trends in the development of the world economy: textbook/ V.G. Klinov.- M.: Master, INFRA-M, 2020.- 77-84 P.

markets, which requires more substantive study for all global actors, given the risks of its uncontrolled development and the lack of legislative norms regulating a potential “machine uprising”³.

This was the whole point of the information society, which had run into not only the American-Chinese technological dicapping (divorce in the area of further leadership in global ICT competition), but also managed to create ecosystems of national security on the ruins of the institutions of international law and the technological autarkies of new industrial countries, strangled by hunger, poverty and the inability to educate themselves to the constantly changing trends of the global scientific and technological revolution⁴.

Humanity has come up against a class of intellectual problems in its development, accompanied by the philosophy of determinism and a sharp demarcation in the creation of costs that fall with the growth of production of goods and services, due to synergy and multiplier effects, and also replacing the resource bases of its effectiveness with technologies of the required innovative competitiveness. In particular, we have not fully resolved the issues of pattern recognition with AI, have succeeded in finding solutions of varying levels of complexity, have not provided comprehensive installation data on the processes of constructing models of surrounding objects and processes, have not recorded the feedback of humanity’s impact on the environment of the surrounding world, have missed the accuracy of gradation of autonomous movement and positioning in space and in relation to time, have not completed the complex of interdependence of social communications on monetary and credit and loyal-accessible entry to the platform of equal opportunities for a citizen and a state of a new type, first drawing its survival and only then the process of multiplying efforts for equal opportunities for access to the benefits of each worthy and the parallel process of destroying everything unnecessary that accidentally appeared in the process of informational social transformation. In order to conduct the IPSO itself, it is necessary to further improve the recognition of mixed-modality signs (recognition of cyberattacks and other network-centric failures and cascading distortions), apply disinformation methods in the media (netocrats’ actions to destabilize the information field), be prepared for an increase in the energy load on previously introduced power generation capacities that fail due to lockouts and cloud solution servers and data storage databases that are not ready for maintenance. The leaders of these processes are still the Chinese, but America, cultivating entire constellations of Asian techies in its universities, and stealing technologies through AUKUS and QUAD, involving

³ New tasks for politology of 2020 years of the Third Millenium. Kharlanov Alexey Sergeevitch, Evans Julia Nailiyevna. Practice Oriented Science: UAE- RUSSIA-INDIA Materials of International University Scientific Forum, June 17, 2022;

⁴ Strong artificial intelligence: on the approaches to superintelligence / Alexander Vedyakhin. - M.: Intellectual literature, 2021.

new members such as Japan, South Korea and Israel, does not tire of caring for its national security, supporting the Great American ICT Five. In parallel with the Middle East and Pacific plans for NATO expansion, the global economy is preparing for further digitalization of the processes of technological involvement in Industry 4.0, which will be able to provide new solutions for polycentricity and the dominance of “new money” on Earth and in space, in virtual space and in individual industries, where today IER (international economic relations) are reduced mainly to “capital flight” and “brain drain” engaged in geo-economic zoning of zones of stable development and deindustrializing “Somaliization”, territories deprived of meaning in the institutions of development of the world economy and trade relations between states⁵.

Russia’s task is to take an active and sovereign part in the processes of creating Industry 4.0, to solve the tasks facing us of winning in the CIS and to become part of the digital global infrastructure, which should be solved by us through AI neural networks and Big Data, using the best world practices and with the involvement of “digital nomads” of the leading countries of the “global South”. [9]

The presence of interchangeable solutions both in import substitution and in approaches to countermeasures on the battlefield can allow us to plan retaliatory IPSOs against the strata of individuals and NGOs of the Kyiv regime, creating panic and suppressing their hostility towards Russia, which should be, as has already been proven and is indisputable, both on the line of combat contact, and in the ability to pinpoint and specifically disable any channels of destabilizing influence and block propaganda efforts by Bereginya fighters and similar conscientious units, or retaliatory systemic and targeted steps to paralyze the information background of the current Ukrainian Nazi society. Therefore, by pardoning his beloved drug-addicted son Hunter Biden, the outgoing Democrat Joseph showed a triumph of the ideas of humanism, the world of classical family values and loyalty to the ideals of his own clan, and Olaf Scholz’s new attempts to negotiate “eternal assistance to the Armed Forces of Ukraine” after the destruction of JSC Yuzhmash look like a justification before the allies for participating to the end in NATO’s Ukrainian adventure. Therefore, no Kellogg plan will be able to work again, no matter how much his boss, Donald Trump, would like it, because it comes essentially from the thoughts of the neocon bottom of global governance of institutions of supranational suppression of the sovereignty of states and does not understand that we cannot accept any withdrawal from the complete seizure of the Black Sea borders, because it will become a symbol of temporary workers and national betrayal, which, of course, our President of Russia V.V. Putin should not allow in any way. D. Trump is better at scaring Justin Trudeau, who is leaving his

⁵ The Digital Earth project has received high praise from the Russian IT industry. Source link <https://russianspacesystems.ru/2024/10/24/proekt-cifrovaya-zemlya-poluchil-vysokuyu-ocenku/> (date of access 01.12.2024).

post as Prime Minister of Canada, by offering Canada to become the 51st state of the USA, and Trudeau himself to become its governor. Moreover, then the anger over the trade deficit between the USA and Canada, more than 100 billion US dollars, will be replaced by preferential tariffs and regimes, as was practiced during the NAFTA era, when Mexico, together with both North American states, also practiced the multiplier effects of developing a single free economic zone with common capital and labor markets.

All this, however, may quickly end, because the hired killers from the Hornet group sent to the USA by Vladimir Zelensky are called upon to stop the future 47th President of the USA, for his declared pacifism in Ukraine, as well as for peace initiatives, on conditions unfavorable for the Ukrainian Nazis. In a couple of weeks, the world will be immersed in the magic of Christmas holidays all over the world, and for now, politicians are scaring each other with new sanctions and threatening their future voters with nuclear mushrooms of mutual failures of the policy of the international absence of nuclear safety systems, which the Americans have categorically and step-by-step destroyed over the last 10 years of our Crimean spring... Let's hope that Father Frost, who becomes Santa Claus for the New Year, will bring in the form of gifts both peace and salvation from the vices of corruption, hatred, nihilism and lack of spirituality, which the neocons are stuffing the world with and igniting new zones of conflict and geopolitical instability...

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外语作为国际商业环境中沟通的基础

**FOREIGN LANGUAGE AS THE BASIS OF COMMUNICATION IN
THE INTERNATIONAL BUSINESS ENVIRONMENT**

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摘要。在世界各国，学习外语都非常重要。例如，现在越来越少的商业领域不需要商务英语。显然，几乎任何现代专家都需要熟练掌握英语和其他外语。根据国际咨询集团的数据，全球语言服务市场的规模在过去 13 年中增长了一倍多——从 2009 年的 240 亿美元增长到 2022 年的 550 亿美元。语言服务的消费者明白，全球大部分商业通信都是用外语进行的。例如，世界上大约 80% 的计算机信息都以英语存储。此外，大多数国际文章、文件、文学作品和说明都是用英语写的。基于此，本文致力于研究外语在商务交流领域的作用、其特征、对所学语言的文化和传统的了解、口头和非口头交流方式。

关键词：商务沟通、英语、跨文化交流、商务信函、商业道德、语言学家、语言能力。

Abstract. *In all countries of the world, the study of foreign languages is of great importance. For example, now there are fewer and fewer areas of business where business English is not in demand. It is already obvious that confident proficiency in English and other foreign languages is necessary for almost any modern specialist. According to international consulting groups, the size of the global language services market has more than doubled over the past 13 years - from \$ 24 billion in 2009 to \$ 55 billion in 2022. Consumers of language services understand that the bulk of global business correspondence is carried*

out in foreign languages. For example, approximately 80% of all the world's information on computers is stored in English. In addition, most international articles, documents, literary works, and instructions are written in English. Based on this, the article is devoted to the study of the role of a foreign language in the field of business communication, its characteristic features, knowledge of the culture and traditions of the studied language, verbal and non-verbal means of communication.

Keywords: *business communication, English language, intercultural communication, business correspondence, business ethics, linguists, language proficiency.*

Introduction

It is noted in the literature that language is a fabric that binds society and culture together, and not just a means of communication. According to Nelson Mandela, “If you speak to a man in a language he understands, it goes to his mind. If you speak to him in his language, it goes to his heart.” Therefore, international business language refers to the key languages that dominate the global business environment, and it is not limited to one language, but includes various languages that have become widespread in the business community in order to facilitate transactions, negotiations and communication between organizations representing different linguistic and cultural groups.

The importance of an international business language is due to the following circumstances: effective communication; access to larger markets; increased authority; cultural sensitivity, etc.

The purpose of the study is to generalize the experience of using a foreign language as a basis for communication in the international business environment.

Materials and methods

Statistics for 2023 show that the world's top business languages to learn in international markets are English and Mandarin Chinese.

Global business speaks English, and the language dominates in regions such as North America, Europe, Australia, and parts of Asia and Africa. In 2023, about 1.5 billion people worldwide speak English as a first or second language, so its global influence is clear. Due to the booming economy, one of the most valuable languages in Asia to learn for business purposes is Mandarin, spoken primarily in regions such as China, Taiwan, and Singapore (there are more than a billion native speakers worldwide).

Spanish, Hindi, Bengali, and Urdu (Lashkari) are languages that are powerful tools for trade, thriving economies, and technology-driven markets. In countries like Spain, much of Latin America, and even large communities in the United States, Spanish is the dominant language. Hindi, spoken primarily in India and

parts of Nepal, has become an important international business language for companies looking to take advantage of the vast potential of the Indian subcontinent for business expansion. Knowing Bengali also allows you to better understand and communicate with fellow entrepreneurs in countries like Bangladesh and India. Knowing Urdu allows you to collaborate effectively with businesspeople from India, Pakistan, Fiji, and even from countries like England, Canada, the United States, and Norway, where Urdu is spoken.

French continues to be one of the best languages for business not only due to its historical and diplomatic past, but also its active use in France, parts of Canada, many African countries and the Caribbean. Portuguese is also an important tool for communication in the international business environment. Brazil is attractive due to its developing economy, while other countries, such as Portugal and some parts of Africa, where Portuguese is spoken, are open to all foreign partners to expand business contacts and international trade. German, although not among the most widespread languages in the world in terms of the number of speakers, is no less important for business, as it is associated with the developed economies of Germany, Austria and Switzerland. It should be noted that more than 90 million native speakers confirm its importance for the development of business contacts in Europe and beyond.

The key to opening up many Middle Eastern markets is the Arabic language. This international business language will help establish connections not only with traditional players in the oil market, but also with other rapidly developing areas of cooperation (real estate investments, IT technologies, etc.). One of the largest market economies in the Middle East and North Africa region is Saudi Arabia, which is characterized by a large and growing market, a skilled workforce, and, in general, favorable conditions for doing business.

The Russian language is one of the top ten most widely spoken languages in the world by number of speakers: in 2023, there were more than 255 million. The Russian economy is one of the most dynamically developing in the world, so business Russian is becoming increasingly popular among foreign citizens - both current and future entrepreneurs currently studying at leading Russian universities.

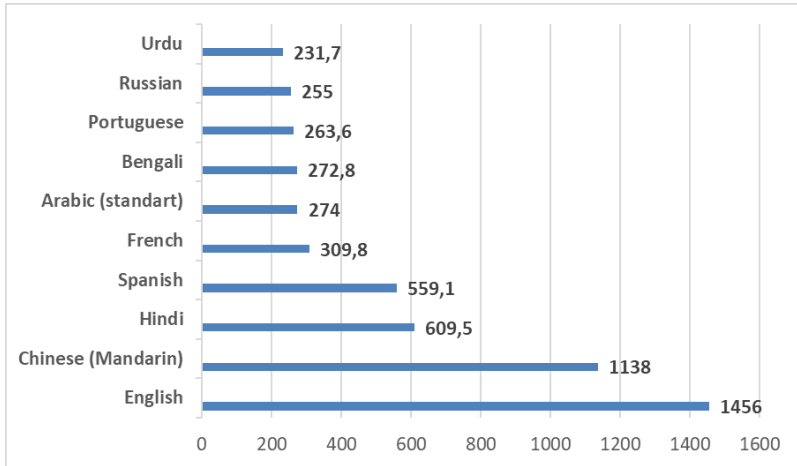


Figure 1. The most spoken languages worldwide by speakers in millions, 2023 [3]

In the modern world, knowledge and use of a business foreign language is the norm for goal-oriented people, necessary for successful career growth. The importance of a business foreign language is difficult to overestimate. Almost all business meetings and summits, organization of negotiations and other - all this is conducted mainly in a foreign language. As an example, we can cite the English language: the work of the banking system, international trade, the activity of the transport system on land, in the air and at sea is carried out in Business English. For scientists around the world, modern Business English is a communication tool. After all, all international conferences, information exchange and study of world experience are carried out using the English language. Today, English is used by about 600 million people around the world, for 20% of the population, English is the officially accepted language, 75% of business correspondence, conclusion of contracts between companies from different countries, negotiations, document management and 90% of information on the Internet are presented in English, and in the business environment, English has taken a leading position since the early 50s of the last century.

English is used on a daily basis in such areas as tourism and hotel business, the aviation industry, IT, and the financial sector. Certain historical factors contributed to the transition of English to the official level, including: the use of the language as an official language by such authoritative international organizations as the UN, UNESCO, and others; the deep involvement of English-speaking countries in geopolitics; the rapid spread of English via the Internet, etc. [1].

The basis for the effective operation of any enterprise is business communication with current and potential partners, competitors, and consumers. Communication in a multilingual environment not only facilitates interpersonal professional communication between employees, but is also of particular importance for the financial viability of the company [2].

Figures 2 and 3 show the average number of search queries per year for the queries “Learn English” and “Translate into English”. The data presented shows that increased interest in English is shown by residents of countries such as the UAE, Malaysia, the Philippines, Sweden, and Israel, which may be explained by the decline in the level of business communication in the entrepreneurial environment in such typically “English-speaking” countries as the USA and Great Britain.

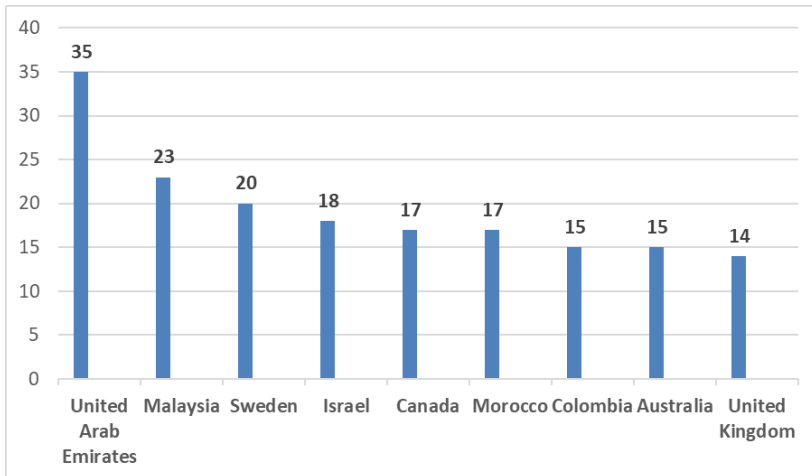


Figure 2. Average yearly searches for ‘learn English’ per 10,000 people (top 10 countries, 2022) [4]

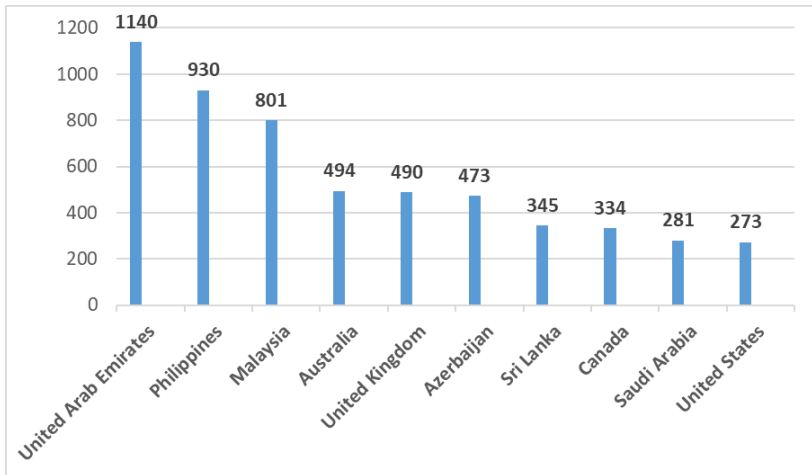


Figure 3. Average yearly searches for 'translate to English' per 10,000 people (top 10 countries, 2022) [4]

Results and discussion

It is important to remember that in addition to knowledge of verbal means of communication in a foreign language, non-verbal communication also plays a very important role, which includes knowledge of cultural norms accepted in a particular society. Confident command of a foreign language is self-affirmation, pride and support. With its study, the world will become brighter for a person. The main thing is the desire “When there is a will, there is a way”. A well-constructed speech in a foreign language is capable of solving a number of problems that Russian society faces today related to the training of high-level specialists who will be able to raise their country to a qualitatively new level of development in the field of intercultural communication. Knowledge of a business foreign language in the 21st century is a kind of window to the world [6-10].

In the modern world, a business foreign language is used by almost the entire world. It is a foreign language that is the native language of many nations, the language of international communication, an integral part of the 21st century. Today, a foreign language is an important part of every person's life. For many professions (translator, ambassador, journalist, businessman, programmer), a business foreign language is the basis of the profession. The need to introduce new information technologies into all spheres of human life is becoming increasingly obvious. In this regard, the world of information technologies, one can say, “speaks” a business foreign language. Professional proficiency in a business foreign language helps in solving the problems of developing international cooperation and foreign

economic relations. A foreign language of business communication is an integral part of communication in the international entrepreneurship environment [11-17].

Thus, a business foreign language is necessary for making business trips, successful career growth in large companies, successful negotiations with various foreign partners, business meetings, business correspondence, telephone conversations, etc.

Based on the above, it is necessary to pay attention to the fact that a business foreign language has become as necessary as a telephone, a notebook, a computer. Professional proficiency in a business foreign language opens up vast opportunities for people to achieve their goals. In connection with the above, it seems necessary to draw more attention to the sphere of business ethics in the modern language of business communication. People studying a foreign language for business communication must, first of all, pay attention to the existence of words reflecting the concepts of business ethics and their conceptual content, remove them from the field of philosophy and firmly tie them to business practice.

Conclusion

In the twenty-first century, it is very difficult to imagine a successful person without knowledge of at least one foreign language. The ability to communicate freely in a foreign language is now indicated as one of the mandatory requirements for employment. Good knowledge of a foreign language is necessary in almost all areas of human activity: from programmers and IT specialists to managers and economists.

With a confident command of the language of international communication, a person can easily achieve the goals set for himself (with the help of new opportunities opening up before him). It is foreign languages that, first of all, expand our world and make us richer. It is not surprising that Johann Wolfgang von Goethe once said: “A man is as many times a man as he knows foreign languages.”

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中国老年人体育健身工作组织特点

**PECULIARITIES OF ORGANIZATION OF PHYSICAL CULTURE
AND HEALTH-IMPROVING WORK WITH OLDER PEOPLE OF
CHINA**

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摘要。本文介绍了我国现代老年体育文化和组织工作的特点。老年人健康素养水平低，对老年人健康促进技术手段缺乏了解，导致老年人体质提前老化。

与此同时，我国老年体育活动组织管理还存在诸多问题：公共体育活动管理机构混乱，体育组织管理制度不完善，体育发展服务经费不足，公共体育活动服务质量不高，体育服务宣传力度不够，老年体育相关法律法规有待完善。

关键词：体育文化，老年人，中国，组织方式。

Abstract. *This article introduces the peculiarities of modern sports culture and organization of work with older people in China. The low level of health literacy in the field of health-saving technologies in relation to the elderly and the realization of existing group and individual approaches to the promotion of physical health of the older generation leading to the early aging of the elderly.*

At the same time, there are still many problems in the organization and management of sports activities for the elderly in the PRC: disordered institutions for the management of public sports activities; imperfect management system of physical culture organizations; inadequate funding for sports development services; inadequate service quality of public sports activities; insufficient advertising of physical culture services; laws and regulations concerning sports for the elderly need to be improved.

Keywords: *physical culture, old people, China, organizational methods.*

Introduction.

In terms of the speed and degree of population aging, Beijing ranks second after Shanghai and is among the top three in the country. Among the 16 districts and counties in Beijing, the degree of aging in Haidian District is among the top three. According to the report of the Beijing Municipal Commission on the Elderly “Information on the Elderly Population and Career Development of the Elderly in Beijing in 2023”, at the end of 2023, among the 16 districts and counties in the city, Haidian District had the second largest number of elderly people aged 60 and above, with 451,000 people. Haidian District has the second largest increase in the number of elderly people in households compared with the previous year, with an annual increase of 26,000 people. Haidian District has the second largest number of mature people, with 68,000 people. This indicates that the aging situation of Haidian District of Beijing is extremely serious.

The population is currently aging much faster than in previous years. In 2023, the number of people over 60 in China exceeded the number of children under 5 [1,2]. Thus, between 2015 and 2020, the world’s population over 60 doubled - from 12 to 22.7 percent [3].

In this context, the question of how to develop and strengthen resources for protecting the health of older people, organize activities to improve physical health and increase their motivated activity in relation to physical education and sports is of particular importance.

The aim of the study is to analyze the organization and features of physical education and mass work with the elderly in China.

Methodology and organization of the study:

This article uses the following research methods: analysis, observation, comparison, interview, etc.

The study was conducted in China, at the Haidian District Elderly Sports Association, Beijing City, and involved 388 people (188 women aged 65-75 years and 200 men aged 68-76 years).

Research results and their discussion:

During the survey, it was revealed that the most popular places for exercise are mainly parks, squares, courtyards and public sports facilities (Fig. 1).

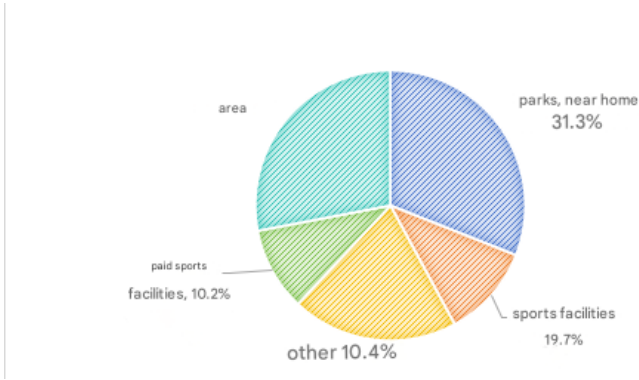


Figure 1. Proportion of older adults using different physical exercise facilities in China

As we can see in Figure 1, the largest proportion of elderly people exercise in parks near their immediate place of residence, which may be due to both material issues and the lack of information support for mature people in China. At the same time, the opportunities for this category of the population in urban and rural areas to engage in sports vary greatly, which largely depends on environmental factors in their lives and their conceptual understanding of the importance of physical education.

In this case, it was found that in Haidian District, there are 223 people who do exercise before 8:00 a.m. and 165 people who do exercise after 6:00 p.m., respectively. The number of people who do exercise before 8:00 a.m. is higher due to several factors: the elderly have the habit of going to bed early and getting up early; the environment early in the morning (fresh air, quiet) is suitable for exercise. The number of elderly people who do exercise during the other three hours of the day is obviously small; during the day, they are busy with household chores and housework, and their motivation to do exercise is not very high, especially during the rest period from 12:00 p.m. to 2:00 p.m.

In China, there are still many problems in organizing sports activities for mature people. At the same time, it would be relevant to organize older people into groups, depending on their usual hours of physical exercise. People of retirement age are left to their own devices and are often not aware of the availability of physical activities in the regions where they live.

In order to help solve the actual problems arising in the physical activity of the elderly, it is important to fully understand the current government policy on physical education and match it with the actual situation of sports and health organizations in China.

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民间故事小体裁在中国俄语课堂言语教学中的作用
**THE ROLE OF SMALL GENRES OF FOLKLORE IN TEACHING
SPEECH ACTIVITIES IN RUSSIAN LANGUAGE LESSONS IN
CHINESE AUDIENCE**

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摘要。本研究以在中国听众中的工作经验为例，探讨了在俄语对外教学中运用俄罗斯民间传说小体裁进行言语活动教学的可能性。

关键词：俄语对外教学、言语活动、俄罗斯民间传说、民间传说小体裁、中国学生。

Abstract. *The study considers the possibilities of using the means of small genres of Russian folklore for teaching speech activity in the lessons of Russian as a foreign language on the example of the experience of work in the Chinese audience.*

Keywords: *Russian as a foreign language, speech activity, Russian folklore, small folklore genres, Chinese students.*

Today China and Russia are getting closer and more actively interacting, which positively affects friendship between the peoples of both countries, promotes economic progress and increases interest in Russian-speaking highly qualified specialists.

Many Chinese students and pupils study Russian language, certainly this process causes many difficulties, which are connected with linguistic thinking, differences in language system of Chinese and Russian, differences in grammar, pronunciation and with peculiarities of mentality.

Chinese students have special difficulties in teaching speech activity. This is due to the fact that insufficient attention is paid to the formation of oral Russian speech in lessons, there is a lack of theoretical basis, teaching materials in Russian and means of teaching Russian are outdated, there is a lack of motivation for learning, etc.

Speech activity is an important element of active human interaction involving the transmission and perception of information through language, which has a

purpose and depends on the context of communication [Zimnyaya, 2001]. In other words, speech activity is the use of language for communication, the oral form of which has developed throughout history, based on language structures that strictly conform to established rules.

Undoubtedly, teaching speech activities in Russian language classes plays an important role in the development of students' self-expression skills, providing them with the ability to communicate effectively both in everyday life and in business situations. Improving the methods of teaching oral speech and, as a consequence, the level of students' skills is extremely important for the formation of high-class specialists.

Folklore, as an integral part of cultural heritage, plays an important role in the process of teaching speech activity. Folk tales, proverbs, parables and songs are not just sources of information, but also powerful tools for developing language skills. They are full of lively language and vivid images, which makes them ideal for practising oral and written language.

Teaching through folklore helps to emphasise the specificity of the language and the culture in which it exists. The use of metaphors, allegories and playful forms in folk works enriches students' vocabulary and develops their creativity. By analysing fairy tales, proverbs, proverbs, riddles students learn to interpret the text, identify main ideas and support communication.

Folklore fosters critical thinking and analytical skills. By considering different interpretations of the same stories, students begin to realise the diversity of opinions and cultural contexts, which also fosters respect for the diversity of cultures. By developing the ability to argue and discuss, students learn not only to express their thoughts, but also to understand the position of the interlocutor. This is important for creating a constructive dialogue, which can lead to deeper understanding and cooperation in various spheres of life.

In addition, cursive phrases, for example, can be an excellent way to practise listening comprehension, which is especially important for Chinese students, since the phonetic systems of Russian and Chinese differ significantly. Skoroproverbs often contain many similar-sounding sounds, and their regular repetition helps develop the ability to differentiate and perceive phonemes, which is an important aspect of successful language acquisition.

To practise phonetic skills, you can use cursive phrases to help correct pronunciation difficulties. For example, short phrases that help to pronounce the sound [p], which is absent in Chinese and therefore causes difficulties for pupils:

Rah-rah-rah, we'll take all the rubbish out in the morning.

Ro-ro-ro, let's get all the rubbish in a bucket,

Re-re-re-re, we're sweeping the yard,

Ri-ri-ri-ri, the yard's cleaned up, one, two, three.

The cursive phrases can be pronounced with different intonation, you can connect the effect of theatricalisation (pronounce as an actor, policeman, teacher, doctor, etc.).

It is also important that the use of cursive phrases in the learning process contributes to the active memorisation of new words and expressions. The alternation of rhythmic speech with educational moments allows students to memorise material more easily and quickly, creating associations that remain in memory for a long time.

Folklore also provides a unique opportunity for interdisciplinary study. By linking literary works with history, psychology and sociology, teachers can create a holistic view of the world in which these folk texts emerged. In this way, students not only learn language, but also immerse themselves in cultural and historical contexts, making the learning process more productive and multifaceted. Thus, for example, studying proverbs, sayings, cursive phrases, we acquaint students with non-equivalent vocabulary (*mittens, valenki, zavalinka, protalinka*), with different forms of names (*Valya, Valenka, Valyushka, etc.*), with dishes of Russian cuisine (*varenik, vatrushka, etc.*).etc.) The use of cursive phrases, proverbs, sayings in the lessons of Russian as a foreign language allows to enrich the vocabulary, improve grammatical skills, combining them with active communicative exercises [Bakirova, 2022].

In addition, the use of folklore in the educational process can significantly increase the motivation of Chinese students. This is very important for the formation of speech activity, as students' interest and confidence in their abilities contribute to their successful interaction in a variety of life situations.

Small folklore genres are often filled with elements of play and interaction, which helps to create an atmosphere conducive to active involvement of students. Working in groups to create their own riddles or adaptation of well-known proverbs, sayings, and curses students not only develop language skills, but also learn to work in a team, express their ideas and accept the opinion of others [Popova, URL].

For example, it is possible to offer to compose a cursive sentence based on a picture, depicting a bowl, a cat, sausage, sausages, a dog, etc., the main condition of this task is that all words must contain at least one letter "C"; or offer to invent a continuation of the proverb: "*It's time to do ...*".

Shorthand phrases, riddles, counting rhymes, etc. create emotional engagement and presentation of cultural aspects of the language that may be lacking in traditional teaching methods. The playful form of the exercises helps to release tension, making the learning process more productive and interesting. Adding competitive elements, such as group pronunciation competitions, can further stimulate learning and create an atmosphere of friendly competition.

Such approaches help students not only to actively participate in the speech process, but also to master public speaking skills, which is of particular importance in a professional environment. The ability to clearly articulate ideas and confidently communicate them to an audience is a necessary component of success in any profession.

In conclusion, folklore is becoming an important educational tool that not only develops communication and speech skills, but also fosters cultural awareness and creative thinking. The integration of folklore into the educational process opens new horizons for students, allowing them to explore more deeply the richness and diversity of human experience. The use of folklore in the educational process not only facilitates the acquisition of language norms, but also contributes to a more accurate understanding of cultural identity, which is an important aspect of modern pedagogy.

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对在 DVGAFK 学习的中华人民共和国一年级和二年级硕士生总体协调指标的比较
分析

**COMPARATIVE ANALYSIS OF THE INDICATOR OF GENERAL
COORDINATION OF FIRST AND SECOND YEAR MASTER'S
STUDENTS FROM THE PEOPLE'S REPUBLIC OF CHINA
STUDYING AT DVGAFK**

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摘要。本研究旨在比较远东国家体育学院中国一年级和二年级硕士生 2023 年上半年参加比赛和在大学学习期间的整体协调指标。在研究期间，对中国一年级和二年级硕士生的整体协调指标的分析未发现平均存在显著差异，但对于大多数一年级硕士生来说，该指标与平均水平相符。一年级和二年级硕士生被确定为具有右半球类型的心理活动，二年级硕士生的积分跟踪误差指标明显优于一年级硕士生，这表明受试者的稳定性更好，矢状面和额状面的振荡运动更小。

关键词：硕士生、中华人民共和国、姿势稳定性、一般协调性、横向不对称、渐开线测试、步进挠度测试、步进冲击测试、“Stabilan 01-2”硬件和软件综合体。

Abstract. *This study was conducted to compare the overall coordination indicator of first- and second-year master's students from the People's Republic of China at the Far Eastern State Academy of Physical Culture and Sport during their participation in competitions and studies at the University in the first half of 2023. During the study, the analysis of the overall coordination indicator of first- and second-year master's students from the People's Republic of China did not reveal any significant differences on average, but for most first-year master's students, this indicator corresponds to the average level. First- and second-year master's students were identified as having a right-hemispheric type of mental activity, and the integral tracking error indicator was significantly better for second-year master's students compared to first-year master's students, which*

indicates better stability of the subjects and smaller oscillatory movements in the sagittal and frontal planes.

Keywords: *master's students, People's Republic of China, postural stability, general coordination, lateral asymmetry, involute test, step-deflection test, step-impact test, hardware and software complex "Stabilan 01-2".*

Introduction

Currently, within the framework of international cooperation between DVGAFK and Harbin Sport University (PRC), master's students from the People's Republic of China are studying at the Far Eastern State Academy of Physical Education [2].

In addition to academic classes, first- and second-year master's students studying at the University spent most of their time in game sports during practical classes [3]. Having conducted a series of studies, after participating in a number of competitions held at DVGAFK from October to December 2022 [3], tournaments in April-May 2023 [6], first- and second-year master's students, in addition to testing psychomotor indicators and studying postural stability using the Romberg test on the Stabilan 01-2 hardware and software complex, also underwent an assessment of the indicator of general human coordination using a number of tests on this equipment.

In the most general sense, coordination abilities are understood as human capabilities that determine their readiness for optimal control and regulation of motor action. The natural basis of coordination abilities are inclinations, which are understood as innate and hereditary anatomical and physiological characteristics of the body.

These include such properties of the nervous system as strength, mobility, balance of nervous processes, individual features of the structure of the cerebral cortex, the degree of maturity of its individual areas and other parts of the central nervous system, the level of development of individual analyzers (sensory systems), features of the structure and functioning of the neuromuscular apparatus, properties of the productivity of mental processes (sensations, perception, memory, ideas, attention, thinking), temperament, character, features of regulation and self-regulation of mental states, etc. [5].

Human coordination abilities perform an important function in the control of his movements, namely, the coordination and ordering of various motor actions into a single whole in accordance with the set motor task. The importance of developing coordination abilities is explained by the fact that well-developed coordination abilities are necessary prerequisites for successful learning of physical exercises. They affect the pace, type and method of mastering sports technique, as well as its further stabilization and situationally adequate diverse application.

Coordination abilities also lead to greater plasticity and variability of movement control processes, to an increase in motor experience [1].

For athletes of game sports, the assessment of coordination abilities, as well as the diagnosis of psychomotor abilities, occupies a leading place, but at present, there are few works on assessing postural stability in athletes involved in game sports using hardware and software systems.

Therefore, the purpose of our study was to study and compare the indicator of the general coordination of first- and second-year master's students from the People's Republic of China at the Far Eastern State Academy of Physical Culture during their participation in competitions and studies at the University in the first half of 2023.

1. The experimental part

In accordance with the stated objective of this study, on May 31, 2023, in the morning hours, in the premises of the Physical Condition Monitoring Laboratory of the Far Eastern State Academy of Physical Education, the general coordination indicator of first- and second-year undergraduates was assessed using the hardware and software complex stabilometric platform "Stabilan 01-2". The number of examined undergraduates in both groups was 4 people.

The assessment of a person's general coordination is carried out by completing the following tasks on the stabilometric platform "Stabilan 01-2": a test with a step deviation, a test with a step impact, a test with a visible cursor, a test with a highlighted zone, an "involute" test and a "triangle" test.

The test with a step deviation is aimed at studying human motor memory and assessing the level of sensitivity when controlling the body. The technique allows you to assess a person's stability margin when deviating in one of four directions - forward, backward, right and left.

The test consists of the subject being placed on the platform and instructed on the rules of the test. There are two markers on the computer display. The red marker displays the position of the subject's center of pressure, the green marker, controlled by the program, smoothly shifts to one side. The subject's task is to hold the green marker by deflecting his body. The results are presented in the form of a diagram, deployed in the direction of testing [4].

The step-by-step test is a psychological technique and allows one to judge the ratio of excitation and inhibition in the nervous system, as well as to evaluate the expected reaction of a person in extreme conditions. The test consists of the subject being placed on the platform deviating in one of the selected four directions - forward, backward, right and left as much as possible, without lifting his feet and returning to the center. The deviation evaluates the stability reserve in the selected direction and then the subject, standing on the stabiloplatform, must, by deflecting his body, hold the red marker, displaying his center of pressure, in the center of

the target. The target moves in the specified direction after a specified period of time, setting the load. The patient, deviating, must place the marker in the center of the target as quickly as possible. After holding the marker in the load mode for some time, the target returns to the center. The patient's task is to quickly return the marker to the center, following the target [4].

To assess lateral asymmetry, which allows you to determine the leading hemisphere of a person, it is proposed to perform two tests (a test with a selected cursor and a test with a selected zone). Comparison of the results of these tests allows you to identify the type of mental activity. In the first test, the subject must hold the marker in the center of the target, which simulates a task addressed primarily to the right hemisphere of the brain. In accordance with the stated objective of this study, on May 31, 2023, in the morning hours, in the premises of the Physical Condition Monitoring Laboratory of the Far Eastern State Academy of Physical Education, the general coordination indicator of first- and second-year undergraduates was assessed using the hardware and software complex stabilometric platform "Stabilan 01-2". The number of examined undergraduates in both groups was 4 people. The assessment of a person's general coordination is carried out by completing the following tasks on the stabilometric platform "Stabilan 01-2": a test with a step deviation, a test with a step impact, a test with a visible cursor, a test with a highlighted zone, an "involute" test and a "triangle" test. The test with a step deviation is aimed at studying human motor memory and assessing the level of sensitivity when controlling the body. The technique allows you to assess a person's stability margin when deviating in one of four directions - forward, backward, right and left.

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For each test, the parameter "integral tracking error (ITE)" is calculated - this indicator is equivalent to the "average spread" indicator, which determines the average total spread of oscillations of the center of pressure. An increase in its value indicates a decrease in the patient's stability in the sagittal and frontal planes. Based on the value of this indicator, a conclusion is made about the predominance of one of the hemispheres. A person belongs to the left-hemispheric type if $IET2 < 0.8 \times IET$. Otherwise, a person belongs to the right-hemispheric type [4].

The next test is a test with an involute, which allows you to assess the quality of the tracking movement.

The module of the test with an involute is designed to conduct a stabilographic test on a platform, during the recording of which the patient must move along a curve called an "involute". The trajectory of the involute is an unwinding curve from the center to a certain amplitude, several circles along the amplitude, and then a rollup to the center. The subject must hold his red marker on the green one. The green marker first moves along the unwinding involute in the selected direction, then moves a specified number of circles without changing the amplitude and finally moves along the collapsing involute to the center. The results are assessed by analyzing the total and average tracking errors in each direction [1].

And finally, the "triangle" test allows you to evaluate a person's short-term motor memory. It consists of two stages: training and analysis. At the training stage, the subject should study the trajectory of movement using markers. At the analysis stage, he is asked to reproduce the trajectory of movement without auxiliary markers. The subject on the monitor in the "Determination of the magnitude of deviations" field has a coordinate system of direction: forward-backward, left-backward, right-backward. When conducting the test, the subject, deviating

along the axes, determines the magnitude of the deviations. The obtained values will be used during training.

At the training stage, the subject standing on the stabiloplatform must hold the red marker, representing his center of pressure, in the green marker of one of the triangle vertices by tilting his body. The green marker moves in one of the specified directions (clockwise or counterclockwise), stopping at the vertices of the triangle.

At the analysis stage, the markers are removed from the monitor screen and the subject is left with an empty gray screen. The subject’s task is to continue moving the center of pressure along the memorized trajectory [4].

2. Results

Comparative intergroup analysis of the general human coordination index of first-year master’s students with that of second-year master’s students showed that no reliable differences were found, but nevertheless, three first-year master’s students had an average index, and one had a slightly low index compared to one second-year master’s student who had an average index, and three master’s students had a low index (Table1).

Table 1

Overall coordination and lateral asymmetry scores of first- and second-year master’s students from the People’s Republic of China

| Indicators | May 2023 | | | |
|--------------------------------|---|---|---|---|
| | 1st year Master’s students $X_1 \pm m_1$ | | 2st year Master’s students $X_2 \pm m$ | |
| | Open Eyes | Lateral asymmetry | Open Eyes | Lateral asymmetry |
| General human coordination (%) | 51,75±4,35 | | 47,75±0,2 | |
| Integral tracking error (mm) | 26,3±7,8 | Right-hemispheric type of mental activity | 13,5±5,6 | Right-hemispheric type of mental activity |

Evaluation of the lateral asymmetry index in both groups of master’s students revealed a right-hemispheric type of mental activity.

The integral tracking error index was significantly lower by an average of 48,7% in second-year master’s students compared to first-year master’s students, with the smallest index of 2,5 mm found in a first-year master’s student, as well as the highest index of 34,8 mm.

3. Conclusion

Thus, the conducted analysis of the general coordination indicator of the first- and second-year master’s students from the People’s Republic of China showed that although there were no reliable differences in this indicator on average, this

indicator corresponds to the average level for most first-year master's students, which indicates a generally quite good level of development of coordination abilities.

When determining the type of mental activity by identifying the lateral asymmetry indicator in both groups of first- and second-year master's students, the right-hemispheric type of mental activity was determined, and the integral tracking error indicator was significantly better for second-year master's students compared to first-year master's students, which indicates better stability of the subjects and smaller oscillatory movements in the sagittal and frontal planes.

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基于建构主义原则的中国未来高校俄语教师职业培养分析
**ANALYSIS OF THE PROFESSIONAL TRAINING OF FUTURE
RUSSIAN TEACHERS IN CHINESE UNIVERSITIES BASED ON
THE PRINCIPLES OF CONSTRUCTIVISM**

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摘要. 随着中俄双边关系的不断深化, 社会对俄语人才培养的质量要求愈高, 然而高校俄语教师的职业准备呈现出不足的特点。对中国未来高校俄语教师职业培养的研究具有现实意义, 将提高校俄语教师职前准备的质量, 同时促进高校教育体系的变革。本研究使用理论分析方法, 通过对建构主义教育教学理论四个原则的分析, 希望对未来高校俄语教师在学习期间的职业准备形成系统的理论基础。因此, 本研究对建构主义教育教学理论的四个原则进行了分析和探讨: 包括主体性原则、情境性原则、因材施教原则和过程性、参与性评价原则。研究目的是为了实现俄语教师培养领域的职业教育高质量发展, 以适应国家战略和社会劳动市场对人才的需求。

关键词: 职业教育、中国高校俄语教师职业培养、建构主义、对外俄语教学。

Abstract. *With the deepening of bilateral relations between China and Russia, the society has higher requirements for the quality of Russian talent training, but the professional preparation of Russian teachers in colleges and universities is insufficient. The study of the professional training of Russian teachers in future colleges and universities in China has practical significance, which will improve the quality of pre-service preparation of Russian teachers in schools and promote the reform of the higher education system. This study uses theoretical analysis methods to analyze the four principles of constructivist education and teaching theory, hoping to form a systematic theoretical basis for the professional preparation of future Russian teachers in colleges and universities during their studies. Therefore, this study analyzes and discusses the four principles of constructivist education and teaching theory: including the principle of subjectivity, the principle of situationism, the principle of teaching students in accordance with their aptitude, and the principle of process and participatory evaluation. The purpose of the study is to achieve high-quality development*

of vocational education in the field of Russian teacher training to adapt to the national strategy and the demand for talents in the social labor market.

Keywords: *vocational education, professional training of Russian teachers in Chinese universities, constructivism, teaching Russian as a foreign language.*

前言

作为当今世界中两个重要大国之间的双边关系，中俄关系具有深远的历史渊源和战略意义。2024年迎来了中俄建交的75周年，两国关系始终保持着健康稳定的发展势头，双方在政治、经济、人文等多个领域的合作都不断深化。随着中俄关系的积极发展，劳动市场对俄语人才的需求日益增长。然而，当前中国高校俄语专业毕业生的就业情况显示，他们的语言能力和专业技能都很难完全满足市场的需求，这反映出中国高校俄语人才培养体系和模式存在一定的问题。

针对这个问题，俄语教育领域的大多数学者都着眼于俄语人才培养过程中的课程设置，结构改革，师资力量等问题，他们寄希望于在职培训和继续教育发挥关键作用，如高校在职俄语教师通过职业培训提高专业技能和获取实践经验。在此情况下，高校俄语教师的质量急需提高，但仅依靠入职后的相关培训则不足以达到既定的师资目标，这说明对未来高校俄语教师职业培养环节的研究是不完善甚至缺失的。教师是学生的教科书，如何为俄语人才培养事业输送高质量的俄语教师至关重要，因此研究中国未来高校俄语教师的职业培养是具有现实意义的。

通过在中国学术网站的检索发现，目前并未明确存在“高校教师职业培养”和“未来高校教师培养”的词条。相关研究基本都致力于未来高校俄语教师职业培养过程的其中一个组成部分——俄语教学。最受研究者关注的是高校俄语教师职业能力要求的理论研究（黄东晶，丁艳菊，张春华，雷玉梅，陈达，张松玲，李蓓蓓，刘春富，岳红武等）。方法论研究目前集中在中学俄语教师的职业培养领域。一些年轻的学者试图探索高等师范院校俄语专业学生的创新培养模式和路径（李雅君，寇金路，李馨，梁红刚等），其中，在培养中学俄语教师的过程中高等师范院校俄语专业的课程结构和结构改革等问题备受关注（高凤兰，曲志坚，李雅君，刘欣媛，寇金路等），而少量研究了高师院校俄语专业学生的实习问题、他们的专业承诺状况、职业身份构建问题以及青年俄语教师的职业环境、在其中适应和发展的情况（李雅君，于巍，高凤兰，贺莉，伏平，陶源，姜占好，袁静等）。

俄罗斯学界鲜有对未来中国高校俄语教师职业培养的研究，而近几年某些在俄的中国学者已经试图提出“职业培养”的概念或与它相近的理念。学者Xi Zhenxin提出，关于中国未来高校俄语教师职业培养的研究存在问题，造成这种情况的主要原因是，在职前俄语教师培养中沿用了过时的教学方法，对这一领域的高等师范人才培养过程的研究比较零碎（主要研究在对外俄语教学法方面），这导致俄语教师的组织问题严重，整体培养水

平下降 [6]。现阶段的问题是,语言培训在大学俄语专业教育过程中占据主导地位,忽视了教育学、心理学和方法论学科,同时教育学、心理学和方法论学科教师短缺,且培训水平不够高 [5]。一些开设俄语专业课程的大学也发现了类似的问题,采用了直接补充的组织管理方法,黑河大学俄语系的教职人员由三部分组成:中方教师、俄方教师以及企业员工,这与国内其他大学有很大不同 [2]。具有不同专业技能的高校教师教授实践课程,以此提高俄语人才培养的质量,改革结果和其研究证明该方法是可行和有效的。这从另一个角度肯定了职业培养的重要性,即具有专业知识和职业技能的高校教师可以提高俄语人才的培养质量,而具有心理学和教育学素养的俄语专业课程以及掌握该素养的师资将会成为大幅提升未来高校俄语教师培养质量的关键。

鉴于中国未来俄语教师的职业培养的研究较少,教师和学生的职业培养意识尚未建立,为促进相关认知发展,笔者建议根据建构主义教育教学的四个原则对中国未来俄语教师的职业培养进行理论分析。

研究结果讨论

在二十世纪八十年代国内外建构主义教育改革的背景下,教师素质和培养问题的研究成为了关注的焦点。美国等国家的大量研究出现在八十年代后期,中国则是开始于九十年代末。因此,历史社会原因造成了中国在建构主义教育领域的研究是有限的。笔者认为建构主义理论对中国未来高校俄语教师的职业培养的研究具有理论和现实指导意义。

根据Matthews 的总结建构主义共有8种内涵:学习理论、教学理论、教育理论、认知理论、个人知识的理论、科学知识的理论、教育伦理和政治的理论、一种世界观 [4]。最基本的、同时在教育中最常采用的意义是把建构主义作为一种认识论和学习哲学。建构主义认识论是基础,学习论是基于认识论的前提。而建构主义教学论被认为是为实现一定的社会 and 个体发展目标,依据一定的建构主义知识观和学习论为主要理论指导,综合其它有关教育教学中的规律性认识而确立的,有关教学的基本目标、原则和方法等的系统性的理论和主张。

建构主义教育教学的一些主要原则,根据杜布斯、布鲁克斯、谢应宽等学者的研究,可以概括为以下方面:主体性、情境性、因材施教和过程性、参与性评价原则 [1; 3; 7]。

1. 主体性原则

主体性是人们自主、能动、创造性地认识事物的主观特性。建构主义教学的主体性原则是指在教学过程中,必须把教师和学生的主体性都充分发挥出来。

第一,建立平等的师生、生生关系和课堂文化。教师应把学生看作具有丰富个性的、独立的人,是未来的俄语教师。师生之间,生生之间在人格上是平等的,在教学过程中这些关系是合作的。

第二,让学生参与目标或子目标的创建。只有学习者能清楚地意识到自己的学习目标,在获得所希望的成果和达到相应的预期时,学习才可能是

成功的。作为未来高校俄语教师的学生缺乏实践经验，教师则可以启发和鼓励学生，根据学习需要对初始目标进行分解或转化。

第三，鼓励学生主动提出问题，自主创造地寻找解决问题的途径与方法，并形成自己对问题的理解。在教学实践课堂上可以通过问题教学法帮助未来俄语教师快速精准地发现和解决主要问题，从而掌握实践教学技能。

2. 情境性原则

情境性原包括两个含义：一是指教学中知识应在一种复杂逼真的情境中呈现，学生和教师在其中自主合作探究、发现和解决问题；二是教学过程是在一种总体情境中完成的，包括知识呈现方式、课堂文化等。情境性的知识有利于个体意义的建构和整体性知识结构的形成，应将知识置于具体的情境中，以体现知识与“真实”情境之间的联系。

可以提出以下对未来中国高校俄语教师职业培养教学情境的设计依据：(1)经验：教学情境的设置是建立在其先前经验的基础上。可以参考真实的俄语课堂并模拟情境。(2)真实情境。在模拟实践课堂上问题应经典且富有挑战性，能够激发学生学习的积极性，理想的状态是处于学生的“最近发展区”。(3)教师角色。教师是教学情境中的重要设计者和组织者，应真正起到指导和促进的作用，让学生承担起自我管理和自我控制的责任。(4)情感。情感在教学中能够让学生产生持续学习的动机，在实践课堂中教师应尽力传递和引导出未来俄语教师的成就感和满足感，让学生体验到解决问题的快乐。(5)错误。教学环境必须容许错误和失败。通过错误教学法可以使学生进行深度思考，比如对俄语教学模拟中错误的反省，发现问题并提出新的解决方案的，帮助学生建立自身积极反馈机制。

3. 因材施教原则

因材施教原则是指在教学过程中，必须按照学生身心发展和文化背景等差异，施以不同的教学方法，促进学生个性的健康发展和认知能力的提高。在教学过程中不能用统一的标准来要求学生，而应尊重每个学生的观点和看法，并采取适合他的教学方法来促进其在原有水平上得到最大限度的发展。

第一，教学应致力于促进学生积极地与他们原有的知识和经验取得联系。教师可以通过问卷或心理测评等方式了解学生关于俄语教学相关概念的看法，帮助他们进行教学设计，并根据学生的需要和兴趣进行特色的教学，这样知识被建立在自己的解释和理解上时，学习才能成为主动的过程。

第二，重视集体学习环境的建设。采用现代化的信息技术和数字手段可以帮助教师即使掌握集体动向。适当的集体俄语教学学习环境建设和学习合作会促进学生自主学习的实现。

第三，运用现代教育技术实现个性化的教学。数字手段帮助教师不仅掌握集体信息，也同时兼顾个体的发展，比如数字教育平台的使用大大提高了检测和评估教学质量、生成个性化报告的可能性。

4. 过程性、参与性评价原则

过程性评价原则强调评价是在教学过程中进行的，注重评价的诊断性、即时性、情境性。参与性评价原则是指学生应成为教学评价的参与者，重视自我评估，促进学生认知和反思能力的提高。

首先，评价作为促进学生主动性的基本教学手段，而不仅仅是评判最终结果的工具。在俄语教学的理论和实践课堂中都应投入全方位和人性化的评价体系，帮助学生正确掌握知识和技能形成的规律，生成诊断性、帮助性的形成性评价。

第二，采取多元化和个性化的评价标准。由于学生的个体经验和内部语言的差异，对问题的看法表现出不同于“标准答案”的特点。在俄语教学课堂中，教师对于未来俄语教师提出的看法和回答要理解、接受和引导，通过无判断性的质疑，帮助学生建构新的理解和获得新的技能。

第三，重视学生的自我评价。学生的自我评价是增强认知能力、自我分析能力、学习能力、反省和深度思考能力的重要途径。

结论

该研究主要根据建构主义教育教学理论的四个原则对中国未来俄语教师的职业培养进行分析。建构主义是关于认识和学习理论，有着悠久的历史渊源，而建构主义教学论是在一定的建构主义知识观和学习论的主要理论指导下，综合其它有关教育教学中的规律性认识而确立的系统性的理论和主张，其原则包括主体性、情境性、因材施教和过程性、参与性评价原则，对中国未来高校俄语教师的职业培养研究提供了理论基础。

运用建构主义指导教育教学改革时，需要正确全面地把握其基本思想，与教育实践相结合。在建构主义教学论基础上对中国未来高校俄语教师的职业培养方法未来将提出更具体的要求。

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通过户外绘画技巧为中小學生提供基础绘画教育

**PROVIDE BASIC PAINTING EDUCATION FOR PRIMARY AND
SECONDARY SCHOOL STUDENTS THROUGH OUTDOOR
PAINTING TECHNIQUES**

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Introduction

Outdoor painting is a common art teaching method that emphasizes the feeling, capture and reproduction of the beauty of natural objects by the subject of painting, and is a teaching strategy for “taking creativity as a teacher.”

According to the different objects depicted, outdoor painting can be divided into outdoor landscape painting, outdoor still life painting, outdoor portrait painting and other types, and each type of outdoor painting teaching is very important. Therefore, this paper analyzes the necessity of outdoor painting in art teaching and explores the teaching path of outdoor painting in art teaching, so as to better improve the effect of art teaching and promote the overall improvement of students’ artistic ability and art literacy.

In art teaching, teaching writing and painting outdoors is an indispensable teaching method. Teachers should encourage students to go outdoors and conduct real-time painting training so that students can master the ability to feel, observe and create beauty.

I. The Necessity of Outdoor Painting in Art Teaching

(1) Master basic drawing skills

In art teaching, outdoor painting can help students master the basic skills of painting. In the early 20th century, Cai Yuanpei proposed “replacing religion with aesthetic education”, and after that, a large number of Western-style life painting teaching methods were introduced in China, such as the Cheshchakov sketch system, which allowed many Chinese oil painting students to systematically capture natural scenery and have a more complete understanding of the basic composition of painting. Western-style outdoor painting teaching is more systematic and attaches great importance to composition and color. Traditional Chinese outdoor painting teaching focuses more on expressing the artistic concept of the scene.

Nowadays, many teachers ignore the teaching of outdoor painting in the process of teaching painting, which may be due to the rebellion of Western modernist art on the documentary style of painting throughout the 20th century, but the significance of outdoor painting is not only the standard depiction of the real world as in the camera, but also to help students master the basic skills of painting in teaching outdoor painting, so that the basic elements, styles and concepts of painting can be freed from the shackles of conceptualization. Through perceptual observation, students can re-understand the lines and colors of the artist's brush, form a unique aesthetic experience, and think about how to use their hands to express the beauty of nature.

(2) To develop students' ability to observe and capture beauty

Through outdoor painting training, students can not only strengthen their ability to practice art, but also develop students' ability to observe and capture beauty. When students create outdoor paintings, they need to go through the process of transformation from the eye of observation to the eye of art. The so-called eye of the observer is the subjective observation from an objective point of view based on the physical characteristics of nature, which emphasizes the observation from a realistic point of view, and then evolves into the tradition of realistic painting, for example, the neoclassical painting tradition in the 19th century was mainly developed through the eye of the observer; The eye of art emphasizes the subjective feeling of the painting subject of the beauty of nature, which is reflected in the transcendence of the creator on the spiritual level, and a series of reforms in modern painting is the process of artists using the eye of art instead of the eye of observation.

Teaching outdoor painting can help students develop observation skills and motivate students to form an eye for art, which cannot be achieved through still life and art theory teaching. For teachers and students, outdoor painting is open, perceptual and intuitive, has a certain relationship with artistic creation, and they influence each other. At the same time, students should be able to grasp meaningful things and moments, turn them into concrete things, and refine, deepen and express them based on their intuitive feelings about the objects they observe, so as to imagine ideal paintings and gradually acquire artistic perception and modeling ability in the process.

From the perspective of traditional Chinese aesthetics, outdoor painting is an important bridge to balance the value and method of painting in teaching the art of painting, and to explore the beauty of form and artistic conception. According to Nanqi Sheikh in the "Catalogue of Ancient Paintings," the artist should skillfully balance the proportions, layout, and composition of the painting. And these elements are actually important components of formal beauty in painting. For painting, the beauty of artistic conception is very important, and when people

evaluate the level of a work of art, most of them weigh it from the perspective of artistic conception.

Since the 20th century, the practice of modernist painting has remained the same, and its essence is to stimulate the artistic eye of the creator, fully demonstrate the subjectivity of the creator and make it flow into style.

(3) Encourage creativity with outdoor painting

In the process of outdoor painting, students' drawing behavior is also a kind of "delayed imitation", that is, a linear representation according to their own impression of natural objects, so students need to think deeply about how to draw in outdoor painting, and fully mobilize art theories and painting skills to explore the most suitable painting ideas for themselves. In this sense, outdoor painting is a part of creation. In the process of painting, artists need to express beauty according to their own feelings, observations, and subjective practices. Therefore, in the process of outdoor painting, students also need to deal with the beauty they observe and perceive, and use the language of art to shape beauty.

II. The Way of Teaching Sketching in Fine Art Teaching

(1) Thematic sketch

In the practice of art teaching, outdoor painting can be divided into thematic outdoor painting and aimless outdoor painting according to different types of objects, and both types of outdoor painting teaching are very important. In thematic outdoor painting teaching, the general types include outdoor landscape painting, outdoor portrait painting, outdoor still life painting, etc.

1. Outdoor landscape painting

Outdoor landscape painting teaching refers to the teacher guiding students to observe nature and then express the observed scenery in the manner of painting. In outdoor landscape painting teaching, teachers can make moderate demands so that students can create boldly without being limited by a certain thinking framework, and adopt various outdoor painting teaching guidance methods to improve the effect of outdoor painting teaching. At the same time, teachers should guide students to imagine the beauty they perceive realistically, rather than completely reconstruct the objective landscape realistically. Gu Kaizhi put forward the idea of "moving imagination is beautiful", which has great inspiration for outdoor landscape painting teaching. The so-called "beautiful imagination" means that the observer should think about the painting object from different perspectives, and use artistic thinking such as association and imagination to find the god of the painting object and achieve the purpose of conveying the spirit through the body shape.

2. Outdoor portrait painting

Compared with outdoor landscape painting, outdoor portrait painting is more of a test of students' ability to capture the emotions of characters and how to use the language of painting to express the emotions of characters. Students must

depict the facial features, movement characteristics, and surroundings of the characters in detail, so that even if the viewer is not in the scene, they can feel the character of the character when watching the work, and even associate the story behind the character. The subjects depicted in outdoor portrait painting training can be provided either by the teacher or by the people around the students, who can choose on their own. Each character has complex emotions and distinct personalities, so students should pay attention to outdoor portrait painting training to better use the language of painting to express the differences of this personality.

(2) Aimless outdoor painting.

Kant said, "Beauty is pleasure without purpose." "Aimless painting refers to the teacher guiding students to independently capture the subject of interest to expand the scope of painting, so that students can capture the beauty that has the deepest impact on them through the observation of special scenes, and then show this unique beauty in the painting. This search for art objects cannot be planned in advance, it has a certain amount of chance, so teachers can set it as a long-term joint assignment, for example, for a month or a quarter, and ask students to share the aimless experience of painting and tell what this experience of painting in the open air means to them.

(3) Evaluation of painting creativity and evaluation of teaching

In teaching and learning outdoor painting, the evaluation of outdoor painting and teacher evaluation are very important. In the competition, students can share their painting experience and think about the difference between other students' observation and self-observation, and learn more about the way to handle beauty. Especially when students create paintings on the same topic, it seems that the objects are the same, but because each student's feelings and ways of handling are different, outdoor paintings will also show different forms. In this process, teachers can guide students to evaluate painting skills and forms, although students have strong subjectivity in the process of observation, but there is a difference between creative skills and the artistic field of art.

In terms of creative personalization, teachers should encourage students to share their unique aesthetic experiences. For example, teachers can ask students to draw the same people and landscapes and interact and discuss them. Since different students have different concerns and understandings of things, students can deepen their understanding of their own aesthetics through such discussions and debates.

Conclusion

In today's painting teaching system, with the development of the times, the teaching mode is also constantly being reformed. If students practice their painting skills only by imitating paintings and recreating photographs, it is easy to get caught in the mechanism and make painting lose its innocence and interest. It is

true that outdoor painting is relatively ineffective compared with other types of painting teaching, especially aimless outdoor painting teaching, which can take a long time, but it is difficult for students to capture scenes worthy of painting.

However, in the process of outdoor painting, students can more deeply improve the basic painting skills, strengthen the exercise of their own artistic eye, and also be able to capture the otherworldly beauty from the ordinary world, and then from outdoor painting to creativity, constantly exercise their ability to create painting and expand their horizons.

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俄罗斯男性眼中的生育态度：地区层面（以北奥塞梯共和国-阿兰共和国为例）
**REPRODUCTIVE ATTITUDES THROUGH THE EYES OF
RUSSIAN MEN: A REGIONAL ASPECT (ON THE EXAMPLE OF
THE REPUBLIC OF NORTH OSSETIA – ALANIA)**

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注释。本文研究了俄罗斯男性的生育态度。这项研究的新颖之处在于分析了男性的生育态度，将其作为生育行为的区域模型，这对于理解在俄罗斯社会空间发展异质性的背景下解决该国人口状况的问题是必不可少的。

这项研究的实证基础是居住在北奥塞梯-阿兰共和国的男性，了解他们的生育态度对于制定有效的国家人口政策是必要的。

这项研究采用了系统分析方法，使我们能够通过社会人口、经济和价值因素来考虑生育态度。介绍了 2024 年 1 月至 8 月对 156 名受访者进行的研究结果。给出了研究组的定量特征。生育态度被视为个人的社会心理状态。

通过对研究实证基础的分析，我们发现，共和国男性的生育态度包括旨在为家庭生育两个或两个以上孩子的生育行为；这些情绪存在于不同年龄的参与者中，与教育水平无关，并且无论是在城市还是农村地区都存在。调查参与者认为，政府采取了一组支持措施，这些措施是影响家庭生育另一个孩子的决定的激励因素。

关键词：生育态度、人口政策、生育、北奥塞梯-阿兰尼亚。

Annotation. *The article examines the reproductive attitudes of Russian men. The novelty of the study lies in the analysis of men's reproductive attitudes as a regional model of reproductive behavior, necessary for understanding the problem of solving the demographic situation in the country in the context of the heterogeneity of the development of the Russian social space.*

The empirical basis of the study was men living in the Republic of North Ossetia-Alania, an understanding of whose reproductive attitudes is necessary for the formation of an effective state demographic policy.

The study used the system analysis method, which allowed us to consider reproductive attitudes through socio-demographic, economic and value factors.

The results of the study conducted from January to August 2024 among 156 respondents are presented. A quantitative characteristic of the study group is given. Reproductive attitudes are considered as a socio-psychological state of the individual.

As a result of the analysis of the empirical base of the study, it was revealed that the reproductive attitudes of men in the republic include reproductive behavior aimed at having two or more children in the family; these sentiments are inherent in participants of different ages, do not depend on the level of education and are formed both among those living in urban and rural areas. A group of government support measures was identified, perceived by the survey participants as an incentive influencing the decision to have another child in the family.

Keywords: *reproductive attitudes, demographic policy, childbearing, North Ossetia-Alania.*

The demographic situation in Russia, as well as in the world as a whole, is currently under close attention of researchers in the context of studying the reproductive behavior of the population caused by complex globalization changes, which, on the one hand, are characterized by late marriages and small families and state social policy aimed at solving demographic problems, on the other hand, since an increase in the number of births in families can minimize the losses caused by the second wave of depopulation [3]. The selection of men in the sample is of interest from the point of view of the need to understand the reproductive attitudes of the male part of the country's population, since the family's decision regarding childbearing largely depends on the male position [1], and in the context of the multicultural structure of Russia, the study of regional characteristics of male reproductive behavior is necessary for the formation of an effective state demographic policy.

In this study, the term "reproductive attitudes" is considered as a psychotype of men, their state, contributing to possible collusion, concerted actions - in matters of having children in the family, to the birth of a certain number of children [2, 4]. The empirical basis of the study was the results of a survey conducted from January to August 2024 among 156 respondents. The focus group consisted of men aged 21 to 48 years, the quantitative characteristics of the focus group are presented in Table 1.

Table 1.
Quantitative characteristics of the focus group of the study.

| Age (number of people) | | |
|------------------------|-----------------|--------------------|
| 21-30 years old | 30-40 years old | 40 years and older |
| 52 | 52 | 52 |

| Place of residence (number of people) | | |
|--|----------------------|--------|
| city | countryside | |
| 74 | 72 | |
| Marital status (number of people) | | |
| is married | is not married | |
| 81 | 75 | |
| Education (number of people) | | |
| complete secondary general | secondary vocational | higher |
| 15 | 64 | 77 |

To match the type of sample, age groups were represented by an equal number of people; the analysis of reproductive attitudes was made on factors conditionally divided into socio-demographic, economic and value groups.

The socio-demographic group included ideas about an ideal family, the desired, expected and realized number of children. They were distributed in the survey as follows: the overwhelming majority of the focus group respondents indicated that children are the basis and meaning of a strong marriage - 98%, of which 3% would like to have one child, 32% - two children, three children - 57%, four or more children - 8%. Only 2% of respondents spoke about the possibility of creating a childless family, which confirms the creation of a family by a man as the implementation of reproductive attitudes. The expected number of children in the family varies somewhat - 8% of the surveyed men assume the presence of 1 child, 76% expect that they will have two children, 16% - three children and possibly more. The desired and expected number of children is oriented towards material well-being - 48%, self-realization in a career - 24%, the presence of one's own living space - 21%. The ideal number of children for 92% of respondents fits into the concept of a "large family" (3 or more children), and this indicator does not vary depending on either the level of education or the place of residence. An analysis of the questionnaires of men who are already married revealed the following ideas about the ideal number of children: 71% consider a family with three children to be ideal, in the opinion of 11% of the surveyed men the ideal number of children in a family is two, in the opinion of 18% of the surveyed the ideal number of children is four or more. The desire to see their family as a large one in the questionnaires increases depending on the level of education (64%) and place of residence - 72% of those living in rural areas versus 28% of city dwellers. Thus, the idea of the ideal number of children and the realized one practically do not differ, which determines the reproductive attitudes in the Republic of North Ossetia - Alania, culturally conditioned and influenced by regional traditional norms of childbearing [5].

Economic factors influencing the desired number of children in the family determined that the overwhelming majority of respondents aged 21 to 30 years old

highlight financial difficulties as an obstacle to having many children - 72.2%, aged 30 to 40 years - 68%, and 51% in the age group over 40 years. High interest in a large family is demonstrated by respondents who have their own living space - 74%, 21% of respondents indicated an obstacle to the ideal number of children - the lack of their own housing (fewer children and late birth). According to the surveyed men, an increase in the planned number of children can primarily be influenced by an increase in the level of income in the family - 54%, this position is indicated by 48% with secondary education and 82% of respondents with higher education, but no significant differences are presented depending on the place of residence.

The assessment factors of the survey included the assessment of the role of the state in stimulating the birth rate. It was found that 76% of respondents approve of an active state policy to stimulate the ability of families to have the desired number of children in the family, but 24% of respondents believe that the family itself should determine the desired number of children in the family regardless of state policy. The current measures of state support for families with children determined a group of measures perceived by survey participants as an incentive influencing the decision to have another child in the family: maternity capital, housing subsidies, a one-time benefit at the birth of a child, a monthly payment for children up to 7 years old, tax reduction. The indicated measures were indicated by both urban and rural residents of the survey participants.

To sum up, we can conclude that the reproductive attitudes of the male part of the population in the republic include reproductive attitudes towards the birth of two or more children in the family; these sentiments are inherent in participants of different ages, do not depend on the level of education and are formed both among those living in urban and rural areas.

The decision to postpone having a child for young men with secondary and higher education living in cities is due to the need to settle down in life - to acquire their own living space and make a career.

Overcoming the focus on having few children is possible if a set of measures is created to support families with children. According to men in the Republic of North Ossetia-Alania, the most effective incentive measures are maternity capital, preferential housing subsidies, and measures of material support for families with children under 7 years of age.

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久加诺夫在俄罗斯联邦共产党思想变革和后苏联俄罗斯话语空间中的作用

**THE ROLE OF G. A. ZYUGANOV IN THE IDEOLOGICAL
TRANSFORMATION OF THE COMMUNIST PARTY OF THE
RUSSIAN FEDERATION AND THE DISCURSIVE SPACE OF POST-
SOVIET RUSSIA**

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摘要。本文致力于从政治和哲学角度分析 G.A. 久加诺夫长期担任俄罗斯联邦共产党领导人的现象，以及他在后苏联俄罗斯社会经济和地缘政治格局变化的背景下对党的意识形态转型的决定性作用。揭示了个性化领导因素对俄罗斯联邦共产党的意识形态和政治演变的内在矛盾影响，在形式上保持与马克思列宁主义传统的象征连续性与务实适应选民团质变要求之间取得平衡，这自然决定了党的社会基础日益古老，失去了其在表达当前进步变革议程方面的关键反对职能。

关键词：共产主义运动、政治领导、意识形态转型、马克思列宁主义、选举动态、后苏联俄罗斯、社会主义替代方案。

Abstract. *The article is devoted to the political and philosophical analysis of the phenomenon of long-term leadership of G.A. Zyuganov at the head of the Communist Party of the Russian Federation and his decisive role in the ideological transformation of the party in the context of changes in the socio-economic and geopolitical landscape of post-Soviet Russia. The immanent contradictory influence of the personalized leadership factor on the ideological and political evolution of the Communist Party of the Russian Federation is revealed, balancing between the formal preservation of symbolic continuity in relation to the Marxist-Leninist tradition and pragmatic adaptation to the qualitatively changed demands of the electoral corps, which naturally determines the increasing archaization of the social base of the party and the loss of its key opposition functions in articulating the current agenda of progressive transformations.*

Keywords: *communist movement, political leadership, ideological transformation, Marxism-Leninism, electoral dynamics, post-Soviet Russia, socialist alternative.*

The Communist Party of the Russian Federation (CPRF), as the successor to the CPSU banned in 1991 and the core of the left opposition in the post-Soviet period of Russian history, has been under the unquestioned ideological and organizational leadership of Gennady Andreyevich Zyuganov for three decades of its existence. His personality and political philosophy had a decisive influence on the evolution of the party in the context of radically changed socio-economic, geopolitical and ideological realities. The long-term leadership of G.A. Zyuganov, who retained his post despite the relative failures of the CPRF in parliamentary and presidential elections, poses a number of fundamental questions for researchers concerning the dialectical relationship between the subjective and the objective, tradition and innovation, continuity and rupture in the ideology and political practice of the Communist Party. The phenomenon of the immutability of the figure of the leader with the permanent adaptation of ideological and theoretical principles to the political situation requires philosophical understanding from the point of view of the internal logic and contradictions of the transformation processes in the party, reflecting the general patterns of development of the left movement in the context of the loss of its hegemony in the post-Soviet space. The empirical basis of the work was a set of primary sources (the programmatic guidelines of the CPRF, materials of congresses, electoral statistics, the results of public opinion polls), as well as a corpus of research literature devoted to understanding the place and role of Zyuganov and the party he headed in the political history of Russia in recent decades [1; 4; 6; 7].

Leadership G.A. Zyuganov's CPRF was marked by a series of essential ideological metamorphoses, conditioned by the inherently contradictory desire to preserve symbolic continuity with the Marxist-Leninist tradition and organizational principles of the CPSU while simultaneously adapting to the radically transformed demands of the post-Soviet electorate [7]. The ideological baggage brought by the leader to the party's programmatic guidelines demonstrates an eclectic synthesis of communist orthodoxy, social democratic reformism, state-patriotic traditionalism, and even elements of religiosity, designed to ensure the expansion of the CPRF's electoral base at the expense of the most diverse strata of society: from pensioners nostalgic for the Soviet past to the national-conservative intelligentsia [6]. The theoretical innovation of Zyuganov's doctrine of "renewed socialism" consisted in the recognition of the principle of "multi-structure" as a transitional stage to socialism, allowing for the evolutionary coexistence of the state, cooperative and private sectors of the economy with the unconditional primacy of public property [5]. The departure from radical revolutionary attitudes towards the destruction of the bourgeois state in favor of gradual reforms was accompanied by a pronounced social democratization of the ideological and political principles of the CPRF, the interpretation of socialism of the 21st century as a "natural result of

scientifically substantiated forward movement” [5]. The patriotic pathos of Zyuganov’s rhetoric, aimed at protecting the Eurasian civilizational identity of Russia and overcoming the comprador oligarchic “thiefocracy” [3], was combined with a pragmatic course towards dialogue with the authorities and the rejection of militant atheism in favor of constructive interaction with traditional faiths.

The evolution of the electoral results of the CPRF and its leader in the presidential elections (Fig. 1) reflects the contradictory dynamics of public support for the communist movement in post-Soviet Russia. The maximum percentage of votes received by Zyuganov in the elections of 1996 and 2000 (more than 30%) testified to the known successes of the strategy of expanding and consolidating the left electorate by synthesizing traditional communist and national-patriotic ideology. However, since 2004, there has been a decline in the popularity of both Zyuganov personally, who received less than 14% of the votes, and of alternative candidates nominated by the Communist Party, which was due to the general marginalization of the CPRF against the backdrop of strengthening the vertical of executive power and natural electoral decline due to generational change.

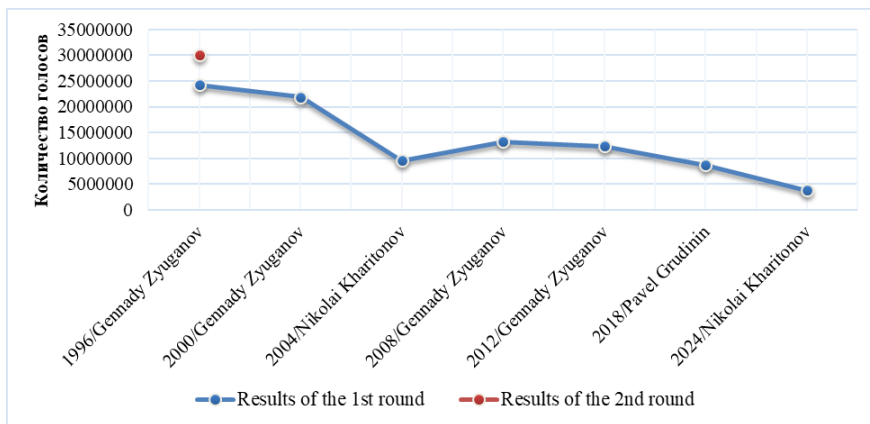


Figure 1. Results of the CPRF candidates in the 1996-2024 presidential elections (number of votes)

The obvious archaization of the age and socio-professional structure of the CPRF supporters, among whom the representatives of the older generation, nostalgic for the Soviet past, absolutely dominate (almost 60% are over 55 years old), with an extremely low representation of the working class and student youth [4], serves as an unambiguous signal of the exhaustion of the party’s mobilization potential, its inability to grasp and articulate the needs of advanced social groups for progressive development and a radical socialist reorganization of society (see

Figure 1). The long-term merits of G.A. Zyuganov in preserving the CPRF as the core of the systemic left opposition in the extremely unfavorable conditions of the 1990s. today they can no longer serve as a sufficient mobilization resource, as evidenced by the twofold lag of the public trust index for Zyuganov (35 percentage points in September 2024 according to VCIOM) from the same indicator for V.V. Putin (82 percentage points) [2].

In the context of the obvious archaization of the social base of the CPRF and its growing self-identification as the “party of Zyuganov”, the left movement has objectively matured a demand for a change of generations of party leadership, for the nomination of a bright, charismatic leader capable of offering an attractive project for the socialist future for broad sections of society, primarily for advanced urban youth, based on a harmonious combination of social justice, technological modernization, and environmental responsibility [4]. The integral characteristics of the new leader of the CPRF should be an organic synthesis of continuity in relation to the enduring ideals of scientific communism with intellectual courage in generating fresh theoretical and practical approaches; the ability to significantly renew the party ranks through the influx of advanced groups of workers (primarily from the working class and the working intelligentsia); personal charisma and media hype, allowing the CPRF program to be conveyed to the widest possible audience. At the same time, the process of changing the top party leadership must certainly be legitimate and aimed not at undermining, but at strengthening the political and organizational unity of the party, overcoming the clan fragmentation of its elite into influence groups [1].

To summarize the above, it should be noted that the phenomenon of G.A. Zyuganov’s long-term leadership at the head of the CPRF and the decisive influence of his political philosophy on the ideological evolution of the party are the quintessence of the deeply contradictory process of transformation of the communist movement in post-Soviet Russia, characterized by a permanent search for adequate forms of adaptation of Marxist-Leninist teachings to radically changed socio-economic and ideological realities. Zyuganov’s undoubted merits in preserving the CPRF as the core of the systemic left opposition in the extremely unfavorable conditions of the 1990s, his contribution to the partial modernization of the party ideology through the synthesis of communist, state-patriotic and social democratic elements, nevertheless, today can no longer compensate for the growing archaization of the social base of Russian communists, their inability to adequately grasp and express the objective demand of new generations for a qualitative renewal of the strategy and tactics of left forces in the struggle for social justice and technological progress. A critical rethinking of the theoretical baggage and political practice of the CPRF, the search for new mobilization resources of an ideological and organizational nature that can ensure the return of the party

to its revolutionary potential, will inevitably require the nomination of a bright, charismatic personality for the role of leader, organically combining loyalty to the enduring ideals of Marxism-Leninism with a readiness for bold intellectual search and practical innovation.

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1917 年前卡拉恰伊-巴尔卡尔人的定居点
SETTLEMENTS OF KARACHAY-BALKARS BEFORE 1917

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注释。对卡拉恰伊人和巴尔卡尔人的定居点和住宅的研究表明，卡拉恰伊人和巴尔卡尔人的定居点的形成考虑到了当地的自然地理和社会经济和政治条件。卡拉恰伊人和巴尔卡尔人的定居点在气候和经济方面表现出了显著的适应性，同时清楚地表明了他们对社会和家庭关系的依赖

关键词：土坯、arkau、aralyk、jatma、bosagya、门槛、地基、turluch 房屋。

Annotation. *The study of settlements and dwellings of Karachays and Balkars shows that settlements of Karachays and Balkars were formed taking into account both local natural-geographical and socio-economic and political conditions. Settlements of Karachays and Balkars show remarkable adaptability in terms of climate and economy, clearly demonstrating at the same time their dependence on social and family relations*

Keywords: *adobe, arkau, aralyk, jatma, bosagya, threshold, foundation, turluch houses.*

In the 19th century, the Karachays and Balkars occupied the territory in the mountains of the Greater Caucasus along the upper reaches of the Kuban and the left tributary of the Terek, which was entirely mountainous or hilly, cut by deep gorges, separated from each other by watershed ridges and elevations.

The economic and geographical conditions of the gorges are very complex. Steep slopes and constant intensive soil erosion limit the possibilities of cultivating grain crops to a minimum, and the harsh climate creates difficult ecological conditions for growing other crops, in particular large-scale garden and vegetable crops.

The Karachays settled in the upper reaches of the Kuban River and its tributaries - in the Kuban Gorge, the Balkars - in the Balkar Cherek, Bezengi Cherek, Chegem and Baksan. Enclosed in the gorges formed by the named rivers, the Balkars constituted five independent societies - Balkar, Khulam, Bezengi, Chegem and Baksan (Urusbievskoe), and in pre-revolutionary literary sources and documents their territory was officially called “mountain societies of Kabarda”, “five mountain societies of Kabarda”, and they themselves - mountain Tatars [3, p. 86].

Eternal glaciers and lifeless rocks occupy most of the Karachai and Balkar territory. River valleys - the places where the Karachai settle are covered with forests everywhere. Oak, beech, plane tree, ash, linden, aspen, willow, birch, apple, pear, etc. grow here in abundance. Higher in the mountains, spruce, fir, pine and small bushes grow. In the Balkar territory, only the Baksan Gorge is rich in forests.

In addition to the upper reaches of the Kuban, Karachay occupies the valleys of its tributaries - Ullu Kam and Makhar, from the confluence of which the Kuban River is formed. It is as if it is in a stone bag, surrounded on all sides by inaccessible mountains. The huge stone (Tash) in the Kuban Gorge, where the Khudey River flows into the Kuban, the Karachays call “kyarachainy kadau tashy” (the Karachay insurmountable castle). Indeed, the gorge at this place narrows so much that it is impossible to pass here unnoticed. The conqueror of the Caucasus, including Karachay, the tsarist general Emmanuel called this stronghold of the Karachays the Karachay Thermopylae.

The most ancient settlements (el, djurt) of the Karachays - Kartjurt, Khurzuk, Uchkulan - follow one another, separating purely conditionally. It is very difficult to determine where one ends and another begins, although the Karachays themselves, even children, clearly know from which place this or that village begins. These settlements form a triangle. Parallel to the named ones, in another gorge (Duutskoye) there are two more Karachay settlements - Duut and Dzhazlyk.

It is extremely difficult to determine the exact age of the listed villages, but one thing is clear - it is measured in centuries. One of the significant researchers of the pre-revolutionary history of Karachay, V.M. Sysoev wrote about the village of Kart-Dzhurt: “There is no more or less accurate information about the time of the foundation of the aul of Kart-Dzhurt. But it is obvious that this aul was founded earlier than other Karachay auls, because Kart-Dzhurt (or Kart-Yurt) means “Old settlements”. As for the village of Uchkulan, local old-timers believe that it was founded about 400 years ago. The time of the foundation of the aul of Khurzuka is unknown” [5, p. 102].

The Karachays tried to settle on flat terrain, in a river valley, whenever possible. Even in the most remote times they did not settle crowded and on steep slopes, although they never had an abundance of flat land. Building on flat terrain became

very popular and prestigious, especially in the 19th century, when wheeled transport began to be widely used. With the advent of carts, a requirement arose that each owner's yard could be approached by a cart (cart) very closely, or at least close.

An obligatory condition of the Karachai homestead (arbaz) was the flatness of the yard. Accordingly, Karachai villages were not huddled on steep slopes, on inaccessible steeps, which is typical for the villages of many peoples of the Caucasus (Chechens, Ingush, peoples of Dagestan, Ossetians and related Balkars). The Karachais did not have strategic considerations for this, since the mountains themselves protected them from external enemies.

In the Balkar villages the picture looked in many ways similar to the Karachay, but in some respects somewhat different. Here is what a great expert on the ethnography of the Balkars G.Kh. Mambetov writes about this: "The location of the Balkar settlements near rivers, on river terraces, traced back to ancient times, indicates that the provision of a settlement with water was an important condition for choosing a place for settlement. The riverine type of settlement was predominant among the Balkars, as well as among the Kabardians... When choosing a place for settlements, the Balkars cared not only about water supply, but also about protection from various raids. Therefore, they often settled in inaccessible gorges, on steep mountain slopes, etc. In those places where natural fortifications were an insufficient guarantee, the Balkar feudal lords built defensive structures: castles and fortresses" [1, p.76].

Another researcher of Balkaria and Karachay, I.M. Miziev, writes: "All known tower structures of Balkaria and Karachay are located in the high mountain regions between the Bokovoye and Skalistye ridges of the Caucasus in the zone of the Northern Depression. As a rule, they were located on hard-to-reach rocky areas and peaks bordering the mountain basins in which the Balkarian and Karachay auls were located. Less often, they were built in the auls and near them. Occupying strategically advantageous points, tower structures in certain areas represent a fairly well-thought-out defensive system of settlements. An example of such systems can be the areas of Upper Balkaria, Bezengi and Upper Chegem, where a special concentration of the structures in question is observed." The number of tower structures gradually decreases from east to west, from Upper Balkaria to the Baksan Gorge and Karachay. I.M. Miziev also names the number of such towers: "In Upper Balkaria, according to literary data, there were ten tower structures, now the remains of nine have been preserved, in the Bezengievsky pit there are six. In Upper Chegem there are 14 towers. In the upper reaches of the Baksan there are 3 similar structures, and in the territory of Karachay 4 tower structures are known - two near the villages of Khurzuk and Kart-Dzhurt on the Kuban, one near the village of Arkhyz on B. Zelenchuk and one in the upper reaches of the

Dzheguta River.” He also notes that the towers and fortresses of Balkaria and Karachay are divided by their location into structures located on accessible ledges of rocks and peaks and located in the villages themselves, near them or simply in more accessible places.

The appearance, way of life, and character of the Karachay and Balkar settlements indicated a stable settled way of life. “The main Karachay settlements have been in one place for many centuries,” writes V.P. Nevskaya. The same is noted by researchers of Balkar settlements [4, p.112].

According to the figurative expression of one of the authors of the 19th century, the villages of Kartjurt, Uchkulan, Khurzuk are for Karachay the same as Kyiv is for Russians. They make up Historical Karachay, and, in our opinion, the people most likely received their name in this territory - in the upper reaches of the Kuban. In the first half of the 19th century, the Karachays still lived in the Duut Gorge, parallel to the Kuban, in two villages - Dzhazlyk and Duut. Both of these villages are certainly also ancient, but they were formed somewhat later than Kartjurt, Khurzuk and Uchkulan. They were formed mainly from people from Uchkulan and Kartjurt.

In the economic and economic respects, in the 19th century, Duut and Jazlyk were in a much more advantageous position than Kartjurt, Khurzuk and Uchkulan. The Duut Gorge, where the two named villages were located, is less severe in climatic terms, and the pasture lands are located, essentially, nearby. These villages did not play a significant role in the life of Karachay society. Powerful patronymic associations (kaums) did not settle here, as in Historical Karachay, the population of Duut and Jazlyk was somewhat smaller, etc., but nevertheless they were independent and, along with Kartjurt, Khurzuk and Uchkulan, constituted the backbone of Karachay society in the period under review [2, p. 95]. The territory occupied by the five named villages of Karachay is relatively large. It is interesting that for a long time the first three settlements occupied approximately the same area and their population was also almost the same.

On the scale of that time, Karachay villages were very large in terms of population, not only in comparison with Balkar villages, but also with villages of the peoples of the entire North Caucasus - Circassian, Kabardian, Ossetian, Dagestani, etc. Balkar villages can be compared in size, for the most part, only with the Karachay quarter (tyre).

When considering the settlements of Historical Karachay, the question of their age arises. Literary sources give different answers to this question. However, the entire “polemic” about the seniority of these three settlements is conducted only between Kartjurt and Khurzuk, because all researchers unanimously attribute the emergence of Uchkulan to a later time. Most authors - both pre-revolutionary and Soviet - give priority in time to Kartjurt. There are fewer supporters of the “sen-

iority” of Khurzuk. Our material indicates that the most ancient settlement in the upper reaches of the Kuban is still Kartjurt. The etymology of this name is as follows: kart - old, djurt - homeland, motherland (in a figurative sense - a settlement). Thus, Kartjurt means “Old settlement”, “Old Motherland”. Sometimes Kartjurt is also called Eltyubi, which means “Bottom of the village” (el - village, tyub - bottom). This, in our opinion, is a more ancient name, and it suggests that before Kartjurt, another Karachay settlement probably existed in this place. Indeed, traces of such a settlement have been preserved in the western part of modern Karachay [7, p.90].

In addition to these two names of the village, preserved in the memory of the people, we encounter another - a third - in literary sources. This is Kartgayurt, i.e. “The Village of Karchi”. Karcha - the legendary ancestor of the Karachays settled in Kart-Dzhurt, so the existence of this third name of the village is quite possible.

Some researchers consider Khurzuk to be the most ancient settlement of the Karachays. The etymology of this name is as follows: khur - heavenly, inhuman; yuzuk - family, descendant. Khurzuk means something like “Superhuman family” and is explained as follows.

The legendary ancestor of the Karachays had an only daughter, who after marriage settled in another village. As a sign of great love for his daughter, Karcha named this village Khurzuk. According to another version, the people themselves gave this name as a sign of deep respect for the daughter of their ancestor. And now the Karachays call a beautiful, smart girl brought up in the best traditions a *hour* (*khur kyz kibik*). And according to Karachay legends, Karcha’s daughter was very beautiful and so smart that even her father often listened to her advice.

There are other opinions regarding the origin of the name Khurzuk. V.A. Kuznetsov, for example, interprets this name as “rocky depression” (from the Ossetian language), and K.T. Laipanov suggests the translation “animal tail” (from the Khakass language). A number of other etymologies of this name are also proposed. The third village of Bolshoy Karachay is Uchkulan. Its etymology is interpreted in two ways. The first explanation of the name of this village is associated with its late origin - it arose after Kartjurt and Khurzuk - “third comrade” (*uch, yuch* - three; *ulan, ogran* - comrade, friend). If we proceed from the geographical location of this village, then another version looks convincing: this village is located at the junction of three gorges (*yuch ezen*) - Khurzuk (*khurzuk ezen*), Uchkulan (*uchkulan ezen*) and Kuban (*Koban ezen*); hence we get - “Confluence of three gorges” (*uch* - three; *kuyulgan* - confluence) [3, p. 114].

Uchkulan stood somewhat apart from Kartjurt and Khurzuk, which had long been connected by family and marriage ties. The following fact is also of interest. If we compare the population of the three oldest villages of Greater Karachay by social status, then all classes of Karachay society were represented in Kartjurt and

Khurzuk: biys - the upper class; chankas - born from the marriage of a biy with a woman of the lower class; uzdeni - the working, independent and most numerous classes in Karachay; kuls - the lowest, dependent class, which, in turn, was divided into two groups: serfs (yulgyu-kul - exemplary) and slaves (bashsyzkul - headless).

In Balkaria, despite the fact that there were many villages in each society, they were all approximately equal in their economic importance and homogeneous in social terms. Thus, in the second half of the 19th century, the Khulam society included the following villages: Upper Khulam, Lower Khulam, Totur, Ozen and Zhaboevo. Upper Khulam was the main and largest village of the society. It had 138 households and a population of 1,141 people. There were two mosques, one small and two temporary textile shops. Large villages in Balkaria, as in Karachay, consisted of quarters - tiyre (tiy - to touch, tiyre - touching). In Balkarian villages, each tiyre was an independent cell, where there was everything necessary, so to speak, for all occasions: a mosque, a shop, a place for quarterly meetings (nygysh) and, of course, a family cemetery. And if a resident of a particular village could nevertheless visit "another mosque", do shopping in another quarter, be for one reason or another at a nygysh of another kind, then burying one's deceased in a cemetery of another tiyre was strictly prohibited. Even in the villages of Historical Karachay, when it comes to someone's funeral, the first question asked is where they buried them, in the sense of whether the tradition has been preserved [6, p.132].

However, the study of the settlement and housing also showed that in pre-Soviet times, the economic and cultural backwardness and general poverty of the Karachays and Balkars in the absence of constant and intensive economic and cultural ties with advanced countries, primarily with Russia, affected the settlements and housing - they did not meet basic sanitary, hygienic and cultural needs. The annexation of Karachay and Balkaria to Russia increased the impact of Russian culture, but the remaining economic poverty delayed the assimilation of elements of advanced Russian culture in rural and housing construction.

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中亚安全挑战: 域外参与者的影响
**CENTRAL ASIAN SECURITY CHALLENGES: INFLUENCE OF
EXTRA-REGIONAL PLAYERS**

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注: 中亚由于其独特的地理位置, 几百年来一直是权力斗争的中心, 在亚洲地缘政治平衡中占有特殊地位, 是俄罗斯、中国、欧洲和美国世界的十字路口。自独立以来, 国际环境也发生了不可预见的变化, 从单极向多极过渡。美国、中国和俄罗斯等世界大国现在都参与到这个地缘政治领域, 它们经常制定相互竞争的战略。因此, 地缘政治和地缘经济行为主体的多样化, 作为后苏联转型最重要的事实, 经常被描述为“新的大博弈”, 呼应了19世纪末和20世纪初俄罗斯帝国和英国帝国为争夺中亚主导地位而展开的争夺。

独立30年来, 中亚的安全环境发生了巨大变化, 战略和联盟也发生了变化。该地区的地缘战略重要性日益增强, 这还得益于阿富汗局势、其自然资源(尤其是碳氢化合物)以及其在欧洲和亚洲、俄罗斯和中国、印度和伊朗之间的分布。这种争夺该地区全部影响力的斗争被称为“新大博弈”。

关键词: 中亚、安全、美国、欧盟、俄罗斯联邦和中国的“新大博弈”。

Annotation. *Central Asia, due to its unique geographical location, has been at the center of power struggles for centuries and occupies a special place in Asian geopolitical balances, at the crossroads of the Russian, Chinese, European and American worlds. Since their independence, the international environment has also undergone unforeseen changes as they transition from unipolarity to multipolarity. The world powers of the United States, China, and Russia are now involved in this geopolitical field, where they are developing often competing strategies. As a result, the diversification of geopolitical and geoeconomic actors, the most important fact of the post-Soviet transformation, is often presented as a “new Great Game,” echoing the struggle for influence between the Russian Empire and the British Empire for dominance in Central Asia in the late 19th and early 20th centuries.*

Over the 30 years of independence, the security environment in Central Asia has changed dramatically, and there have been changes in strategies and alliances. The region is becoming more geostrategically important every day, also because

of the situation in Afghanistan, its natural resources, especially hydrocarbons, and their localization between Europe and Asia, Russia and China, India and Iran. This struggle for full influence in the region is known under the term “new big game”.

Keywords: *Central Asia, security, the “new big game” of the United States, the EU, the Russian Federation and China.*

The problem I have touched upon has been the subject of study of many researchers, international and regional organizations engaged in the study of security problems in the territory of Central Asian countries, as well as the subject of superpowers' interference for influence in the region. The most significant work on this topic is the publication by D. Malyshev [1], Doctor of Political Science (IW RAS), which contains information about the main security problem of Central Asia - the Afghan factor. It is also worth noting the study by I. Seleznev [2], devoted to assessing the role of the CSTO in resolving the security challenges of Central Asian countries.

The activities of the SCO within the framework of security in the region are considered in the work of A. Kazantsev, Su Chang [3]. On the influence of the EU in Central Asia is considered in the work of Paramonov V.V., Stokov A.V., Abduganiva Z.A. [4].

Historically, there have been various justifications for the presence of several powers in Central Asia. Unlike the “Great Game” that Britain and Russia staged to conquer Central Asia in the nineteenth century, the current process offers Central Asian countries an unprecedented opportunity to maximize the benefits of U.S.-China-U.S. relations. Since September 11, 2001, the actions of today's great powers in Central Asia have turned it into a point of strategic importance. The unprecedented competition for resources and influence in the region has been called by some authors the “new big game” and can be seen as a competition between the US and the EU against China and Russia [5, p-242].

However, the new game differs significantly from its predecessor, both in terms of the composition of the “players” and the goals to be achieved. Increased U.S. involvement in the region has forced Russia and China to focus on either exploiting opportunities for cooperation or counterbalancing each other; thus, a complex dynamic between global powers and regional actors has been established. The Ferghana Valley shows how a combination of local unrest and tensions between intraregional activists engaged the great powers in a sudden involvement in what some scholars call a “quagmire” [6, c-87].

After September 11, 2001, the U.S. viewed the Central Asian region as strategically important for the war effort in Afghanistan. Eager for investment and wary of the instability and danger posed by Kabul, Central Asian countries readily of-

ferred overflight rights and assistance to U.S.-led coalition operations. Kyrgyzstan provided the Manas base for NATO use and U.S. operations, while as of 2005 Uzbekistan and Tajikistan had limited their support for NATO [7, p-87].

In July 2005, at a meeting of Central Asian countries, Kyrgyzstan, Tajikistan, and Uzbekistan signed a declaration that clearly stipulated a deadline for the withdrawal of antiterrorist coalition forces from Central Asian military installations. After Western countries sharply criticized the Tashkent government over the Andijan uprising in 2005, Islam Karimov retaliated by limiting the transit and access of U.S. military forces to his territory and seeking closer ties with Russia (8, p-160).

In 2009, it was Kyrgyzstan's turn to demonstrate the difficulties of U.S. logistical support when former President Bakiyev announced the closure of the Manas airbase. This action was motivated by Russia's offer of a \$300 million loan for economic development and another \$150 million for budget stabilization. Despite the negotiations, the U.S. managed to extend the use of the Transit Center at Manas until 2014, when U.S. troops were withdrawn from Afghanistan. In fact, Washington invested heavily in maintaining the base; in 2009 alone, it increased the amount paid annually for the use of the structure from \$17.4 million to \$60 million, \$30 million to improve the airspace control system, \$36 million to upgrade infrastructure, and \$21 million for anti-terrorism programs [9, p-10].

The strategic importance of Central Asian countries has grown after repeated attacks on NATO convoys on the transit route from Pakistan to Afghanistan. In an effort to mitigate risks and avoid high operational costs, the U.S. asked Kazakhstan and Tajikistan in 2009 to coordinate alternative air, sea and land transportation routes for supplies destined for coalition forces. This led to the creation of the Northern Distribution Network, which expedited the procurement of nonmilitary materials on local markets for use in the Afghan campaign; a few months later, Kyrgyzstan and Uzbekistan joined the network [10, p-34].

To strengthen regional security, the U.S. decided in 2010 to invest in military training for counter-narcotics and counterterrorism agents. In Tajikistan, near the capital Dushanbe, the State Department invested \$10 million to build a training center. Similarly, there were plans to build a training center in Kyrgyzstan, but instability in the country following the ouster of former President Bakiyev put the project on hold.

The United States considers Russia's influence and hegemonic efforts in the region to be contrary to its strategic interests. After the collapse of the Soviet Union, the newly independent states attempted to lean toward a Western-style political system and free market economy. The goal was to open the region's economy to the Western world, stimulate economic growth, and thus balance Russia's control over the region's economy and resources. In order for this strategy to succeed, the

U.S. promoted structural and institutional reforms in the areas of democratic procedures, civil rights, judiciary, and social justice. It also sought to control energy resources by providing alternative routes for pipelines to replace Russian-owned routes and facilitating contracting for its energy companies. The legacy of the Soviet economic system, which integrated regional economies, prevented CAR from developing independently, and its geographic proximity to Russia were two important obstacles for the U.S. to achieve its post-Cold War goals in the region. Moreover, the color revolutions that occurred in Georgia, Ukraine, and the Central Asian state of Kyrgyzstan alarmed the CARs and caused them to act cautiously toward the US.

In this sense, the U.S. has had limited success in containing Russia's influence in the region.

Despite its diminished presence in the region, the U.S. retains its influence and continues to work with the CARs in the areas of human trafficking, drugs and narcotics, arms sales, religious extremism, and terrorism. The C5+1 format developed is the latest example of continued U.S. interests in the region.

Since the collapse of the Soviet Union, European countries have shown little interest in the region. Despite the opening up of Central Asian countries in the 1990s, Western involvement, particularly by the EU, has been modest. In this sense, European states took a cautious approach, focusing mainly on energy projects and strengthening cultural ties. Thus, until the mid-2000s, the

EU played a marginal role in Central Asia. One of the goals of European policy towards Central Asia was to create transportation corridors connecting the former Soviet world with Europe.

The focus of the proposed linkage was on the energy sector, with the development and rehabilitation of critical oil and gas transportation infrastructure through two programs: the Transport Corridor Europe-Caucasus-Asia (TRAVECA) and the Interstate Oil and Gas Transport to Europe (INOGATE). By the early 1990s, all Central Asian states had been admitted to the newly reformed Organization for Security and Cooperation in Europe (OSCE). In the late 1990s, partnership and cooperation agreements were signed with the Central Asian states to promote the economic development of these states and harmonize trade relations. However, these agreements served the EU's unilateral economic interests and were limited to harmonizing technical requirements. Only since 2001, with the outbreak of the "war on terror," has European analysis become more sophisticated [4, p-12].

For the success of cultural, infrastructural and trade programs, the EU has turned its attention to the issue of regional security. In this sense, the EU has identified the region as a threat to European security because it is a source and corridor of transportation drugs (coming from Afghanistan), as well as a source of refugees and people smuggled for prostitution or slave labor. The issue of security became

even more pressing for Europe after the significant enlargement of the institution in 2002 and 2004, which brought Central Asia closer to the new European borders, thus increasing the potential impact of criminal activity [3, p-4].

To address these challenges, the EU has established the Border Management Directorate in Central Asia to work jointly with the Central Asian Drug Control Program. Together, these two projects aim to reduce and prevent drug trafficking, strengthen border security and conduct educational programs to rehabilitate drug addicts in the community, representing Europe's strategic interest in supporting stability and security in Central Asia.

The "Partnership Strategy" that was drafted in 2005 was renamed the New Partnership Strategy in 2007 and was closely coordinated by a special EU Delegation to realize its goals. Later that year, it was decided that Kazakhstan would chair the OSCE in 2010 and become the first post-Soviet, Muslim-majority Eurasian country to chair the body.

Upon assuming the OSCE Chairmanship in 2010, Kazakhstan stated that it would focus on several issues of interest to Central Asia and Russia, namely: strengthening nuclear disarmament; promoting dialogue between the OSCE and former members of the Soviet Union on protracted conflicts; and supporting stabilization and co-operation initiatives in Afghanistan. After adopting an agenda focusing on security, democracy promotion and the environment, OSCE members adopted the Astana Commemorative Declaration, which promoted progress in strengthening security and development in Afghanistan, as well as a commitment to upholding democracy and human rights as key principles among the organization's members.

In the early 1990s, Russia did not actually perceive Central Asia as a strategic region in its foreign policy. Already in the late 1990s, the Kremlin pursued a more independent, less pro-Western foreign policy and realized that Central Asian countries represented an integral part of the country's security zone. They may have envisioned threats from an external enemy, fearing regional instability and separatist threats that could arise in Eurasia [12, p-4]. In this sense, the Russian Foreign Intelligence Service prepared a position paper in 1994, which was to become part of Russia's official state policy, entitled "Russia-CIS: Does the West's Position Need Adjustment?", which included items of insecurity factors, namely:

a) tension between ethnic Russians and the population of the same name; b) interstate and ethnic conflicts; c) proximity to Afghanistan; d) involvement in relations with Iran and Turkey; e) invasion by distant leading countries (the U.S. and, in

The 9/11 attacks triggered a major shift in Russia's Central Asian policy, with Putin choosing to work closely with George W. Bush to stabilize the region by agreeing to an increased U.S. military presence against al-Qaida operations. The

steady rise in international hydrocarbon prices has also increased the importance of Central Asia for Russia, not only because of the opportunity for direct investment, but also as a means for the Kremlin to reassert its role as guarantor of gas supplies from the Caspian Basin to the European market (1, p-111).

In this sense, we can distinguish four directions of Russian foreign policy since 2001: a) maintaining security, along with the elimination of drug trafficking and terrorist incursions; b) restoring or maintaining its influence in the region; c) protecting its economic interests (oil and gas routes) [2, p-100].

In 2003, a project was launched to regularize labor migration and improve the living conditions of immigrants. The same year saw the institutionalization of the CST, and on September 18, the Collective Security Treaty Organization (CSTO) was established to prevent further NATO expansion and preserve the CIS under the auspices of Russian armed forces. A few days later, on October 23, the Russian president visited Kyrgyzstan and opened the first Russian military base after the collapse of the Soviet Union in Kant [13, p-11].

A year later, the Russian president visited Tajikistan with a similar goal: to establish a permanent military base and open business opportunities between the two economies. In connection with the incident in Andijan (Andijan Massacre), Uzbekistan, in May 2005, the European Union and the United States condemned serious violations of abuse of power and human rights and demanded an investigation into the case. They strongly criticized the findings presented to the international community, which provoked a strong reaction from Tashkent, which announced the closure of the K2 base to the U.S. and set a six-month deadline for withdrawal. Russia, seeing an opportunity to return Uzbekistan to its sphere of influence, sanctioned within the CSTO and the Shanghai Cooperation Organization (SCO) the legality and validity of the investigation conducted by Uzbek justice in the Andijan case. Russia managed to win Islam Karimov's trust and Uzbekistan rejoined the CSTO in December 2006.

Beginning in 2009, the CSTO, in an attempt to adapt to new threats, began to incorporate topics beyond traditional security issues with the approval of the Agreement on Collective Rapid Response Teams. This measure, in addition to ensuring that traditional threats are addressed, introduces innovations, including protection of populations in armed conflict, support in the distribution of humanitarian aid, and mobilization in emergency situations such as environmental disasters. However, the agreement failed to reach consensus due to the abstention of Belarus and Uzbekistan. Uzbekistan, which had speculated about a second Russian base on Kyrgyz soil - and near the Uzbek border - was suspicious of the proposal to expand the CSTO's scope and withdrew from it in 2012 as a result.

The Russian Federation is positioning itself in search of resources and influence over former members of the Soviet Union, which can be interpreted as an

attitude to return the regional status that was deteriorated during the collapse of the USSR.

After the 1990s, marked by the prevalence of disintegration dynamics, the 2000s and 2010s saw the emergence of a Eurasian regional whole that resembles the contours of the Soviet space in Central Asia. Its formation is based on institutional and informal mechanisms of regional integration. Several supranational organizations unite Russia and the countries of Central Asia, in particular Kazakhstan, Kyrgyzstan and Tajikistan: the Commonwealth of Independent States (CIS), the Collective Security Treaty Organization (CSTO), and the Eurasian Economic Community (CEEC). On May 29, 2014 in Astana, Vladimir Putin Alexander Lukashenko and N. Nazarbayev recorded the creation of this union, which on the basis of previous agreements (Customs Union, Common Economic Space) marks a certain deepening of interstate relations, from a political point of view, economic and symbolic. The EAEU provides for the creation of a free trade zone from the Customs Union, as well as the implementation of a coordinated economic policy.

China borders three of the five Central Asian countries through Xinjiang Province, officially called the Xinjiang Uygur Autonomous Region. The region has a close interdependent relationship with Central Asia in trade, security and geography.

China's main interests in Central Asia:

Ensure stability and security in China's western provinces and along the border;

Fulfilling energy and economic objectives by diversifying China's sources of supply and transportation. Access to oil from Kazakhstan, gas from Turkmenistan, agricultural and mining resources from other countries (Kyrgyzstan, Tajikistan and Uzbekistan);

(B) ensuring political stability in the countries of Central Asia;

D) Ensure that no other external power advances its interests at the expense of China's interests.

Since the 2000s and the focus on security and energy issues in the region, Chinese authorities have viewed a Russian presence in the region as desirable, although some of the two countries' goals may be at odds, Beijing and Moscow share similar concerns, such as fighting terrorism, separatism, and drug trafficking.

In terms of security specifically, it can be said that China looks at Central Asia from the perspective of Xinjiang's security and stability, as the borders (not defined throughout the 1990s) between these countries and China are porous and there is a threat of separatism. Thus, the issue of border delimitation was prioritized in the first contacts between the two sides. This was initially the goal of the Shanghai Five, which eventually led to the current Shanghai Cooperation Organization (SCO). In the case of Kazakhstan, China began the delimitation process

in April 1994 and smoothly completed it in July 1998. The other two countries, Kyrgyzstan and Tajikistan, had great difficulty in resolving the issue. For internal reasons, it was not until 2002 that China defined its borders with Tajikistan. The greatest difficulties arose between Beijing and Bishkek, as the initial demarcation, dated July 1996, included a land swap, which met with strong internal resistance from Kyrgyzstan. Years later, in July 2009, the issue was finally resolved: the Chinese ceded Khan-Tengri Peak to Kyrgyzstan, which in turn ceded the Uzen-gi-Kush mountain region to China [14, p-33].

China's greater presence in the region also serves political and defense interests. Chinese analysts and thinkers are constantly wary of U.S. attempts to encircle their country through an elaborate architecture of naval activities and land bases from the Pacific Rim to Central Asia. In the event of a Sino-US confrontation over Taiwan, Beijing fears that US access to bases in Central Asia would jeopardize its integrity.

Despite the difficulties, China has concluded a significant number of security and military cooperation agreements with Central Asian countries within the SCO framework. In 2002, the Regional Anti-Terrorism Center was established to coordinate responses to border problems, illegal migration and drug trafficking.

China seeks to exert its influence in unconventional ways on security issues, and Central Asian authorities fear the impact of Chinese economic power on their fragile domestic economies. Beijing has thus found it difficult to consolidate the institutionalization of the SCO as a body for economic development and security.

In this context, it is important to note that China seeks closer relations with the Central Asian states at the bilateral and multilateral level in order to support its development and integration project. China emphasizes stability, economic development and a policy of noninterference in internal affairs, representing what can be called a "pragmatic approach"[15, p-10].

Overall, the security scenario in the region has been exacerbated by clashes between government and civilians (Andijan Massacre in 2005; Tulip Revolution in 2005 and the 2010 uprising in Kyrgyzstan), creating an atmosphere of instability that eventually transcends the region, affecting extra-regional players. Other factors contribute to the geopolitical focus: proximity to Afghanistan, attracting U.S. attention and presence; Chinese interest in integration and commercial expansion through Xinjiang province; and maintaining regional security to avoid being overwhelmed by separatist movements. Russia, with Central Asia as its traditional zone of influence, acts in the dynamics of conflict prevention and regional integration with security objectives. In this sense, it can be observed that great powers seek to create regional security complexes that cut across several neighboring regions.

Political instability in Afghanistan has a huge impact on the security as well as economic development of the Central Asian states. Prolonged conflict in Afghanistan has the potential to spill over into neighboring Uzbekistan, Turkmenistan and Tajikistan. The security threat arising on the routes in Afghanistan is one of the important factors reducing trade and economic activities in the region. The activities of terrorist organizations are one of the serious challenges for the region. Having borders with Afghanistan, Uzbekistan, Turkmenistan and Tajikistan, and geographically close to Kyrgyzstan, they are susceptible to cross-border terrorist activities. These countries, which have a high percentage of Muslim population, are easy targets for exploitation of religious extremism.

The presence of foreign powers in the region can be seen as a factor contributing to the radicalization of the region. Although they do not pose a serious threat, the Islamic Movement of Uzbekistan (IMU) and Hizb ut-Tahrir are the two main groups active in the Ferghana Valley. Although regional rivalries and territorial disputes cannot be seen as an immediate threat to regional instability, unresolved differences between Kyrgyzstan and Tajikistan and between Uzbekistan and Kyrgyzstan over the Ferghana Valley have the potential to escalate. Drug and human trafficking is another problem that threatens the societies and economies of the Central Asian republics.

Water scarcity is another problem facing the Central Asian republics, the root causes of which date back to the Soviet era. Long years of misguided agricultural policies, the use of vast open areas for nuclear testing, and droughts caused by climate change turn thousands of hectares of land into deserts every year. The gradual decline of water levels in the Aral Sea is a prime example of environmental degradation. The need to share scarce water resources also creates problems between the countries of the region. The desire of Tajikistan and Kyrgyzstan to use water resources for energy production contradicts Uzbekistan's goal of using them for agriculture.

As throughout history, Central Asia's unique geographic location and energy and mineral resources attract the geopolitical and geostrategic interests of regional and global powers. Despite the many challenges, numerous opportunities promise peace and prosperity for the region. All Central Asian countries share a common cultural and historical heritage. This unique character of the region can be utilized to promote security, prosperity and stability in the region.

It is believed that Afghanistan will continue to be the greatest challenge to the stability, security and economic development of the region. In addition to the U.S., the involvement of other strategic powers, such as Russia and China, in peace efforts could expand conflict resolution and bring peace and prosperity to the region.

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金砖国家文化多样性与文明发展的价值统一
**CULTURAL DIVERSITY OF BRICS AND VALUE UNITY OF
CIVILIZATIONAL DEVELOPMENT**

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摘要：本文探讨了金砖国家超越民族认同界限的意识形态基础，认为只有价值观作为人类存在的普遍终极意义，才有可能成为金砖国家人民对话与合作的基础，同时也使金砖国家能够巩固和捍卫自己的民族认同。

关键词：金砖国家、文化、文明、价值观、民族认同。

Abstract. *The ideological foundation of the BRICS that transcends the boundaries of national identity is considered in the article. It is asserted that only values as the universal ultimate meanings of human existence can be the basis of the very possibility of dialogue and cooperation between the peoples inhabiting the BRICS member states, and at the same time allow the BRICS member countries to consolidate and defend their national identity.*

Keywords: *BRICS, culture, civilization, values, national identity.*

From ancient times to the present day the characteristic features of the civilizational stage of human development are the multivariance of development, the progressive complication of the social structure of society, the emergence of cities and states, the appearance of new subjects of socio-cultural activity on the historical scene [1].

Yet, for all its diversity, civilizational development does not destroy the formational unity of many coexisting countries with the same type of economy and socio-political structure. Therefore, no matter what statesmen and political scientists call the “new world order” that is taking shape on the ruins of American hegemony, this order remains capitalist with a small group of transnational monopolists continues playing a decisive role in it.

In terms of population, ethnic composition, socio-cultural and religious diversity, the BRICS organization is comparable only to the United Nations. However, if the medium-term economic and political causes of the emergence of BRICS are quite obvious, then the long-term prospects for the existence of such a heterogeneous organization require serious study.

To resist the massive onslaught of vampire colonialists with centuries of experience in economic and moral-psychological terror, the BRICS member countries need an ideological foundation that transcends the boundaries of national identity, and at the same time allows them to consolidate and defend this identity. Turning a revolt against an aging world hegemon and his henchmen into a struggle for the development of sovereign states free from colonialism requires not only ideological design, but also joint actions of an economic, political, diplomatic and humanitarian nature.

Economic and political interests are transitory and cannot be the basis for long-term cooperation not only between sovereign States, but even between various social groups within a single state.

The diversity of cultures as a traditional way of life for hundreds of subjects that make up the BRICS member states requires a search for the fundamental basis of the very possibility of dialogue and cooperation between them.

Obviously, neither ethnic, religious, nor any other differences in the cultures of the peoples inhabiting the BRICS member states can be such a basis. Differences as such cannot be the basis for uniting people. Such a basis can only be common to all, universal, not transitory, independent of any momentary historical, economic or political circumstances. It is values as the ultimate meanings of human existence that are precisely such a basis.

The struggle for independent, sovereign development free from Americanism and Eurocentrism presupposes spiritual liberation from the false understanding of values as “everything that matters” to a person. Anything that satisfies the needs can matter. But not everything that satisfies the needs preserves the dignity of a socio-cultural being for a representative of the *Homo sapiens* species and gives human life a socio-cultural, not biological, meaning.

The spiritual world of man is not limited only to the awareness of values and specific forms of their embodiment. There are worldviews, goals, norms, ideals, customs, material and spiritual products of activity, etc. in culture. And all this infinite diversity, even in a single culture, should be called by its own names. Calling things by false names, we distort their essence. So, calling “anything we want” by “*values*”, we give grounds to justify any aspiration of the will to power.

But can a person’s self-determination as a sociocultural being be *anything*? Can the spiritual principle in a person be satisfied with *any* meaning?

Only those meanings, the embodiment of which transforms a person into a socio-cultural being, can be called “*values*”. Whatever the specifics of the embodiment of Truth, Good and Beauty in the culture of various subjects are, the socio-cultural meanings expressed in values remain universal and unchanged. No cultural and historical specifics can justify the renunciation of fundamental values: the conscious rejection of searching truth, the violation of moral norms, the destruction of natural and man-made beauty.

Self-identification as a socio-cultural being is of particular importance in the modern world, since the degradation of human socio-cultural qualities as a strategic goal of Americanism is no less a threat than nuclear war. Moreover, it is human degradation that can eventually lead to nuclear war.

The absence of fear of nuclear war among the ruling class and the inhabitants of the “collective West”, noted by political scientists, is one of the obvious manifestations of the degradation of the ability to think, the desire to explore the world not as it is in itself. Only a dying mind can give rise to the idea of a “multitude of truths” and believe that the real world is just one of the versions of the virtual world created by IT-specialists commissioned by those who head the world’s list of billionaires.

The race imposed on humanity to oust man from all spheres of public life requires cooperation of sane people in the struggle for human survival as a subject of socio-cultural activity, but not a biological pervert who has lost the ability to act intelligently.

It would not be an exaggeration to say that BRICS can play an important role in uniting all those who strive to preserve their socio-cultural essence, who understand that the fundamental unity of humanity, expressed in values as the ultimate goals and meanings of human existence, is not destroyed by the infinite variety of cultural and historical forms of their embodiment [2].

Each country entering or intending to join the BRICS has its own historical experience, which testifies to the harmful consequences of an unreasonable or violent deviation from value orientation and traditional forms of embodiment of values. The experience of Russia’s “Westernization” is not exceptional, but it demonstrates only a general pattern: any concession in matters concerning the ultimate meanings of human existence inevitably leads to self-destruction, which, as a rule, is impossible to stop peacefully.

Being at the capitalist stage of civilizational development, citizens of all countries joining various political and economic unions should remember that state bodies exercise their powers not so much in the interests of the whole society as in the interests of the economically dominant classes, for whom their own domination is more important than the well-being of all other citizens of the country.

Since class domination and the pursuit of world hegemony cannot be justified as fair in the system of value coordinates of human culture, the ideology of the ruling classes is always based on lies passed off as Truth. And the main lie of the ruling classes from classical slavery to post-Soviet imperialism remains the assertion of the indestructibility of social inequality, the division of society into “higher” and “lower” and the justice of the domination of the “chosen” over the “underdeveloped”. The basis for the introduction of this lie into the consciousness of millions of people is not so much the armed force on which any state relies, as

the spiritual degradation of the exploited masses of the population themselves, who are ready to perceive any ideas of those in power as true.

The absolutization of private, historically transitory forms of value embodiment inevitably leads to conflicts, not least because the ruling classes always use the idea of protecting traditional forms of value embodiment for exploited classes as the basis for interethnic and interfaith clashes.

The complexity of the situation lies in the fact that any cultural subject really needs to protect traditional forms of embodiment of values, but not from value orientations traditional for other cultural subjects, but from the destruction of the value basis of human culture as such. It is not the traditional for the citizens of a particular BRICS member country ideas of the true, good and beautiful that pose a danger to the ethnic, confessional or civic identity of citizens of other countries, but the imposition, unprecedented in its aggressiveness and scale, of a bestial life-style as the ultimate goal for all who, according to the crazy “collective West”, is doomed to live not in the “blooming garden” of the civilized world, but in the “wild jungle” of “underdeveloped” states.

A genuine orientation towards Truth, Good and Beauty is incompatible with the aggressive imposition of one’s own idea of the true, good and beautiful. However, attempts to get away from the real political, economic, ideological, informational, etc. struggle against the invasion of human culture by deadly viruses of senselessness masquerading as freedom and the thirst for power disguised as the love of democracy are tantamount to condoning absolute evil and have no value justification.

From an axiological point of view, all attempts to maintain neutrality or gain short-term benefits by cooperating with those who seek world domination, demonstratively destroying the value foundations of culture, will inevitably lead to the loss of state and socio-cultural sovereignty.

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文化差异对地域体育品牌的影响
**THE IMPACT OF CULTURAL DIFFERENCES ON SPORTS
BRANDING OF TERRITORIES**

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摘要。本文探讨了通过体育赛事吸引游客的国家差异：文化特征、经济因素、政治因素（包括立法特征）、社会方面和社会规范。本文给出了 21 世纪组织体育赛事的地理品牌化国家特定方法的示例。

关键词：品牌化、地域品牌化、旅游、体育赛事、国家特色、全球化。

Abstract. *The article examines the country differences that are used for attracting tourists through sports events: cultural characteristics, economic factors, political factors, including legislative features, social aspects and social norms. Examples of a geo-branding country-specific approaches to organizing sports events in the 21st century are given.*

Keywords: *branding, territorial branding, tourism, sports events, country features, globalization.*

One of the most important trends in the development of the global market, even taking into account the impact of the COVID-19 lockdown, is still globalization - the process of deepening interconnections and interdependence between countries, which covers economic, cultural, political and technological aspects. Back in the middle of the twentieth century, the USSR, Eastern Europe, China, and Indochina countries such as Vietnam, Cambodia, Laos, Malaysia, Myanmar, and Thailand were virtually isolated from the markets of other states. But by the early 1990s, political and ideological barriers began to collapse, information and money became global, in 1992 an agreement on the creation of the European Union was signed, in 1999 a common currency for European countries was introduced into non-cash circulation, and in 2002 the euro entered into cash circulation. [2]. The analysis of the global market begins with a global vision of the countries them-

selves in such categories as people, their needs, the ability to buy and the desire to spend money in the country of residence or during tourist trips.

In order to attract investments, tourists, talents and improve the international image, countries and individual territories are working to create a brand for the region [5, 13]. And, despite the continuing trend towards globalization, territories are looking for new ones or focusing on existing country features, which in geobranding vary depending on cultural, historical, economic, and political factors. Geobranding requires a deep understanding of the country's internal context and its unique features. A successful strategy can lead not only to an improved image in the international arena, but also to significant economic benefits [3]. Thus, 5 years (2013-2018) of preparation and holding of the 2018 FIFA World Cup provided an additional 952 billion rubles to Russia's GDP, which is equivalent to about 1% of GDP. This is 10% more than planned according to the forecasts of the Russia 2018 organizing committee [6].

Sports events play an important role in the development of the tourism industry worldwide. Different countries apply their own unique strategies to attract tourists, using sports as a tool to increase interest in their culture, economy and peculiarities. For example, the United States combines multi-sport and cultural events. The country hosts such major sporting events as the American Football Super Bowl, the finals of the National Basketball Association (NBA) and the Hockey Championship (NHL). In the UK, football has become part of the national identity, the country uses its football culture to attract tourists from all over the world.

Tournaments such as the FA Cup or the Champions League are becoming not only sporting events, but also large-scale cultural celebrations. Brazil is known for its carnival traditions and passion for football. The country effectively combines these two aspects, attracting tourists during major sporting events such as the World Cup or the Olympics. Due to increased border controls and restrictive measures due to the coronavirus, the number of foreign tourists visiting Japan in 2021 decreased to 245,900 people (the lowest figure since the beginning of observations in 1964), and compared to the level of 2019, this figure fell by 99.2%. However, Japan actively used the Olympic Games to attract tourists. The Tokyo 2021 Olympics demonstrated the country's capabilities not only in sports, but also in culture. The combination of modern sporting events with ancient customs has attracted the attention of the international community. Thanks to the games, the monthly influx of foreign tourists to Japan in July 2021 was a record high — 51,055 people. The total number of Olympic visitors, including Paralympic guests, was 78,000 people.

Country features are unique features and characteristics specific to a particular country or region, including various aspects.

1. Cultural features: unique traditions, holidays and customs that form a cultural identity. This includes local dialects and accents, which play an important role in communication.

2. The economic state of the country affects the business environment, the attractiveness for tourists and the consumer habits of the citizens living in it. The specifics of the economy form country-specific features, for example, dominant industries, such as agriculture or high technology.

3. The political system, the structure of power (democracy, authoritarianism) affects the legal norms and business climate, the possibility of citizens of other states staying in the country, and entrepreneurial activity, including the hospitality industry.

4. Social aspects, the structure of the population - age, ethnic composition and level of education affect the standards of behavior and expectations in society, can vary greatly. The development of the Internet in the local domain zone and the culture of communication in social networks also has an impact [4], since this is one of the most effective and widespread ways of communication in developed countries.

5. Geographical location affects climatic conditions, natural resources and lifestyle. For example, Russia, which hosted the 2014 Winter Olympics, is the largest country in the world (11.5% of the world territory, an area of 17 million square kilometers) with a huge variety of ethnic groups, languages and cultures, which is of great interest to both foreign and domestic tourists [1]. It is not surprising that during the days of the Olympics, the country was able to receive more than 4.5 million tourists in its open spaces [7].

Let's consider an example of the influence of country features on attracting tourists. In 2022, Qatar became the first Arab country to host the World Cup. This event attracted the attention of the whole world and became a test for the country both in terms of infrastructure and organization, and in terms of cultural adaptation.

Qatar has a high level of per capita income. Thanks to natural gas and oil reserves, the country is actively investing in infrastructure development and economic diversification. More than \$200 billion has been invested in the construction of stadiums, transport infrastructure and hotel services. New airports, roads and even a new city, Lusail, have been built. There is something to surprise tourists – from the Al-Bayt stadium in the form of a Bedouin tent and the collapsible Al Janoub arena, designed in the form of an Arab dow boat from 974 containers (974 is the country's telephone code) to the building of the National Museum designed by French architect Jean Nouvel, author of the Louvre in Abu Dhabi in the form of a “rose of sands” [8].

Desert climate with hot summers and mild winters, water resources are limited. Changing the schedule of matches to hold them at a more comfortable time of day demonstrated adaptation to climatic conditions. The use of cooling and water supply technologies in stadiums has become an innovative solution to create conditions for spectators.

Qatar is a Muslim country with deep traditions, where Islam has a significant impact on daily life and the legal system. Advertising of sports events in such

countries has its own unique characteristics, which are determined by cultural, religious and social factors. Cultural sensitivity is linked to local social norms and traditions. The development of an advertising strategy had to take into account the timing of religious holidays, such as Ramadan. At this time, the focus is on the events after the end of the fast. The draw was held in April, and the Qatar World Cup playoffs were held from November 20 to December 18. In 2022, Ramadan lasted all of April, and in May, six months before the event, an active invitation campaign for the championship was to be held.

Advertising should take into account the requirements for women's clothing, including the use of models in hijabs. Clothing requirements in Muslim countries may also apply to female athletes. For example, the Women's Islamic Olympic Games were held in Iran in 2005. Even in mini-football, everyone had to wear hijabs, including participants from countries unrelated to Islam, and the football players played in Muslim headscarves. At competitions where athletes had to wear regular equipment, male fans were not allowed into the stands and the games were held only in the presence of women. Similar rules were introduced at the World Chess Championship in 2017. Due to the mandatory wearing of the hijab under Iranian law, some strong chess players refused to participate. The tournament was boycotted by former world champion Ukrainian Maria Muzychuk, silver medalist of the US championship Nazi Paikidze, the fourth number of the 2017 ranking [9].

A 16-page document with recommendations on how to behave was published especially for the guests of the World Cup in Qatar. The country has strict rules for accredited persons, including regarding clothing or communication with local residents. For example, Qatari women can only be greeted verbally, you cannot shake hands, hug or touch at all. Guests are not allowed to turn on loud music during the calls to prayer, which are held five times a day.

Nevertheless, interest in the sporting event and cultural traditions of Qatar brought more than 765,859 visitors to the country during the first two weeks of the FIFA World Cup [10]. The championship matches were hosted by 8 stadiums in five cities [11]. Attendance exceeded 96% of the maximum possible stadium occupancy rate. Due to the fact that the organizers of the event and the host party took into account and competently used country-specific features, the World Cup in Qatar, taking into account the restrictions that remain after the pandemic, was visited by over 1.4 million people [12].

Sports events have become an important element of the tourism industry, attracting millions of travelers from all over the world, allowing countries to gain the attention of the world community and assert themselves on a global level. And each country applies unique strategies and approaches, making the most of its country characteristics.

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梅塔斯塔西奥的《女祭司》中的蒂曼特形象：探索表面反叛与真实巴洛克英雄主义之间的二元性

**TIMANTE'S IMAGE IN METASTASIO'S «DEMOFOONTE»:
EXPLORING THE DUALITY BETWEEN APPARENT REBELLION
AND AUTHENTIC BAROQUE HEROISM**

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摘要。本文探讨了皮埃特罗·梅塔斯塔西奥的正歌剧《德莫丰特》的主人公蒂曼特的性格。本研究将蒂曼特视为一个复杂而矛盾的人物，而不是一个体现理想化美德的巴洛克英雄，而是一个具有浪漫主义英雄类型特征的人物。本文还探讨了《德莫丰特》情节的文学来源，强调了俄罗斯巴洛克歌剧研究的稀缺性以及梅塔斯塔西奥作品进行更深入研究的必要性。

关键词：皮埃特罗·梅塔斯塔西奥、正歌剧、德莫丰特、巴洛克英雄、浪漫主义英雄、流派惯例、音乐剧、创新。

Abstract. *This article examines the character of Timante, the protagonist of Pietro Metastasio's opera seria «Demofonte». The study approaches Timante not as a typical Baroque hero embodying idealized virtues, but as a complex and contradictory personality displaying characteristics that anticipate the Romantic hero type. The paper also investigates the literary sources of «Demofonte's» plot, emphasizing the scarcity of Baroque opera studies in Russian and the necessity for more profound research into Metastasio's works.*

Keywords: *Pietro Metastasio, opera seria, Demofonte, Baroque hero, Romantic hero, genre conventions, musical drama, innovation.*

The archetypal protagonist of a Baroque musical work is perceived as an embodiment of the prevailing ideals of his era, akin to a resuscitated statue of an ancient hero clothed in the opulent attire of the 17th and 18th centuries. The monarch, general or nobleman – this hero is invariably endowed with a plethora of virtues, which, akin to jewels adorning a crown, radiate from his character. Primarily,

the protagonist exhibits unwavering loyalty to duty and honour, demonstrating a willingness to sacrifice personal happiness for the sake of state interests. The characters demonstrate a remarkable capacity for self-sacrifice, readily renouncing the love of their lives when political necessity demands it. This displays a stoicism that is worthy of comparison with the ancient Roman philosophers. Secondly, the typical Baroque protagonist is characterised by fearlessness and bravery in battle. The Baroque hero is characterised by an enthusiastic willingness to engage in combat, demonstrating a lack of concern for physical limitations and a tendency to challenge the boundaries of accepted morality and social norms. Finally, the hero displays nobility of spirit and magnanimity towards defeated enemies. Despite the capacity to forgive even the most insidious villain, the hero is able to demonstrate mercy worthy of a saint, while simultaneously considering the political advantage of such a gesture. The Baroque character is an idealised representation of a ruler or warrior whose actions are intended to inspire and instruct the viewer, serving to remind them of the high ideals of honour, duty and self-sacrifice. «The Baroque subject is that of great men in great situations. This is in stark contrast to the modern mercantile age, which is characterised by a lack of ambition and a focus on immediate gratification» [6, p. 42].

This is the reason why there is a school of thought in the world of opera that maintains the heroes of opera seria suffer from a lack of depth and emotional resonance. This diagnosis, proposed by numerous critics and researchers, appears to be particularly pertinent to the characters of Baroque operas. Indeed, upon initial observation, the characters of opera-seria operas may appear to lack depth and nuance. This is due to the fact that their virtues are often presented as the primary driving force behind their actions, and their emotions are depicted as being exaggerated to the point of grotesqueness. Baroque characters are frequently accused of being predictable, as though they traverse the stage not of their own volition but along pre-established trajectories. The decisions and actions of these characters are often perceived as mechanical and devoid of psychological authenticity. They are regarded as if they were not living people, but rather animated allegories of virtues, descended from edifying engravings. Furthermore, the archetypal images of the heroic figures in opera-seria sometimes elicit a sense of *déjà vu* in the modern spectator: it appears that the same character is still present, merely clothed in a new costume and singing a different aria. The interchangeability of characters is a common criticism of Baroque opera, as is the use of *da capo* arias in its musical structure. In the past, it was assumed that eighteenth-century opera-seria operas were no longer performed [4, p. 139].

Nevertheless, as will be demonstrated subsequently, the view that the protagonists of opera-seria operas, despite their popularity, are «clichéd» and «flat» may be as superficial as the criticisms directed at these characters themselves. It may

be the case that the typical Baroque hero is in fact a much more complex and interesting structure than is apparent at first glance. This is analogous to the external opulence of Baroque architecture, which often conceals deep symbolism and calculated geometry. The celebrated playwright Pietro Metastasio (1698-1782) crafted his characters with the same meticulous care and attention to detail as the masters of the Baroque era. On initial observation, Metastasio's characters appear to adhere to the established standards of nobility and virtue. However, upon closer examination, they are revealed to possess a depth and complexity that is analogous to the multifaceted nature of Baroque music. In the gallery of P. Metastasio's colourful characters, Timante – the main character of the musical drama «Demophontes» (1733) – occupies a special place, akin to a portrait that transcends the conventional style of the ceremonial hall. On initial observation, Timante appears to exemplify the archetypal Baroque hero. Nevertheless, a more thorough examination uncovers characteristics that would subsequently become emblematic of the heroes of the Romantic period. The thesis proposes that the primary dramaturgy of the opera is based on Timante's conflict with the world around him. This is evidenced by his entering into a relationship with his subject before the marriage is officially recognised, as well as his defiance of divine precepts. This takes his personal drama beyond the typical Baroque dilemma of duty versus feeling. Timante actively resists his destiny, defying both fate and the gods. This brings him closer to the Romantic rebels who refuse to accept the established order of things. In contrast to the archetypal noble hero, Timantes is depicted as weak-willed and vulnerable; his emotionality is in stark contrast to the image of his father, Demophontes, who personifies the qualities of a noble ruler. This emotional instability foreshadows the emotional vulnerability that is typical of Romantic heroes. Similarly, Timante displays an atypical readiness for a successor to the throne to relinquish their claim to the throne. Another factor that may have influenced his decision is the possibility of an unhindered union with his beloved. This intricate motivation distinguishes him from the archetypal Baroque characters, for whom fame and power represent the pinnacle of virtue. Ultimately, the character of Timante exemplifies the distinctive elements of the tragic perception of the world that is characteristic of Romanticism. This is particularly evident in the third act, which is replete with Timante's monologues on the futility of life and his tragic flaw, wherein he draws parallels between himself and the legendary figures of Argos and Thebes.

This leads us to a fascinating question: can Timante be regarded as a kind of 'protagonist' of Romanticism, encapsulated within the framework of Baroque opera? It may be posited that he represents a kind of transitional link, anticipating the emergence of the Romantic hero. Was the most prominent Baroque playwright an innovator because he foreshadowed the Romantic era in his work a century before

it flourished? These questions not only shed new light on Metastasio's work, but also prompt a reconsideration of conventional wisdom regarding the evolution of opera and the development of dramatic characters. Just as in Baroque music, one can often discern precursors to classicism, so in the character of Timante, we may perceive the initial manifestations of romanticism emerging beyond the established norms of opera-seria.

This paper will endeavour to elucidate this fascinating enigma by undertaking a detailed examination of the character of Timante, his role within the context of the plot and in the context of the evolution of opera.

The purpose of this study is to examine the dramatic works of P. Metastasio, specifically his *dramma per musica* entitled *Demophontes*. The primary conflict in P. Metastasio's drama arises from the protagonist's pious observance of not only the state's laws but also those of the divine. This is exemplified by his unquestioning compliance with the oracle's decree to sacrifice an innocent maiden in the temple of Apollo as an annual offering to safeguard Chersonesos from an unknown affliction. Despite his noble status and adherence to the traditional values of the Baroque era, *Demophontes* finds the custom of annual sacrifices to be abhorrent and inhumane. He requests the oracle for an end to this ritual, and in response, he receives a cryptic yet pivotal reply [2][5]:

| | |
|--|---|
| <i>Con voi del Ciel si placherà lo sdegno,</i> | <i>Heaven's fury will be pacified with you,</i> |
| <i>Quando noto a se stesso</i> | <i>when the innocent usurper of a state</i> |
| <i>Fia l'innocente usurpator d'un regno.</i> | <i>realizes who he truly is.</i> |

The meaning of the ordinance is opaque even to *Demophontes*. Consequently, he is compelled, with a heavy heart, to prepare for another sacrifice.

In contrast to the baroque nobility of the ruler of Chersonesos Thrace, his eldest son, *Timantes*, makes his appearance in the second scene. It is noteworthy that, in an opera-seria, a character of noble blood would be unlikely to be depicted as unwilling to honour the laws of the state, particularly given that *Timantes* is the direct heir to the throne. *Timante* is aware that, as the future ruler, he is unable to engage in sexual relations with his subjects. Nevertheless, he has already formed a romantic attachment with *Dircea* and has fathered a child with her. This child is kept hidden in a secure location to avoid detection and potential repercussions. *Timant* and *Dircea* are aware that should their illicit relationship be uncovered, *Dircea* will be subject to capital punishment in accordance with the state's laws. This is because *Timant*, as a future ruler, is entitled to engage in relations only with members of the royal family. Furthermore, the situation is complicated by the fact that on the day of the annual sacrifice, *Dircea*, along with the other girls, will be given to fate, and her name risks being taken out of the urn. The situation is further complicated by the fact that *Demophontes* has summoned *Timantes* to

marry Princess Creusa, who is staying on the same day. This is a promise that Demophontes made to the ruler of Phrygia. In lieu of acquiescing to the dictates of the law of the land, submitting to the will of the gods and the fate of the heir to the throne, Timantus instead rebels against the annual rite and the will of his father. His initial action is to attempt to negotiate with Creusa with the aim of disrupting the wedding ceremony, which is perceived as an affront to the honour of the crown prince. Subsequently, following the apprehension of Dircea, he proceeds to implore his father to spare the girl's life. His sensitivity is juxtaposed with the judicious Demophontes, creating a stark contrast. Timantus's excessive emotionality results in the unwitting revelation of his tender feelings towards Dircea (though not their illicit relationship), which provokes his father's anger and astonishment. Nevertheless, the just ruler that Demophontes is demonstrates a capacity for leniency by softening his decision and offering Dircea's life in exchange for Timantus's consent to marry Creusa. Timantus's actions are those of a character from another era, as he resists the conditions imposed upon him, rather than displaying the expected grateful and honourable submission. Demophontes's capacity for forbearance is rapidly diminishing. He is acutely aware of the need to set an example of reasonableness and justice that will endure for posterity. Consequently, he increases the severity of the punishment for Timantus, decreeing that Dircea will be given to the gods without much. Timantus, in accordance with the conventional tropes of romantic madness, informs his father that he is succumbing to despair and losing his faculties. Consequently, he issues a threat directed at the ruler.

In order to enhance the portrayal of Timantus, P. Metastasio introduces an additional romantic interest into the drama, thereby creating a contrasting element that is characteristic of his creative method. This plot branch encompasses the relationship between Kerinthus, the youngest son of Demophontes, and Creusa, the Princess of Phrygia, who was intended to marry Timantus. Despite his status as the youngest son, Kerinth is enamoured of Creusa. The characters' acquaintance occurred during Kerinth's visit to Phrygia, where he, representing Timantus, revealed his feelings. Upon Creusa's arrival in Thrace, Kerinth decides to make a confession, which causes the Princess to outwardly express her displeasure, but P. Metastasio does not fail to seize the opportunity to elucidate her latent interest. In the second act, during Creusa's monologue scene, P. Metastasio fully reveals the Princess's feelings – she is also in love with Kerinth, but her duty to her homeland prevents her from reciprocating his feelings, as she is destined to become the future ruler. These are the principles that should guide a Baroque character, and this applies equally to characters of both sexes.

In stark contrast to Creusa's noble and lofty sentiments, in the very next scene Timantus makes an appearance and engages in an action that is incongruous with the conventions of a baroque opera – he desecrates the temple. The battle scene

is notable for its scale. Timantes and his followers enter the temple of Apollo and proceed to slaughter the priests, clerics, and guards, overturn the ritual fires, and scatter the trappings of sacrifice. In short, they create utter chaos. After this, Timantes attempts to lead Dircea away from the temple, but fails. His friends flee in a cowardly manner, and Demophontes appears in the temple with guards and priests in tow.

Timantes is terrified by his father's righteous anger and surrenders without resistance, allowing himself to be put in chains. Simultaneously with Timante's apprehension, Demophont issues an order for Dircea's immediate execution. However, the prince's benevolent disposition and lack of fortitude prevent him from accepting the consequences of his insurrection with dignity. Consequently, he divulges the dire secret of himself and Dircea. Demophontes is rendered speechless by astonishment and is compelled to halt the ritual. Following an emotionally charged confession, the lovers are incarcerated in the dungeons. The situation appears to be irremediable, but Creusa, a paragon of virtue and nobility, intervenes and attempts to persuade Demophont to exercise clemency. Meanwhile, Kerinthus presents Dircea to Demophontes with Olynthus, who serves as tangible evidence of the protagonists' affection. The ruler, displaying magnanimity, forgives the wronged children and grants them a new lease of life. Kerinth, acting as an emissary of peace, conveys this favourable information to Timant, who is confined in the dungeon. In gratitude for this, Timant does something even more unexpected for a character in a Baroque narrative: he renounces the throne in favour of his younger brother, who had saved the lives of both him and Dircea in such a generous manner.

On initial observation, Timante's abdication of the throne in favour of his younger brother appears to be an act of unparalleled magnanimity, unprecedented in the annals of baroque history. Upon closer examination, however, it becomes evident that this gesture is replete with elements that are incongruous with the archetypal hero of an opera-seria. In contrast to the characters in Metastasio's other works, who are willing to make significant sacrifices in the name of higher ideals, Timante's decision is primarily driven by a desire for personal happiness. His abdication of the throne can be interpreted as a highly pragmatic decision, facilitating an unobstructed union with Dircea. This kind of motivation, where personal feeling is placed above the duty to the state, is more typical of a romantic hero or a Baroque antagonist. This creates an intriguing paradox: the protagonist of the drama exhibits characteristics traditionally associated with negative characters, which further complicates our analysis of his characterisation. Furthermore, it is Timante's actions, which challenge the established order, that become the driving force behind the dramatic conflict, thereby challenging the traditional distribution of roles in opera-seria.

The evolution of Timant's character reaches a definitive point of culmination. Matusio, Dircea's father, makes an abrupt appearance with a letter in his hand and hastens to inform Timant of the favourable news. It is revealed that Dircea is not Timant's daughter, but rather the daughter of Demophontes, Timant's brother. Upon hearing this news, Timantus experiences a profound despair that would elicit envy from Oedipus. He has not only transgressed the law but has also perpetrated an act that, in Greek tragedies, typically results in the downfall of entire dynasties. Rather than taking the time to gather his thoughts and explain the situation, Timantus chooses to hide from everyone and recite lengthy monologues. He appears to perceive accusations in every breeze and every rustle of leaves. His grief is so profound that he teeters on the brink of madness, a common trope in romantic heroes. The apex of the drama occurs when Timante rejects his own son. In the renowned aria «Misero pargoletto», he exhibits such depths of despair that all the other characters are rendered motionless in mute horror, akin to antique statues.

This episode serves to illustrate both Metastasio's proficiency in the creation of compelling dramatic scenarios and his audacity in challenging the established norms of opera seria. Timante does not conform to the archetypal Baroque hero; rather, he is a multifaceted character, whose actions and reactions evoke those of figures from the Romantic era. It could be argued that Timante represents a prototype of the rebellious personality that emerged in the Romantic era. Was Metastasio's work more aligned with Romanticism than previously assumed? Did the most accomplished librettist succeed in capturing the prevailing mood of the collective unconscious, when the public was weary of the conventionally heroic figures that had hitherto been the subject of opera and sought something more emotionally resonant?

Indeed, the character of Timante in Demophonte evinces traits that are commonly associated with Romantic heroes. Nevertheless, it would be a misrepresentation of the facts to assert that Metastasio deliberately crafted a prototype of the rebellious personality that would come to exemplify the Romantic era. Instead, we discern the author's nuanced responsiveness to shifts in the prevailing public sentiment and aesthetic inclinations. It is important to note that Metastasio was working at a time when Baroque opera-seria was at its peak and in need of renewal. The experimentation with characters and plot twists can be seen as an attempt to «refresh» the genre without destroying its fundamentals. The failure of Leonardo Vinci's *Cato in Utica* (the protagonist dies on stage at the end; there is no final chorus or happy ending [1]) demonstrated that the public was not ready for radical changes in the operatic canon. Therefore, it is pertinent to inquire as to the shortcomings of the Timante characterisation.

The final scene of the musical drama provides a definitive resolution to the various plotlines, culminating in a clear and unambiguous conclusion. Matusio

hastens to Demophontes with a missive from his wife, whereupon they proceed to the house temple, where another letter is secreted. Subsequently, the entire palace is imbued with immense joy. Dircea is, in fact, Demophontes' daughter, yet Timantes is not the ruler's son. Rather, he is Matusio's son.

The meaning of the oracle's injunction is thus revealed: Timante has come to recognise that he is «the innocent usurper of a state». Indeed, what a modern audience might interpret as the traits of a romantic hero actually represents the characterisation of a character of inferior blood, rather than one of the governmental kind. In the context of eighteenth-century opera-seria, such a character was atypical for the title role, which makes Metastasio's choice particularly intriguing. This plot device can be seen as a bold experiment by the playwright, effectively placing a character who, according to the established norms of the genre, should have appeared in comic interludes or less prestigious genres such as serenata or componimento drammatico, at the centre of the narrative. The combination of high and low, pathetic and farcical, which shocked the adherents of academic taste in the eighteenth century, was also part of the desire to encompass everything and to build an artistic universe out of the most bizarre and motley elements, as noted by Russian musicologist and doctor of art history L.V. Kirillina [3]. This approach enables Metastasio to extend the boundaries of the genre without contravening its fundamental principles. He creates the impression of a 'misplaced' hero in order to reinstate the conventional order in the finale, thereby demonstrating his proficiency as a playwright and his profound grasp of genre conventions. The librettist navigates a delicate balance between innovation and tradition, creating a work that both fulfils the expectations of a Western audience, where class distinctions were of great importance, and expands the artistic possibilities of opera-seria.

Metastasio's oeuvre represents a substantial corpus of opera literature, yet the Russian-language segment remains relatively underrepresented. At the time of writing, less than one tenth of the translations of the great playwright's legacy are available in Russian. It is evident that access to Evgenia Kiseleva's dissertation and Olivier Rouvière's translation is available. However, to gain a comprehensive understanding of the aesthetic principles associated with Metastasio and the broader era, it is insufficient to rely on a single individual's interpretation and research on a specific topic, with accompanying excerpts from the libretto. It is possible that the process of translation will result in the encounter with additional characters of inferior status who, like Timante, 'unapologetically usurped' the principal roles in the opera seria. Such encounters promise to be as intriguing and illuminating for readers, listeners and Baroque scholars as the musical drama Demophonte. This subtle play with genre expectations subverts expectations while confirming them in a new and more complex way.

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利用 STR 标记分析阿尔特鲁克斯基美利奴绵羊品种的遗传特征
**GENETIC CHARACTERISTICS OF THE SHEEP BREED
ARTLUKHSKIY MERINOS BY STR-MARKERS**

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摘要。本文利用 ISAG 推荐的 12 个 DNA 微卫星 (STR 标记) 介绍了 Artlukh 美利奴羊品种的遗传特征。结果表明,所研究的所有 12 个微卫星标记都具有高度多态性,适用于绵羊的遗传表征。在基因座中观察到的等位基因平均数 (N_a) 为 6.75。总共检测到 81 个等位基因。达吉斯坦共和国红十月农业生产合作社的 Artlukh 美利奴羊中有 40% 以上是 ETH152 基因座的等位基因 190、INRA172 基因座的等位基因 154 和 160 的携带者。总体而言,Artlukh 美利奴羊群中的等位基因频率从 1.72% 到 44.8% 不等。在所研究的羊群中,观测值 (H_o) 和预期值 (H_e) 杂合度估计值的平均值为 0.84 和 0.76。在基因座中, H_o 从 0.59 (McM042) 变化到 0.93 (INRA005, INRA006, INRA063, McM527), H_e 从 0.61 (INRA172) 变化到 0.84 (McM527)。在本研究中,表征基因座-扩增产物杂合度水平的多态性信息指数 PIC 平均为 0.71, 从 0.51 (INRA172) 变化到 0.80 (McM527, INRA063)。

关键词: 绵羊, 微卫星, 基因座, 等位基因, 杂合性, 多态性。

Abstract. The article presents the genetic characteristics of the Artlukh Merino sheep breed using 12 DNA microsatellites (STR markers) recommended by ISAG. The results showed that all 12 microsatellite markers studied were highly polymorphic and suitable for genetic characterization of sheep. The average number of observed alleles (N_a) in loci was 6.75. A total of 81 alleles were detected. More than 40% of the Artlukh Merino sheep of the Krasny

Oktyabr Agricultural Production Cooperative, Republic of Dagestan, are carriers of allele 190 of the ETH152 locus, alleles 154 and 160 of the INRA172 locus. In general, the allele frequency in the Artlukh Merino sheep herd varied from 1.72% to 44.8%. In the studied flock of sheep, the average values of observed (Ho) and expected (He) heterozygosity estimates were 0.84 and 0.76, respectively. In loci, Ho varied from 0.59 (McM042) to 0.93 (INRA005, INRA006, INRA063, McM527) and He varied from 0.61 (INRA172) to 0.84 (McM527). In this study, the polymorphism information index PIC characterizing the heterozygosity level of loci - amplification products averaged 0.71 and varied from 0.51 (INRA172) to 0.80 (McM527, INRA063).

Keywords: *sheep, microsatellites, locus, alleles, heterozygosity, polymorphism.*

Introduction. Sheep farming is the most important production sector in the national economy of the country, especially in the areas of traditional sheep breeding. Sheep farming specializes in the production of wool and meat. The demand for lamb is growing and the sheep meat market is developing and popular among the population. The dynamics of sheep farming development in the country is unstable. In the Russian Federation, the total number of sheep as of December 31, 2023 was 18 million 626.6 thousand heads, including ewes and ewes over one year old - 12 million 830.4 thousand heads; in agricultural organizations - 2 million 969.9 thousand heads and 2 million 181.3 thousand heads, respectively. During the year, in farms of all categories, both the total number of sheep and breeding stock decreased (by 2.4 and 2.1%); In agricultural organizations, the total number of sheep decreased (by 2.3%), and the number of ewes increased (by 1.4%). In farms of all categories of the Republic of Dagestan over a 13-year period, the total number of sheep increased by 2.2 times, the ewes - by 2.8 times; in agricultural enterprises - 2.7 and 3.8 times, respectively [1]. As a result of long-term, targeted work of a team of scientists from the Federal Agrarian Scientific Center of the Republic of Dagestan, specialists and producers of the Krasny Oktyabr PH SPK of the Kazbekovsky District of the Republic of Dagestan, a new highly productive fine-wool breed, the Artlukh Merino, was created and tested (2020). Sheep of the new breed, in comparison with the comparison base, are characterized by increased live weight, higher wool productivity, good quality indicators of fine wool, resistance and, inherited from local sheep, high adaptation indicators [2]. The Artlukh Merino breed was created by using highly productive producers of the Stavropol breed and Manych Merino on the ewes of the Dagestan mountain breed, with subsequent breeding “in itself” of crossbreeds with the desired productivity indicators for the breed. [2]. According to the Yearbook on breeding work in sheep and goat breeding in farms of the Russian Federation for 2023 (Federal State Budgetary Scientific Institution VNIIPlem), the number of Artlukh Merino sheep

was 7,515 heads, including 5,028 heads of ewes, they beat 98 lambs per 100 ewes. The breeding stock of Artluhk Merino sheep is bred in the breeding reproducer of the SPK "Red October" of the Republic of Dagestan [1]. The use of molecular genetic methods for conducting selection and breeding work is regulated by the requirements of ICAR, ISAG and the EEC. Panels of microsatellite DNA markers are used to perform genetic identification of animals and breeds. Microsatellites (STR) are highly polymorphic DNA markers with discrete loci and codominant alleles. They have a wide range of applications that have previously been difficult to achieve experimentally. Microsatellites are distributed almost uniformly throughout the genome, making them very useful for genome mapping projects. Their high variability has made them a preferred marker in behavioral ecology, allowing for the determination of paternity and kinship [3]. The use of microsatellite loci in evolutionary studies is based on the study of the expected summary statistics of genetic diversity at these loci within a model of mutation and genetic drift. Typically, a single-step mutation model with an unlimited number of allelic states is assumed, and the effects of genetic drift are studied under the assumption that the population size remains constant over time. Microsatellites consist of tandem repeats of one to six bp in length, repeated up to 60 times. Repeat units can consist of (A)_n, (TG)_n, (CA)_n, or (AAT)_n repeats [4].

Material and methods of research. For the study of microsatellite DNA markers, blood samples were taken from Artluhk Merino sheep (29 heads) of the Krasny Oktyabr SPK, Republic of Dagestan, and DNA was isolated using the DNA-Extran-2 reagent kit (Sintol Scientific and Production Company, Moscow). The analysis was performed for 13 loci recommended by ISAG, using the COrDIS Sheep test system (GORDIZ LLC, Moscow). The kit is intended for molecular genetic characterization of sheep for the purpose of analyzing kinship and DNA individualization of animals based on multiplex PCR analysis of 13 loci containing short tandem repeats (STR). The markers constitute a standard panel recommended by the International Society of Animal Genetics (ISAG): McM042, INRA006, McM527, ETH152, CSRD247, OarFCB20, INRA172, INRA063, MAF065, MAF214, INRA005, INRA023 and AMEL. Amplification was performed by PCR using primers with a fluorescently labeled label. The reaction was carried out according to the COrDIS Sheep protocol. The obtained PCR products were analyzed using an ABI 3130xl capillary sequencer (Applied Biosystems) in POP-4 polyacrylamide gel. The results of electrophoretic separation were analyzed automatically using GeneMapper software. GenAIEx software was used for statistical data processing.

Research results. The obtained results of genetic studies of the Artluhk Merino sheep flock for 12 microsatellite loci are presented in Table 1. A total of 81 alleles were detected. The number of alleles (N_a) in the studied loci varied from 4 to 10 with an average value of 6.75. The frequency of allele occurrence was

different. More than 40% of Artluhk Merino sheep of the Krasny Oktyabr Agricultural Production Cooperative, Republic of Dagestan are carriers of allele 190 of the ETH152 locus, alleles 154 and 160 of the INRA172 locus. Also, 6 alleles were identified that occur in sheep with a frequency of 30 to 40% - CSRD247227 (37.9%), ETH152186 (34.5%), INRA023198 (34.5%), INRA063175 - 31.03%, MAF065125 (34.5%), McM04287 (37.9%). In general, in the herd of Artluhk Merino sheep, the allele frequency varied from 1.72% to 44.8%.

Table 1
Polymorphism of microsatellite loci in Artluhk Merino sheep

| Locus | Alleles | | | | | | | | | |
|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| CSRD247 | 205 | 209 | 213 | 223 | 227 | 229 | 231 | 233 | 237 | 239 |
| Frequency | 10,34 | 1,72 | 20,69 | 8,62 | 37,93 | 6,90 | 1,72 | 1,72 | 6,90 | 3,45 |
| ETH152 | 186 | 188 | 190 | 192 | | | | | | |
| Frequency | 34,48 | 8,62 | 41,38 | 15,52 | | | | | | |
| INRA005 | 125 | 127 | 129 | 131 | 135 | 137 | 143 | 145 | | |
| Frequency | 8,62 | 25,86 | 1,72 | 3,45 | 29,31 | 10,34 | 8,62 | 12,07 | | |
| INRA006 | 110 | 112 | 116 | 134 | | | | | | |
| Frequency | 44,83 | 5,17 | 27,59 | 22,41 | | | | | | |
| INRA023 | 198 | 200 | 202 | 204 | 206 | 214 | 216 | 218 | | |
| Frequency | 34,48 | 1,72 | 3,45 | 13,79 | 18,97 | 12,07 | 13,79 | 1,72 | | |
| INRA063 | 169 | 171 | 175 | 177 | 183 | 187 | 189 | 195 | 197 | 199 |
| Frequency | 20,69 | 8,62 | 31,03 | 12,07 | 8,62 | 1,72 | 1,72 | 8,62 | 5,17 | 1,72 |
| INRA172 | 126 | 154 | 158 | 160 | 162 | 170 | | | | |
| Frequency | 3,45 | 44,83 | 1,72 | 44,83 | 1,72 | 3,45 | | | | |
| MAF065 | 125 | 127 | 129 | 137 | | | | | | |
| Frequency | 34,48 | 27,59 | 27,59 | 10,34 | | | | | | |
| MAF214 | 183 | 187 | 189 | 191 | 223 | 233 | 261 | | | |
| Frequency | 6,90 | 25,86 | 29,31 | 24,14 | 10,34 | 1,72 | 1,72 | | | |
| McM042 | 87 | 89 | 91 | 95 | 97 | | | | | |
| Frequency | 37,93 | 17,24 | 1,72 | 18,97 | 24,14 | | | | | |
| McM527 | 164 | 166 | 168 | 170 | 172 | 174 | 182 | | | |
| Frequency | 25,86 | 18,97 | 12,07 | 17,24 | 12,07 | 12,07 | 1,72 | | | |
| OarFCB20 | 87 | 89 | 91 | 93 | 99 | 101 | 105 | 113 | | |
| Frequency | 8,62 | 24,14 | 25,86 | 13,79 | 20,69 | 1,72 | 3,45 | 1,72 | | |

We obtained the heterozygosity level (H) and polymorphism information index (PIC) indices, which quantitatively show the degree of polymorphism (Table 2). Heterozygosity of a locus, which is defined as the probability that an individual in a population is heterozygous for this locus. This usually applies to the entire

population or some part of it and is divided into observed and expected heterozygosity. Expected heterozygosity (H_e), or gene diversity according to M. Nei, is the expected probability that an individual will be heterozygous for the corresponding locus in multilocus systems (for all loci analyzed). In other words, this is the established fraction of all individuals that would be heterozygous for any randomly selected locus. Observed heterozygosity (H_o) is the fraction of genes that are heterozygous in a population. The values for H_e and H_o vary from 0 (no heterozygosity) to almost 1 (a large number of alleles with equal frequency). Expected heterozygosity characterizes genetic diversity, since it is less sensitive to the sample size than observed heterozygosity. If H_o and H_e are similar (not significantly different), then crossing in the population occurs almost randomly. When $H_o < H_e$, the population is inbred. If $H_o > H_e$, then the random crossing system prevails over inbreeding in the population [5]. In the studied flock of sheep, the average values of the observed (H_o) and expected (H_e) heterozygosity estimates were 0.84 and 0.76, respectively. In the loci H_o varied from 0.59 (McM042) to 0.93 (INRA005, INRA006, INRA063, McM527) and H_e varied from 0.61 (INRA172) to 0.84 (McM527). The polymorphism information coefficient (PIC) is determined by the ability of the marker to establish population polymorphism depending on the number of detected alleles and their frequency distribution. PIC reveals the discriminatory ability of the marker, actually depends on the number of known (established) alleles and their frequency distribution and is thus equivalent to gene diversity. For dominant markers, the maximum PIC value is 0.5. Markers with multiple alleles have even higher values of this indicator, but the PIC value also depends on the allele frequency distribution [5]. In this study, the polymorphism information index PIC characterizing the heterozygosity level of the loci - amplification products averaged 0.71 and varied from 0.51 (INRA172) to 0.80 (McM527, INRA063). All 12 DNA microsatellite loci were highly polymorphic and had PIC values above 0.5, which is a favorable indicator of genetic variability.

Table 2
Heterozygosity degree H and PIC polymorphism indices in Artluhk Merino sheep

| Loci | Na | Ho | He | PIC |
|-------------|-----------|-----------|-----------|------------|
| CSRD247 | 10 | 0,90 | 0,80 | 0,76 |
| ETH152 | 4 | 0,66 | 0,69 | 0,62 |
| INRA005 | 8 | 0,93 | 0,82 | 0,78 |
| INRA006 | 4 | 0,93 | 0,68 | 0,61 |
| INRA023 | 8 | 0,83 | 0,80 | 0,76 |
| INRA063 | 10 | 0,93 | 0,83 | 0,80 |
| INRA172 | 6 | 0,90 | 0,61 | 0,51 |

| | | | | |
|-----------|------|------|------|------|
| MAF065 | 4 | 0,69 | 0,73 | 0,66 |
| MAF214 | 7 | 0,86 | 0,79 | 0,74 |
| McM042 | 5 | 0,59 | 0,74 | 0,69 |
| McM527 | 7 | 0,93 | 0,84 | 0,80 |
| OarFCB20 | 8 | 0,93 | 0,82 | 0,78 |
| В среднем | 6,75 | 0,84 | 0,76 | 0,71 |

Thus, the studied Artluhk Merino sheep were characterized by a high level of genetic heterogeneity. A high level of genetic diversity is a favorable factor for sheep breeding. The data obtained make it possible to develop a breeding strategy and maintain the level of heterozygosity of the herd. Genetic expertise based on 12 microsatellite DNA markers is an effective tool for sheep genotyping and allows identifying differences in animals down to individual ones.

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关于Navier–Stokes方程微分差分问题的可解性
**ON THE SOLVABILITY OF A DIFFERENTIAL-DIFFERENCE
 PROBLEM FOR THE NAVIER-STOKES EQUATIONS**

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摘要。研究了矩形管道（三维情况）中 Navier–Stokes 方程组的可解性。研究在步长为 τ 的时间层上进行。

关键词：泊松方程，椭圆算子，Banach 空间，边界算子 $C\alpha(\bar{\Omega})$ ，外法向量。

Abstract. *The solvability of the Navier-Stokes equations system in a rectangular pipe (three-dimensional case) is investigated. The study is performed on time layers with a step τ .*

Keywords: *Poisson equation, elliptic operator, Banach space, boundary operator $C^\alpha(\bar{\Omega})$, outer normal vector.*

The paper investigates the existence and uniqueness of a solution to a boundary value problem for the Navier-Stokes equations in a rectangular pipe with smoothed corners. First, we smooth out all the dihedral and trihedral angles and obtain the region shown in Figure 1 (first smoothing). The vertices are also marked on it. $A, B, C, D, A_1, B_1, C_1, D_1$ of the original rectangular pipe, which are numbered in the order specified above by digits (in the figure, the digits are shown in parentheses near the corresponding vertices).

Rectangle AA_1B_1B is the entrance to the original pipe (before smoothing the corners), rectangle CC_1D_1D is its exit. Continuing smoothing, we smooth the entrance and exit in such a way that the smoothed surface, for values x_1 , satisfying the inequalities: $0 \leq x_1 < \delta$ and $L - \delta < x_1 \leq L$ (see Figure 1), does not contain either flat or rectilinear parts and is a convex smooth surface, being a connected open set on the boundary of the convex body (second smoothing). This part of the surface is not solid. The solid part of the surface lies in the interval $\delta \leq x_1 \leq L - \delta$. To clarify, we note that after the second smoothing, the plane touches the smoothed surface at the point $x^0(0, \frac{H_2}{2}, \frac{H_3}{2})$, and the plane $x_1 = L -$ touches the point $x^L(L, \frac{H_2}{2}, \frac{H_3}{2})$.

Let us adopt the following notations:

$x = (x_1, x_2, x_3)$, $0 \leq x_1 \leq L, 0 \leq x_2 \leq H_2, 0 \leq x_3 \leq H_3$, $0 \leq t \leq T$, $\Omega = (0, L) \times (0, H_2) \times (0, H_3)$, edges:

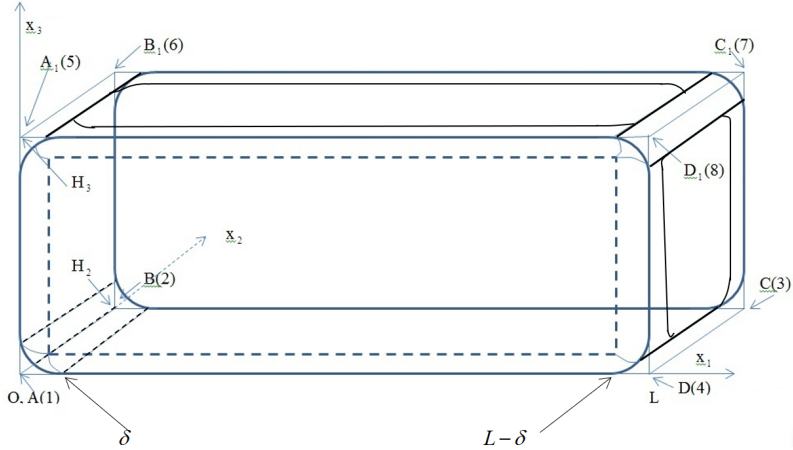


Figure 1.

$S_1 = [0 \leq x_1 \leq L, 0 \leq x_2 \leq H_2, x_3 = 0]$ – lower, $S_2 = [0 \leq x_1 \leq L, 0 \leq x_2 \leq H_2, x_3 = H_3]$ – top, $S_3 = [0 \leq x_1 \leq L, x_2 = 0, 0 \leq x_3 \leq H_3]$ – front, $S_4 = [0 \leq x_1 \leq L, x_2 = H_2, 0 \leq x_3 \leq H_3]$ – back, $S_5 = [x_1 = 0, 0 \leq x_2 \leq H_2, 0 \leq x_3 \leq H_3]$ – left, $S_6 = [x_1 = L, 0 \leq x_2 \leq H_2, 0 \leq x_3 \leq H_3]$ – right (these are the edges of the original region), $S = \bigcup_{k=1}^6 S_k$ – boundary of the region Ω , $S_T = S \times [0, T]$, $\Omega_T = \Omega \times [0, T]$.

Let us designate \tilde{S} – the surface obtained from the surface S as a result of the second smoothing, $\tilde{\Omega}$ – area bounded by a surface \tilde{S} , $00\tilde{\Omega} = \tilde{\Omega} \cup \tilde{S}, \tilde{\Omega}_T = \tilde{\Omega} \times [0, T]$, $\tilde{S}_T = \tilde{S} \times [0, T]$, $\tilde{\Omega}_T = \tilde{\Omega} \times [0, T]$. The solid part of the surface (it lies in the gap $\delta \leq x_1 \leq L - \delta$) let us designate $\tilde{\tilde{S}}$.

Let's consider the problem (density $\rho = 1$, on a hard surface $u_i|_{\tilde{S}} = 0$, $i = 1, 2, 3$):

$$\frac{\partial u_i}{\partial t} = \nu \sum_{k=1}^3 \frac{\partial^2 u_i}{\partial x_k^2} - \sum_{k=1}^3 u_k \frac{\partial u_i}{\partial x_k} - \frac{\partial p}{\partial x_i}, \quad i = 1, 2, 3; \quad (x, t) \in \tilde{\Omega}_T, \quad (1)$$

$$\frac{\partial u_1}{\partial x_1} + \frac{\partial u_2}{\partial x_2} + \frac{\partial u_3}{\partial x_3} = 0, \quad (x, t) \in \tilde{\Omega}_T, \quad (2)$$

$$u_i|_{t=0} = \bar{b}_i(x) \quad x \in \tilde{\Omega}, \quad \bar{b}_i|_{\tilde{S}} = 0, \quad u_1|_{\tilde{S}_T} = \tilde{\psi}_1(s, t) \quad (s, t) \in \tilde{S}_T. \quad (3)$$

We proceed to setting the initial conditions for the velocity components u_2 and u_3 . The set of actions for finding the functions \bar{u}_2, \bar{u}_3 , we denote as point 1).

1). Assuming for now that $\frac{\partial u_3}{\partial x_3} = 0$, we solve the equation $\frac{\partial u_1}{\partial x_1} + \frac{\partial u_2}{\partial x_2} = 0$ for the velocity u_2 . For any fixed value x_3 , $0 \leq x_3 \leq H_3$, we solve this equation in the same way as it is solved in [1]. The resulting solution, which we denote by u_2^0 , as shown in [1], satisfies both the equation being solved and the no-slip conditions on solid sections of the boundary. Having obtained the solution u_2^0 , we consider the equation (in the region \tilde{S})

$$v \sum_{k=1}^2 \frac{\partial^2 u_2}{\partial x_k^2} - u_1 \frac{\partial u_2}{\partial x_1} - u_2^0 \frac{\partial u_2}{\partial x_2} = 0.$$

This equation, according to the well-known Schauder theorem (its proof is, for example, in [2]), has a unique smooth solution (in an arbitrary section \tilde{S} of the domain by a plane $x_3 = x_3^{(0)}$, $0 < x_3^{(0)} < H_3$), which we denote \bar{u}_2 . Solution \bar{u}_2 , for any fixed value x_3 , $0 \leq x_3 \leq H_3$ (at $x_3 = 0$ and $x_3 = H_3$ $\bar{u}_2 = 0$), we continue until the entrance and exit of the entire three-dimensional region with vertices $A, B, C, D, A_1, B_1, C_1, D_1$. The latter is performed in the same way as, for example, in [1]. For the extended function, now defined in the entire rectangular parallelepiped, we retain the previous notation \bar{u}_2 . Similar to solving the equation $\frac{\partial u_1}{\partial x_1} + \frac{\partial u_2}{\partial x_2} = 0$, it was decided above relatively u_2 , we solve the equation $\frac{\partial u_1}{\partial x_1} + \frac{\partial \bar{u}_2}{\partial x_2} + \frac{\partial u_3}{\partial x_3} = 0$ relatively u_3 with known functions u_1 and \bar{u}_2 . Indeed, I suppose $\frac{\partial u_1}{\partial x_1} + \frac{\partial \bar{u}_2}{\partial x_2} = \tilde{u}$, we get the equation $\tilde{u} + \frac{\partial u_3}{\partial x_3} = 0$ of type $\frac{\partial u_1}{\partial x_1} + \frac{\partial u_2}{\partial x_2} = 0$ and we denote its solution as \bar{u}_3 . Function \bar{u}_3 satisfies the equation

$$\frac{\partial u_1}{\partial x_1} + \frac{\partial \bar{u}_2}{\partial x_2} + \frac{\partial \bar{u}_3}{\partial x_3} = 0 \tag{4}$$

2). So, in point 1) the functions (transverse velocities) \bar{u}_2 and \bar{u}_3 . In this point 2), by swapping the roles: functions u_2 and u_3 , variables x_2 and x_3 , i. e. $u_2 \leftrightarrow u_3$, $\frac{\partial u_1}{\partial x_1} + \frac{\partial \bar{u}_2}{\partial x_2} + \frac{\partial \bar{u}_3}{\partial x_3} = 0$ $x_2 \leftrightarrow x_3$, starting with solving the equation $\frac{\partial u_1}{\partial x_1} + \frac{\partial u_3}{\partial x_3} = 0$ and performing actions completely analogous to the actions of point 1), we find the functions \bar{u}_3 and \bar{u}_2 , satisfying the equation

$$\frac{\partial u_1}{\partial x_1} + \frac{\partial \bar{u}_2}{\partial x_2} + \frac{\partial \bar{u}_3}{\partial x_3} = 0. \tag{5}$$

Having designated $u_{2,0} = \frac{1}{2}(\bar{u}_2 + \bar{u}_2)$, $u_{3,0} = \frac{1}{2}(\bar{u}_3 + \bar{u}_3)$, Let's add (4) and (5). As a result, we get

$$2 \frac{\partial u_1}{\partial x_1} + 2 \cdot \frac{1}{2} \frac{\partial (\bar{u}_2 + \bar{u}_2)}{\partial x_2} + 2 \cdot \frac{1}{2} \frac{\partial (\bar{u}_3 + \bar{u}_3)}{\partial x_3} = 0 \quad \text{or} \quad \frac{\partial u_1}{\partial x_1} + \frac{\partial u_{2,0}}{\partial x_2} + \frac{\partial u_{3,0}}{\partial x_3} = 0.$$

The initial value of the longitudinal velocity was known and given by the equality $u_1|_{t=0} = \bar{b}_1(x)$. Let's put it for uniformity $u_1|_{t=0} = u_{1,0}$, then we get $\frac{\partial u_{1,0}}{\partial x_1} + \frac{\partial u_{2,0}}{\partial x_2} + \frac{\partial u_{3,0}}{\partial x_3} = 0$.

So, we have initial conditions for all equations (1), and they satisfy the continuity equation (2). Let us introduce the notation

$$A_i^{(0)} = v \sum_{k=1}^3 \frac{\partial^2 u_{i,0}}{\partial x_k^2} - \sum_{k=1}^3 u_{k,0} \frac{\partial u_{i,0}}{\partial x_k}, \quad i = 1, 2, 3$$

(at $t = 0$ we believe $\frac{\partial u_i}{\partial t} = 0$) and agreement: further, for pairs of identical indices, summation is implied with a change in the identical index from the number to, in particular, if necessary, write down the sum $\sum_{i=1}^3 b_i(x) \frac{\partial p}{\partial x_i}$. You can apply both the left and right sides of the following equation: $\sum_{i=1}^3 b_i(x) \frac{\partial p}{\partial x_i} = b_i(x) \frac{\partial p}{\partial x_i}$. Let's consider Poisson's equation

$$\sum_{i=1}^3 \frac{\partial^2 p}{\partial x_i^2} = \sum_{i=1}^3 \frac{\partial A_i^{(0)}}{\partial x_i}, \quad x \in \tilde{\Omega}$$

with a condition on the border \tilde{S} : $b_i(x) \frac{\partial p}{\partial x_i} + b(x)p = \varphi(s)$, where $x = s \in \tilde{S}$. Functions $b_i(x)$, $b(x)$ and $\varphi(s)$ we define below. Introducing denoting: for the Laplace operator $\sum_{i=1}^3 \frac{\partial^2 p}{\partial x_i^2} - \Delta p$, for boundary operator $b_i(x) \frac{\partial p}{\partial x_i} + b(x)p - Bp$, for function $\sum_{i=1}^3 \frac{\partial A_i^{(0)}}{\partial x_i} - f(x)$, we get the task

$$\Delta p = f(x), \quad Bp|_{\tilde{S}} = \varphi(s). \quad (6)$$

It is known that if an elliptic operator has the form $Lu \equiv a_{ij}(x) \frac{\partial^2 u}{\partial x_i \partial x_j} + a_i(x) \frac{\partial u}{\partial x_i} + a(x)u$, then for the task

$$Lu - \lambda u = f(x), \quad Bu|_{\tilde{S}} = \varphi(s), \quad (7)$$

where λ – complex parameter, the following theorem is true.

Theorem 1. *Let the boundary \tilde{S} surface $\tilde{\Omega}$ be a surface of class $C^{2+\alpha}$, coefficients a_{ij} , a_i , a of the operator L belong $C^\alpha(\tilde{\Omega})$ and the ellipticity condition is satisfied*

$$a_{ij}(x) \xi_i \xi_j \geq v \xi^2, \quad v = \text{const} > 0.$$

Let the coefficients $b_i(x)$ and $b(x)$ boundary operator $Bu \equiv b_i(x) \frac{\partial u}{\partial x_i} + b(x)u$ there are elements $C^{1+\alpha}(\tilde{S})$,

$$\sum_{i=1}^n b_i(x) \cos(\bar{n}, x_i) \Big|_{\tilde{S}} \geq v_0, \quad v_0 = \text{const} > 0 \quad (8)$$

and let it be $f(x) \in C^\alpha(\tilde{\Omega})$, $\varphi(s) \in C^{1+\alpha}(\tilde{S})$. When problem (7) is uniquely solvable in $C^{2+\alpha}(\tilde{\Omega})$ for any f u φ from the specified classes for all λ , except for no more than a countable number of values λ , λ_2 , ..., constituting the spectrum of problem (7). The inhomogeneous problem (7) is not solvable for all f and φ (see. [4], chapter III, § 3).

Note 1. From the proof of Theorem 1 given in [4], in particular, it follows that the problem is uniquely solvable $Lu = f$, $Bu|_{\tilde{S}} = \varphi(s)$, i. e. tasks (7) at $\lambda = 0$

. But the point is that this occurs when the inequalities are satisfied $a(x) \leq 0$ and $b(x) > 0$. In general, any case $a(x)$ from $C^\alpha(\tilde{\Omega})$ and $b(x)$ from $C^{1+\alpha}(\tilde{S})$ this is not true if the value $\lambda = 0$ belongs to the spectrum specified in Theorem 1.

Let in the problem $\Delta p = f(x)$, to be inequality $Bp|_{\tilde{S}} = \varphi(s)$ $b(x) > 0$ and on the border \tilde{S} function $b(x)$ is bounded above by some sufficiently small positive constant β , i.e. the inequality is true $b(x) \leq \beta$, $\beta > 0$. Then the task is

$$\Delta p = f(x), \quad Bp|_{\tilde{S}} = \varphi(s),$$

where $Bp = b_i(x) \frac{\partial p}{\partial x_i} + b(x)p$, under the conditions of Theorem 1, it is uniquely solvable.

We will achieve the fulfillment of condition (8) by setting $b_i(x) = \frac{1}{2} + \cos(\bar{n}, x_i)$, $b(x) = \eta_i(x) + \cos(\bar{n}, x_i)$, $i = 2, 3$, where $\cos(\bar{n}, x_i)$, $i = 1, 2, 3$ – direction cosines of a unit vector $\bar{n} = \bar{n}(x)$ external normal to \tilde{S} at the point x , and $\eta_i(x)$ is defined as follows: $\eta_i(x) = -1$, at $0 \leq x_i \leq \frac{1}{3}H_i$; $-1 \leq \eta_i(x) \leq 1$, at $\frac{1}{3}H_i \leq x_i \leq \frac{2}{3}H_i$; $\eta_i(x) = 1$, at $\frac{2}{3}H_i \leq x_i \leq H_i$; $i = 2, 3$, at the same time $x \in \tilde{\Omega}$, function $\eta_i(x)$ fairly smooth, changes from to monotonously and $\eta_i(x)$ at $x_i = \frac{1}{2}H_i$ equals zero: $\eta_i(x)|_{x_i=0.5H_i} = 0$.

Note: when the point $x \in \tilde{S}$ and $x_i = \frac{1}{2}H_i$ ($i = 2, 3$), $x_1 = 0$ or $x_1 = L$. This means that $b_i(x) = \eta_i(x) + \cos(\bar{n}, x_i)$, $i = 2, 3$, vanishes only at points on the surface \tilde{S} with coordinates $(0, \frac{H_2}{2}, \frac{H_3}{2})$ и $(L, \frac{H_2}{2}, \frac{H_3}{2})$.

Problem (6) takes the form

$$\Delta p = f(x), \quad Bp|_{\tilde{S}} = \varphi(s), \tag{9}$$

where $f(x) = \sum_{i=1}^3 \frac{\partial A_i^{(0)}}{\partial x_i}$, coefficients $b_i(x)$ and $b(x)$ indicated above, $\varphi(x) = b_i(x)A_i^{(0)}$.

We see that the boundary condition has the form $b_i(x) \frac{\partial p}{\partial x_i} + b(x)p = b_i(x)A_i^{(0)}$, which is not consistent with equations (1), each of which, $b_i(x) \neq 0$ can be written as $b_i(x) \frac{\partial p}{\partial x_i} = b_i(x)A_i^{(0)}$ (here the convention of writing the sum is not applied, but three equalities are written). Summing the last three equations, we obtain $b_i(x) \frac{\partial p}{\partial x_i} = b_i(x)A_i^{(0)}$ (now the convention of recording the amount is applied). The following considerations will help to get rid of the indicated discrepancy (they are contained in [4], Chapter X, § 1).

In a limited area $\tilde{\Omega}$ The following types of problems are considered:

$$L(u) \equiv a_g(x, u, u_x) \frac{\partial^2 u}{\partial x_i \partial x_j} + a(x, u, u_x) = 0, \tag{10}$$

$$L^{(\tilde{S})}(u) \equiv [b(x, u, u_x) + b_i(x, u)u_{x_i} + b_0(x, u)]_{\tilde{S}} = 0, \tag{11}$$

under the assumption that equation (10) is uniformly elliptic and for arbitrarily fixed u and p and at each point $x \in \tilde{S}$ vector $\tilde{L}(x, u, p)$ with components $b_{p_i}(x, u, p) + b_i(x, u)$ does not lie in tangent to \tilde{S} planes. More precisely, it is believed that

$$\left[b_{p_i}(x, u, p) + b_i(x, u) \right] \cos(\bar{n}, x_i) \geq \nu_1 (|u|, |p|), \quad \nu_1 > 0. \quad (12)$$

The question of the solvability of problems (10), (11) is reduced to the question of the existence of fixed points for transformations with good properties, and some transformation is considered $u = \Phi v$. It is noted that the Leray-Schauder criterion for the existence of fixed points cannot be applied to the transformation under consideration, and it is immediately noted that this is possible in the case when $b(x, u, u_x) \equiv 0$. Recalling problem (9), we see that in our case the last identity holds. And yet we will dwell on the transformation, since it is necessary to get rid of the term in the boundary operator. The consideration leads to the proof of the theorem on the solvability of abstract equations in Banach spaces and the subsequent clarification of the requirements for $\Phi(v)$.

Theorem 2. *Let X and Y – be two Banach spaces, I – be a segment of $[0,1]$, a x, y and τ – elements X, Y and I respectively. Let's suppose Φ – continuous mapping of the direct product $X \times I$ in Y , having a derivative $\Phi_x(x, \tau)$, continuous with (x, τ) respect to in the operator topology $L\{X \rightarrow Y\}$, and satisfying the following conditions:*

1) For any solution x of the equation

$$\Phi(x, \tau) = 0, \quad (13)$$

answering to an arbitrary τ from I , operator $\Phi_x(x, \tau)$ has a limited inverse $\Phi_x^{-1}(x, \tau): Y \rightarrow X$.

2) The set of all solutions of equation (13) that correspond to all $\tau \in I$, compact in space X .

3) For some fixed τ from I there is only one solution x equations (13).

Then for each $\tau \in I$ equation (13) is uniquely solvable in X .

To reduce the solution of problem (10), (11) to Theorem 2, two Banach spaces are introduced: as X is taken $C^{2+\alpha}(\tilde{\Omega})$, and as a space of pairs of elements $y = \{f, \varphi\}$, where $f(x) \in C^\alpha(\tilde{\Omega})$, $\varphi(s) \in C^{1+\alpha}(\tilde{S})$, with the norm $\|y\|_Y = |f|_{\tilde{\Omega}}^{(\alpha)} + |\varphi|_{\tilde{S}}^{(1+\alpha)}$.

Problem (10), (11) is included in the family of problems that depend on the parameter $\tau \in [0,1]$:

$$\left. \begin{aligned} L_\tau(u) &\equiv \tau L(u) + (1-\tau)L_0(u) = 0, x \in \tilde{\Omega}, \\ L_\tau^{(\tilde{S})}(u) &\equiv \tau L^{(\tilde{S})}(u) + (1-\tau)L_0^{(\tilde{S})}(u) = 0, x \in \tilde{S}, \end{aligned} \right\} \quad (14)$$

where L_0 и $L_0^{(\tilde{S})}$ – differential operators of the same type as L and $L^{(\tilde{S})}$ accordingly, and with the value $\tau = 0$ of problem (14) is uniquely solvable in $C^{2+\alpha}(\tilde{\Omega})$.

It is clear that taking as an operator $L_0^{(\tilde{S})}$ operator $b_i(x) \frac{\partial u}{\partial x_i} + b(x)u$, we will achieve

solvability of (14) for the value $\tau = 0$ and satisfy condition 3) of Theorem 2. Without further considering the contents of § 1, Chapter X of [4], we simply note that it implies the existence of a unique solution to problem (9) with the boundary operator $b_i(x) \frac{\partial p}{\partial x_i}$. Indicating this solution p_0 , we begin to solve the system (1) – (3) with the values $t > 0$.

To find functions u_i , $i = 1, 2, 3$, and pressure p at values $t > 0$ we will resort to Rothe’s method, which essentially reduces the proofs of existence theorems for solutions of initial-boundary value problems for parabolic equations to boundary value problems for elliptic equations (see [1], [3]).

We will dissect the cylinder Ω_T planes $t_m = m\tau$, $m = 0, 1, \dots, M$, $\tau = \frac{T}{M}$, and we denote $\tilde{\Omega}_m$ section $\tilde{\Omega}_T$ plane $t_m = m\tau$, \tilde{S}_m – its border, $\overline{\tilde{\Omega}_m} = \tilde{\Omega}_m \cup \tilde{S}_m$. At each section $\tilde{\Omega}_m$ Let’s define the functions that we will denote $u_{1,m}, u_{2,m}, u_{3,m}, p_m$, $m = \overline{0, M}$. The solution was found above for the value $t = 0$, i. e. functions $u_{1,0}, u_{2,0}, u_{3,0}, p_0$. To find the values $u_{1,m}, u_{2,m}, u_{3,m}, p_m$ at $m = 1, 2, \dots, M$ we introduce the difference derivative and replace the derivatives in equations (1) – (3) $\frac{\partial u_i}{\partial t}$ difference derivatives $u_{i\bar{t}} = \frac{1}{\tau}(u_{i,m} - u_{i,m-1})$. Since now the derivatives $\frac{\partial u_i}{\partial t} \neq 0$, then the expressions for will change accordingly $A_i^{(0)} = \nu \sum_{k=1}^3 \frac{\partial^2 u_{i,0}}{\partial x_k^2} - \sum_{k=1}^3 u_{k,0} \frac{\partial u_{i,0}}{\partial x_k}$, $i = 1, 2, 3$. The movement along time sections occurs in the same way as in [1]. Let us arrive at the theorem.

Theorem 3. *Let the following conditions be satisfied: $\tilde{S} \in C^{3+\alpha}$, $\bar{b}_i(x) \in C^{3+\alpha}(\overline{\tilde{\Omega}})$, $\tilde{\psi}_1 \in C^{3+\alpha}(\tilde{S}_T)$, $f \in C^\alpha(\overline{\tilde{\Omega}})$, $\varphi \in C^{1+\alpha}(\tilde{S})$. Then problem (1) – (3), in which the derivatives $\frac{\partial u_i}{\partial t}$ replaced by difference derivatives, for any $t = t_m = m\tau$, $m = \overline{0, M}$, and small enough has a unique solution, and $u_{i,m} \in C^{3+\alpha}(\overline{\tilde{\Omega}_m})$, $p_m \in C^{2+\alpha}(\overline{\tilde{\Omega}_m})$.*

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