



SCIENTIFIC RESEARCH OF THE SCO COUNTRIES: SYNERGY AND INTEGRATION

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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欧亚经济联盟转型中的参与者：尝试为自己而战并领先于竞争对手
**PLAYERS IN THE TRANSFORMATION OF THE EAEU:
ATTEMPTS TO PLAY FOR THEMSELVES AND GET AHEAD OF
COMPETITORS**

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注解。 作者提出了自己对欧亚经济联盟国家领土发展设想的版本，作为欧亚空间优先发展之战，提出了俄罗斯作为所有国家统一参与进程的领导者参与的主要论点。 联合价值链中这个一体化协会的国家，是社区国家进入即将到来的工业4.0 机器人人形方式单一系统的校正器。 经济和社会利益，基于后苏联遗产以及中亚和高加索国家对各种人道主义、文明和后勤项目以及新地缘经济区划方式确定其在世界上的未来的愿望逐渐减弱。

关键词：欧亚经济联盟、SMO、俄罗斯、亚美尼亚、白俄罗斯、哈萨克斯坦、吉尔吉斯斯坦、一带一路、北方丝绸之路、欧亚主义、地缘经济、阿拉伯项目、逊尼派、什叶派、中国、工业4.0、人工智能、大数据、ILD、IER。

***Annotation.** The author offers his own versions of the development of scenarios for the territories of the EAEU countries, as a battle for the preferential development of the Eurasian space, putting forward the main thesis of Russia's participation as the leader of the process of unified involvement of all countries of this integration association in joint value chains, a corrector for the entry of community states into a single system of the upcoming robot- humanoid way of Industry 4.0., as the ideologist of a new agenda for the mutual conjugation of military, cultural, economic and social interests, based on the post-Soviet legacy and on the gradually decreasing desire of the countries of Central Asia and the Caucasus to determine their future in the world of various humanitarian, civilizational and logistics projects and ways of new geo-economic zoning.*

***Keywords:** EAEU, SMO, Russia, Armenia, Belarus, Kazakhstan, Kyrgyzstan, OBOR, NSR, Eurasianism, geo-economics, Arab project, Sunnis, Shiites, China, Industry 4.0., AI, Big Data, ILD, IER.*

Global trade, as a tool for the development of geopolitical relations, displaying the correctness of government policies in the field of commodity exchange with

various actors increasingly determines, even in its digital and electronic format, the future of many territories and integration platforms.

Thus, the Eurasian association of 5 states created in the post-Soviet space, experiencing a Eurasian integration orientation and having common Soviet roots of a planned economy of an indivisible empire, has forced each state over the past 9 years to evaluate its personal contribution to the processes of interaction and the implementation of its own sovereign national aspirations in a promising future of adequate meanings. It is the desire for clear involvement and finding one's own place in the new, fragmented global supply chains that are growing during the global recession, taking into account the new specialization in the processes of the international division of labor (ILD) and in the single market of goods and services of the EAEU countries that are being formed in the post-Covid restoration of international economic relations (IER) forces integration states to seek advantageous positioning for various economic, cultural and religious projects, taking into account natural resources and national specialization.

The main criteria for such interaction will remain the possibility of accelerated innovative and technological development of states, their convergence along industry, infrastructure and cluster principles and skillful geographic zoning in the use of the specifics of each ethnic group, taking into account its historical and cultural characteristics [1]. At the same time, the existing landscape of various development options is increasingly being put on the agenda by individual actors within the cooperation states, not allowing them to finally and irrevocably make their choice in favor of the Russian project. It is the trade trends of such development of the territory of Eurasianism itself and the accelerating exchange of goods that have helped over the past 9 years to learn how to set priorities correctly.

Thus, one of the main priorities in the post-Soviet space and in the newly assembled Eurasian mosaic remains the actions of the Anglo-Saxons, who historically laid claim to the resources of Central and Central Asia, in their economic global colonial redistribution, which was not fully realized by them over the last centuries of their unsuccessful attempts. Moreover, only the imperial power of a single "red state" of workers, peasants and working intelligentsia allowed the Central Asian states, like the newly emerged Soviet socialist republics, to leapfrog from the era of feudalism and tribal relations in the developed industrial phase of socialist economic management, gave them a personal and worthy place in a unified planned economy. Their choice in this case was the basis of ideological and spiritual interaction, as an ethnos of classless development to achieve the maximization of possible benefits in the vastness of the industries of the USSR, having received, to the maximum, the entire pool of expected benefits and investments. Moreover, first of all, the main task of such investments was aimed at the development of the human personality, allowing it to find its place within various sectors

of the vast Soviet Motherland [2]. Human development ideology and patriotism, the mutual attraction of the republics themselves and the development on the basis of scientific and technological reserves of applied competencies within each such territorial integrity of ethnic groups from the Caucasus to Asia itself were able to create programs of unified approaches to the development priorities of the ethnic groups themselves and their historical territories of residence, to preserve the infrastructure a basis for its own independent existence after the end of the imperial project and the transition to the CIS and the EAEU unification [3].

Behind English and American TNCs, which have their own corporatocratic interests in the development of local elites on their terms, today the Chinese eastern project of latent assimilation is being implemented, the Arabic tales of the “1001st Night” promise the same raw materials model of the Near and Middle East and carry a Shiite (new Persian project) [4] or Sunni (new Turan and Turkic assimilation by the resurgent Ottoman Empire) a bias towards the involvement of Central Asian countries in the growing political and economic volatility of the Afghan Taliban [5], Pakistani movements of varying degrees of religiosity in the affairs of the growing young sovereign eastern democracies of the post-Soviet project. At the same time, there is no unity of goals for the development of cultural and scientific schools within these former republics, but there is a strict agenda for Muslim dissolution in global projects for the construction of “eternal empires” of the East.

There is also an undeniable influence from the emerging “small Asian NATO”, such countries as Japan, South Korea and the Asia-Pacific countries, who want to transfer chains of valuable components of the resource and mineralogical base, water resources to the richest deposits of polymetallic ores and cotton, energy and raw materials reserves in the formation of goods and services of Industry 4.0. In addition, these aspirations are confirmed by investments and bear fruit within existing clans and families who are ready to enter into temporary alliances on favorable terms with post-Covid restoration of local industries, transfer of part of the labor and technical equipment and resources to the base of local small and medium-sized businesses [6].

This influence in the region of Central Asia and the Caucasus, as happened with Armenia, cannot but cause concern in the growing risks of losing their own national sovereignties and the subsequent degradation of elites and ethnic groups to new barbarism or semi-colonial development state-like entities. This strategy suits our opponents very well both in the Northern Military District and in inciting the Anaconda loop of Helford Mackinder [7], cutting off the Heartland from the sources of the real implementation of their own national projects and leading to a clash of these same civilizations, according to the ideas of Samuel Huntington [8] to the collapse of the territories, and the extinction of peoples and personnel of increased competence, who are not ready to find qualified jobs in their homeland

and are forced to emigrate from the EAEU to more developed and developing projects of neighbors and our competitors.

Therefore, the introduction of national ideologies, as well as the prescribing of technical regulations in the supranational governing body of the EAEU, in the EEC (Eurasian Economic Commission) or the merging of territories through the unity of energy capacities and chains of mutual clustering, the national return of globalized elites from the transnational dependence of global governance institutions would allow integration states to more clearly and targetedly set economic and political priorities, to choose as a basis the symbiosis of Chinese-Russian co-development in the OBOR project (One Belt, One Road), in logistics and transport chains, while reducing the impact of factors of ethnic and social tension, resolving emerging imbalances in matters of religious and spiritual development of peoples within the framework of common goals and objectives of joint safe and high-quality coexistence.

Therefore, the example of Armenia, which is leading its country to Anglo-Saxon absorption, should alert Central Asia, give a chance to cleanse its ranks from nationalist and fanatical individuals calling their countries into the abyss of “color revolutions” and the chaos of uncontrollable “good intentions”, which, as is known from historical practice, most often become “roads to hell” and lead to total extinction under the influence of stronger and more aggressive colonialists and “dobrokhodov”, who are not ready to provide, unlike Russia, equal rights in their national sovereign development and do not contribute to the further growth of integration effects within the framework of existing Eurasianism [9].

At the same time, to comply with the requirements of Industry 4.0. countries of the Eurasian integration partnership should continue to maintain their technological sovereignty, which depends on systemically important digital production technologies:

- computer-aided design and engineering technologies, including multi-parameter and multi-criteria optimization of topology, dimensions, composition, shape, consumer qualities of a product throughout its entire life cycle;

- additive technologies based on the development and use of 3D printers, provision of services for 3D printing of products of any complexity;

- machines and equipment with numerical program control of multifunctional materials processing technologies;

- sensors and control tools based on their use in production equipment and premises;

- robotics technologies, including industrial robots;

- enterprise management information systems; generation, collection, storage, management, processing and transmission of big data; industrial Internet.

Among the promising areas for the use of biotechnologies in agriculture in the EAEU states, which are an urgent need to maintain critical dependencies in the field of food security, it should be noted here:

- creation of new highly productive varieties of agricultural plant hybrids, resistant to pathogens and adverse environmental conditions;
- improving breeding work through the use of genetic selection methods for farm animals;
- methods of genetic certification of varieties and certification of plant seeds;
- prototypes of innovative medicines and candidate oral vaccines for animals;
- new molecular genetic methods for diagnosing plant and animal pathogens, biological means of combating pathogens;
- strains of microorganisms and microbial consortia to create symbiotic plant-microbial communities that provide plant nutrition with minerals and their protection from pathogens;
- biotechnological processes for obtaining bioproducts for industrial and medical purposes in plants [4; 10].

The transition to a new technological structure is stimulated by the implementation of the concept of a “green” economy, which has become a strategic priority for the governments of the EAEU states and for most other countries of the world that want to maintain their access to global markets [4; 11]. This concept provides for the transformation of the model of functioning of the economy and the life of society of the ethnic groups of the EAEU based on the following principles:

- improving the quality of the environment by minimizing the negative anthropogenic impact on it;
- increasing resource efficiency, careful and rational use of natural resources in the interests of future generations;
- a change in the sectoral structure of the economy in favor of industries with low material and energy intensity, which will entail a sharp reduction in the material and energy intensity of the economy as a whole;
- stimulating investments in “green” and climate projects, including those involving the introduction of the best available technologies and increasing resource efficiency of production;
- implementation of social and environmental quality management (ESG) standards using criteria such as energy and heat consumption, carbon footprint, waste collection and recycling, occupational health and safety, social guarantees for employees, efficiency metrics for the use of human resources, support for the social sphere, and reliability of reporting ;
- minimizing waste generation, involving secondary resources in economic circulation, including through the creation of industrial symbioses;
- stimulating the introduction of the best available technologies to improve energy efficiency, save energy and expand the use of renewable energy sources;
- creating financial mechanisms for the “green” transformation of national economies and supporting business development in environmentally friendly areas;

- increasing responsibility at all levels of government, business and the population for monitoring and control regarding sustainable consumption of resources and the state of the environment;
- widespread introduction of environmental culture, improvement of existing and development of new educational programs on the rational use of resources and environmental protection in the education and training system [12].

These approaches will allow for a more coordinated policy of the EAEU states and will provide additional advantages, both in the development of the integration union itself, and in the creation of individual advantages for each national economy of the states of the integration union [13], in particular, they will help choose Russia as the main country responsible for the harmonious and safe development of the region itself [14]. The very growth of demand in the EAEU markets, which will be spurred by the development and implementation of innovative materials, will be supported by the planned increase in processing in petrochemicals, which even in conditions of active promotion “The green agenda will support the demand for hydrocarbons and make the population of Eurasian countries more employed and economically advanced.

The very formation of digital critical infrastructure will depend on general goal setting and strategic planning, which the President of Russia spoke about in his message to the Federal Assembly on February 29, 2024. The basis for such construction could be the issue of personal interest of the leaders of national states to have access to OBOR projects, create logistics hubs, participating themselves or being indirectly involved in the North-South corridor projects, and even more so the West-East corridors as leading routes transit of goods through the territory of Russia, including both the Trans-Siberian Railway and BAM-2, and the historically congruent structures of the CER and other railway lines from the Asia-Pacific countries, which previously determined the trend and intensity of the formed transportation and preferences for the delivery of goods from Asia to Europe.

At the same time, the very trends in the trade opportunities of the countries of Central Asia and the Caucasus will increasingly shift to the area of mobilization economics, to building centers of competence and technological development in the form of the creation, repair and modernization of various modifications of weapons for proxy countries participating in the Northern Military District in Ukraine, preparing for escalation new Azerbaijani-Armenian confrontation, as well as instigating the conflict between Moldova and Transnistria, which is shaking the ethnic groups of the region with its smoldering activity of separatist sentiments along the contour of the Eurasian continent. It is the ambitions of foreign leaders in building a new Turan, as well as the geopolitical hedging of the risks of French actors required of us, who are being forced out of Africa today, after

the annulment of the De Gaulle Treaty (1961 on colonial farming under the patronage of Francophone business structures) on the “evergreen continent” “, and their allocation for their “new campaigns” outside the colonies collapsing from their thoughtless rule of the African world, up to 600 billion euros for expansion, especially uranium and rare earth in the countries of Central Asia, should become the basis for keeping the entire Eurasian Heartland within the framework of peace initiatives and sustainable development under Russian influence, which does not allow new “big games” of either the Anglo-Saxons or other parties, in the further collapse of the remaining security foundations of the sovereignizing states of the post-Soviet space, which have chosen broad cooperation with Russia and China as development trends as the basis for their successful geo-economic development.

Therefore, the main trends in the emerging digital infrastructure of the EAEU today are the creation and development of joint complexes and platforms, interdependent and supporting each other as unified supra-country chains, technologically built production, taking into account local labor characteristics, the level of digitalization and robotization, providing synergy for the emergence of digital ecosystems, as elements of a common base of realized opportunities for technological unity. It is precisely this, how the formed mechanism for creating goods and services is integrated at a new level of priorities and growing opportunities, that can bring territorial and national localization to new standards, allowing one’s own technologies, scientific schools, natural resources and proximity to the main consumption market – China, to be taken into account more and more precisely. It is the help of the Celestial Empire, the growing flows of transit of goods through the Eurasian territory that will be able to orient more competently and focused logistics and production sites in the states of the integration union, provide convergence of labor resources locally with imported components and with spare parts, microcircuits and boards for high-tech, which supports both Russian import substitution mechanisms and “gray imports” necessary for the pipeline growth of projects in the oil and gas sector of Russia, which is carrying out a maneuver of an accelerated “turn to the East.” In addition, these tasks should help China complete the reform of the PLA (People’s Liberation Army of China) by 2027, before a potential conflict over the island. Taiwan and across the Strait of Malacca, which could be blocked if hostilities break out in the Asia-Pacific region. And this will undermine all supplies of energy resources in the region, which will be the result of a confrontation at sea, a possible clash of the “small Asian NATO” with China and its military allies and proxies. And it is investing not only in the OBOR, but also in its maritime insurance - the Northern Sea Route, that allows the Chinese to build a more modern infrastructure in the EAEU, including modern logistics and the industrial base of the former Soviet states, preparing for matchups and for the Arctic, when the Arctic Council resumed its work in April of this year.

Growing fears of technological vulnerability, manifestations of man-made challenges, countries that have not yet fully consolidated in terms of technologies and means of their application, can thereby accelerate the transition to system-forming digital production technologies that make it possible to control cybernetic security from hackers and criminal groups, and will help increase security in the field of technological sovereignty each member of the EAEU.

In their trade, the countries of Eurasian integration should increasingly focus on trends in the accelerated replacement of outdated post-industrial forms of production, and the accelerated introduction of more advanced additive technologies based on 3D printers and the 3D printing of products of any complexity used by them, especially for the military-industrial complex and ICT areas -sector. The very industry of digital management and netocratic management of the points of supply and processing of information from business processes to strategies of various commercial and government structures should continue to move towards an increase in the number of industrial robots and robotics technologies, CNC machines and equipment, multifunctional materials processing technologies and their targeted use for critical and breakthrough technology for implementing creative chains in behavioral economics, where enterprise management information systems, generation and analysis, forecasting and collection, management, processing, coding and transmission of big data are already gaining momentum, the growth of the Internet of things and the industrial Internet in geophysical environments and in metaverses, in spheres of virtual and augmented realities. The generative AI systems themselves, as a key force in the ongoing digitalization of the processes of social, economic and industrial development of society, removing corruption and lawlessness of officials, their local focus on their own goals, and not on the growth of inclusive economic well-being, which becomes an additive value of equalizing mechanisms of social inequality, which is exactly what the members of the EAEU have already begun to discuss in the process of forming a consensus of interests of sovereign states, and the Union itself, as a whole. The use of bioengineering technologies makes it possible to create quickly advanced groundwork for competing labor sites and increasingly innovative jobs, which are stimulated by Chinese investments in the Eurasian contour of unified production and logistics chains being created. Already according to current estimates of world analysts, in this sector of the bundle of technologies of the “living and non-living worlds”, by 2035 they will concentrate up to 35% of chemical products, up to 80% of medicines and up to 50% of agricultural products. Bioengineering technologies will allow for wider use of transgenic plants, cloning of animals and plants, organize controlled growth and creation of new biological preparations, biopolymers and preparations for the healing of biological tissues, become conductors for the targeted delivery of drugs and proteins to human organs, improve antiviral vac-

cines and enzymes for the synthesis antibiotics, will support the development of biocatalytic, biosynthetic and biosensor technologies.

Today, in this matter, Russia is already cooperating with both Kazakhstan and Belarus, has its own significant successes in the development and production of industrially significant volumes of means and products: both in biomedicine and in agriculture, and also organizes close scientific cooperation, and becomes part of strategic alliances with both China and India on the basis of humanitarian agreements and solving global problems in the field of food security and migration between the countries of the Asia-Pacific region and Central Asia.

It was 2023 that reflected the trade turnover between the platforms of trade priorities and technology exchange, where China and Russia reached a trade turnover of 240.1 billion US dollars, then India, carried away by the supply of our gas and exporting chemicals and pharmaceuticals, various metal concentrates to the CIS countries And equipment in the field of instrument making and the military-industrial complex increased export-import operations with Russia by 1.8 times to 64.9 billion US dollars and Kazakhstan moved from 8th place to 5th, as a transit country for our hydrocarbons and their ongoing processing at refineries, so that not always show their Russian origin and cluster innovations in mineral and ore production from China, bringing the number of mutual supplies with us to 26 billion US dollars [15].

At the same time, S. Lavrov's visit to Beijing on April 8-9, 2024 to XiJinping, associated with "double counteraction" to "dual containment" on the part of the collective West, is based not only on Russia's desire to actually receive a continuation of the policy of growing its own sovereignty and collective security from its strategic allies, but is also based on the mutual, undisguised desire of China, to become the main mediator in the issue of the "Ukrainian crisis," while simultaneously stabilizing the growing volatility and growing military trends in the Asia-Pacific region, which, among the civilizational confrontation between the superpowers, also depend on the dynamics of the deployment of various projects on the territory of Eurasia. And the EAEU, as the main integration platform, accommodating vectors for smoothing out the contradictions of some Asian and Transcaucasian countries, ready for cooperative interaction along its borders and for the development of logistics and commodity chains through its territory: from transit to the full involvement of all available labor resources in creative industries and the post-industrial base of the Soviet legacy, can completely change priorities in both the MEO and the MRT to create a balance of deterrence for each non-systemic player in the region. At the same time, the role of integration partnership institutions, and most importantly the growing Chinese influence, will be able to globalize and fragment entire national industries. And here the role of the ideology of interaction and trustful exchange of technologies and high-tech products,

against the backdrop of ongoing processes of tariff and non-tariff restrictions in the exchange of goods, investments, attempts to gain additional advantages in the American-Chinese decoupling - all this becomes motivation in preparation, both to a future regional conflict and to a European war that can hide the traces of Anglo-Saxon provocations of their proxies against BRISK, the SCO and the EAEU.

At the same time, the positions of our partners in terms of their geo-economic zoning and building their own national sovereignties and priorities for achieving them should not rest on joint military exercises of the United States and its allies in Central Asia, where the armies of Uzbekistan, Kazakhstan, and Kyrgyzstan (in 2023 this was done within the framework of “Regional Cooperation-23”, Montana, USA), where our friendly Tajikistan, Turkmenistan, Mongolia and Pakistan, which is increasingly going beyond the scope of peace initiatives, are actively participating. If we also consider the factor of Armenia, indicated earlier in similar military interactions with the West, then it is necessary to accept the doctrine of Russian-Chinese dominance in the Eurasian region, for deeper synchronization of ongoing commodity and production processes and supplies, as well as for building mechanisms for the creation and maintaining “lines of direct and indirect counteraction”, which are increasingly becoming aggressive actions on the part of Western countries [15].

Therefore, both the digital structure of Eurasianism, and trade between countries, their technological and innovative exchange must be cleansed by new challenges and corrections must be made ethno-elites, still clinging to their limited involvement in these tectonic processes, and sometimes unable to fully make a choice in favor of Russia and China or Anglo-Saxon raw material development [16].

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大投资建设项目实施过程中施工单位职业安全工作的动力
**MOTIVATION OF CONSTRUCTION ORGANIZATIONS IN
THE FIELD OF OCCUPATIONAL SAFETY DURING THE
IMPLEMENTATION OF LARGE INVESTMENT CONSTRUCTION
PROJECTS**

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抽象的。 本文讨论了在实施大型投资建设项目过程中激励工人的实用方法的发展。 作者总结了西伯利亚力量北极液化天然气-2项目建设的经验,并探索了激励工人参与劳动保护工作的组织和社会经济解决方案。

关键词: 劳动保护; 激励; 社会经济关系; 劳动保护管理体系; 建设。

Abstract. *The article discusses the development of practical approaches to motivating workers in the process of implementing large investment construction projects. The author summarizes the experience of constructing facilities as part of the Power of Siberia, ARCTIC LNG-2, and explores organizational and socio-economic solutions that allow motivating workers to get involved in labor protection work.*

Keywords: *labor protection, motivation, socio-economic relations, labor protection management system, construction.*

Approaches to the formation and development of labor protection systems in construction organizations. Requirements for labor protection management and its form are enshrined in Art. 212 of the Labor Code of the Russian Federation: “the employer is obliged to ensure the creation and operation of a labor safety management system (LSMS)” [1]. The creation and operation of an occupational safety management system is disclosed in the documents of the Occupational Safety Standards System (OSSS) [2-8], in the Model Regulations on the Occupational Safety and Health Management System [9].

Management of social, labor and socio-economic relations of enterprises and organizations of industry and transport (including construction organizations), as well as directions for increasing the efficiency of management of labor protection for workers are presented in detail in studies [10-14]

Occupational safety management is a complex social and production system, which includes a person (as a subject and object of management, a factor and an object of risk) – the production environment – the social environment – working conditions (workplace). This is a system that is influenced by many unrelated factors of a random and unpredictable nature. [10]

Since March 1, 2023, the Russian Federation has been implementing an approach to building an occupational safety and health system, which defines the goal of the entire system as “prevention of industrial injuries and occupational morbidity” [15,16]. The requirements for the structure of the occupational safety and health management system are enshrined in the order of the Ministry of Labor and Social Protection of the Russian Federation dated October 29, 2021 No. 776n “On approval of the Model Regulations on the Occupational Safety and Health Management System” [9,15], and the implementation of the approach requires the development and implementation in the practical activities of construction organizations a risk-based approach, which consists in identifying the relationship between working conditions, the safety of the production process and the health of workers.

The development of a preventive imperative at the level of the occupational safety management system necessitates research and generalization of practices that provide motivation for safe work of both workers and work teams (units, teams, work teams of construction organizations).

Personal and collective motivation in the occupational safety management system. In order to form the necessary level of motivation for workers of construction organizations to safely organize and perform work at construction sites, to form and manage the intentions of a large number of workers of construction organizations in the field of safe behavior, the structure of interaction of the General Construction Contract (Customer - General Construction Contractor - Construction Organizations) is effective a motivation system focused on working with work teams, including positive and negative components (Table 1).

Table 1.

System of collective motivation in the general construction contracting system

System elements	General construction contractor	Construction organizations
Punishment system	Inclusion of proactive indicators (LTIF, PAB, management satisfaction) in KPIs of work teams	Liquidated damages (fines for violation of HSE requirements)

<p>Reward system</p>	<p>Quarterly competition “Best project in the field of health and safety”. Main criteria: incidents, comments from the Customer, government agencies, audits, implementation of end-to-end practices, project initiatives</p>	<p>In contracts with contractors - financial incentives (2% of the volume of closed work) Tools for “forgiveness” of fines for violations of requirements in the field of health, safety and safety</p> <p>Quarterly competition “Best Contractor in the Field of Health and Safety” (there is a methodology, adjustments are recommended)</p> <p>Quarterly competition “Best contractor in the field of environmental protection” (the competition was held, you need to think about a unified methodology)</p>
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Source: compiled by the author

The system of negative motivation (punishment) is based on the application of disciplinary measures to violators, taking into account the severity of the recorded violation and provides for a warning (oral), disciplinary action or, in the case of a serious violation, termination of cooperation with the violator as part of the implementation of a specific construction project.

In all cases, the system requires determining the degree of participation of both the culprit of the incident and his immediate supervisor, i.e. All participants or perpetrators of the incident are subject to sanctions depending on the degree of guilt.

Practical approaches to motivating construction organizations to organize safe working conditions during the implementation of large construction projects. Collective responsibility in the field of labor protection of departments and work teams provides for the achievement of target values of key performance indicators (in fact, requirements for the organization and implementation of work agreed upon before the start of work on the project and adjusted in each planning cycle - annually) - an indicator of the frequency of injuries with loss of working time LTIFR, employee involvement in the implementation of proactive measures, including conducting behavioral audits of safe work performance in assigned areas. Unreasonable deviations or failure to achieve planned indicators entails the use of a set of organizational and disciplinary measures (reducing the bonus to the team based on the results of the evaluation period; not awarding a letter to the General Director if target engagement indicators and LTIFR are not achieved).

The collective responsibility of construction organizations is enshrined in the requirements of the work contract in the part “Liquidated damages (fines)” and includes a description of the amount and procedure for applying penalties to a construction organization in case of violation of the latter’s requirements in the field of safety and labor protection. In each individual case, depending on the position of investors and the Customer of work on the implementation of an investment construction project, the size and procedure for applying fines may vary. As part of the development of a single unified approach, JSC “NIPIGAS” has created unified universal forms (UF) of fines applied to construction organizations and, separately, to suppliers and contractors providing services.

The system of incentives for construction organizations for ensuring the required level of safe organization and performance of work, minimizing or eliminating the risks of project implementation in the field of safety and labor protection is aimed at increasing the interest of construction organizations in the implementation of contractual obligations without injuries and incidents, increasing the efficiency of the labor protection management system in terms of developing a safe work culture for both our own employees and employees of subcontractors hired to perform certain types of work.

The main aspects of the incentive program for construction organizations are shown in Table 2.

Table 2.
Incentive program for construction organizations of JSC “NIPIGAS”

Aspect of the program	Description
Types of positive motivation for construction organizations	<ul style="list-style-type: none"> - non-material motivation (letters of gratitude from the project manager to employees of contractors); - material motivation (up to 2% of the cost of work actually performed for the period under review with confirmation of at least 70% of the amount paid for bonuses to employees of contractors); - cancellation of acts of identified violations by confirming the implementation of proactive measures to improve working conditions, ensuring the required level of safe work (except for a number of gross violations, for example, violations of the Key Safety Rules of the Industrial Safety Inspectorate)
Evaluation criteria for each type of motivation	are developed separately, but include proactive leadership actions (in relation to personnel), achieving established KPIs in the field of industrial safety and preventing injuries and accidents (in relation to the material motivation of contractors), the implementation of pro-active above-standard or above-contractual measures (in relation to cancellation acts)

Source of funding for the incentive program	a separate invoice from penalties in the field of HSE of the project office of JSC «NIPIGAS»
Evaluation period	Construction organizations are assessed quarterly. At the end of the year, an assessment is made of the dynamics of changes in the management system in the field of safety and labor protection of construction organizations; based on this assessment, a rating of construction organizations is formed that is common to all divisions of JSC «NIPIGAS».
Organization of assessment	The assessment is carried out by a commission headed by the project manager. The initiator and responsible person for the process is the initiator of concluding an agreement with the contractor. Members of the commission are employees of the HSE function, as experts on the topics and criteria being assessed

Source: generated by the author

Application of rating in the system of motivation of construction organizations in the field of labor protection. The use of key performance indicators and ratings as an effective technology for managing occupational safety and health involves periodic assessment of key performance indicators of the occupational safety management system of construction organizations. The assessment of construction organizations engaged to carry out individual work on the implementation of an investment construction project under a contract is used to motivate the construction organizations themselves, as well as in the processes of selecting contractors by providing accumulated information on the effectiveness of the contractors' management systems.

The introduction of assessment processes for construction organizations contributes to:

- increasing personal (personal) responsibility for the state of working conditions in the workplace as part of the performance of work directly on Projects, construction and production facilities of the Enterprise / Customer;
- preventing accidents (incidents) by ensuring a high level of operational interaction and cooperation at all levels of management, both employees of the Enterprise and employees of Contractors / Service Providers.

Assessing the effectiveness of occupational safety management systems of construction organizations is aimed at obtaining reliable, prompt and objective information about the level of development of the occupational safety management system of each of the assessed construction organizations and identifying opportunities for its improvement within the framework of existing contract agreements.

In the General Construction Contracting system, the rating of construction organizations involved in performing work is formed based on the assessment of several parameters (Table 3).

Table 3.
Parameters of the rating assessment of a construction organization

Parameter (direction of evaluation)	Weight in the rating system
Injuries and accidents	35
Assessment of the activities of a construction organization by type of work	25
Commitment to safety and health issues	15
Violations of occupational safety and health requirements	15
General assessment of labor protection work	10

Source: compiled by the author

The developed methodology is based on calculating the number of points in the main presented areas (Table 3). Each block is assigned a weight coefficient reflecting the priority of the direction and significance; a number of indicators (for example, injuries and accidents) have a blocking status, reducing the overall score to a minimum (for example, the presence of a fatal accident in a construction organization in the period under evaluation). The final assessment score in the field of occupational safety is determined as the sum of points for all assessed criteria.

The construction organization's rating is subject to quarterly updating based on the calculation of the average value from the consolidated monthly industrial safety ratings for the quarter.

When concluding a contract, each construction organization is given a single "input score", which is equal to "30". This "input assessment" (rating) only says that at the time of its mobilization to perform work, there are no comments or claims in the field of labor protection against this Contractor, i.e., subject to the approval of the construction organization to perform work, the level of its industrial safety management system is accepted as corresponding to the required one.

If a construction organization has experience working on other projects of JSC "NIPIGAS" and is included in the rating of contracting organizations, then the "input assessment" on the Project where this organization enters to carry out work can be used from this rating by calculating its average value for the last two years of work of a construction organization on other projects of JSC "NIPIGAS", subject to confirmation of this assessment by the labor protection service of the construction project based on the results of its admission.

Upon completion of work, the rating assessment of the construction organization is fixed at the level of the last calculation of the average rating assessment and can be used if this organization participates in the new competitive procedure.

When a construction organization works on two or more construction projects under the management of JSC "NIPIGAS", the rating assessment of the construction organization is calculated taking into account the weighting coefficient of

the project, calculated on the basis of the contribution of man-hours worked by the construction organization on the Project to the value of the total man-hours worked by the construction company. organization on all construction projects under the management of JSC “NIPIGAS” during the assessment period.

The calculation is carried out according to the formula:

$$P_{\Pi\delta} = \frac{\sum_{i=1}^n K_{\text{чч}i} \cdot P_{\text{чч}i}}{n}, \quad (1)$$

where: $P_{\Pi\delta}$ – is the consolidated rating of a construction organization at the Company level (taking into account its activities on all Projects where the construction organization performs work); $K_{\text{чч}i}$ – is the coefficient of the construction organization’s contribution to the operating time on the i -th Project for the estimated period of time; $P_{\text{чч}i}$ – industrial safety rating of the construction organization on the i -th Project for the assessed period of time; n – the number of Projects on which the Contractor performs work.

Based on the results of the assessment and calculation of the rating, the level of compliance of the construction organization with the requirements of JSC “NIPIGAS” and its effectiveness is determined, according to the following distribution presented in Table 4.

Table 4.
Contractor rating levels

Rating	Compliance level	Score range
C	Does not meet the minimum required level	0-29
B	Meets the minimum required level	30-79
A	Exceeds the minimum required level	More than 80

Source: compiled by the author

The resulting overall assessment score determines the final rating of the construction organization, which is calculated quarterly as the average of the scores received over three months (quarter). The higher the overall assessment score, the higher the rating of the construction organization.

Based on the results of assessing the activities of the construction organization, the project office develops measures aimed at improving and further developing the Industrial Safety Management System.

Table 5 lists possible activities implemented jointly by the General Construction Contractor and construction organizations based on the assessment results.

Table 5.

Recommended measures based on the results of the rating assessment of construction organizations

Events	The group to which the construction organization is assigned based on the results of the rating assessment		
	A	B	C
Suspension of work	No	No	Yes (as agreed by the Project Manager)
Meetings with project managers of the construction organization (Project Manager, his deputies, Directors, etc.)	Possibly (at the initiative of the supervisor of the Construction Contract or the Contractor)	Yes (at the initiative of the contract administrator)	Yes (at the initiative of the contract administrator)
Development of a corrective action plan	No	Yes	Yes
Updating the Construction Organization's Industrial Safety Management Plan	Yes (by decision of the construction organization)	Yes (by decision of the General Construction Contractor and/or the Customer)	Yes (by decision of the General Construction Contractor and/or the Customer)
Influence on the assessment of a construction organization at the stage of competitive procedures	Yes (possible increase in rating compared to the previous one)	Yes (possible increase or decrease in rating compared to the previous one)	Yes (reduction of the rating, down to the value that blocks participation - with the exception of non-alternative counterparties)
Impact on the qualifications of a construction organization	No	No	Yes (change from «Qualified» to «Disqualified» status)
Termination of the current Construction contract	No	No	Yes (by decision of the Project Manager of the General Construction Contractor - with the exception of non-alternative contractors)

Source: compiled by the author

Recommended measures are mandatory; the form and content of the measures are chosen by representatives of the General Construction Contractor and the construction organization.

A corrective action plan, based on the results of the corresponding rating values (rating B and C), is developed by the construction organization within a week for subsequent approval by the General Construction Contractor.

Identified comments regarding the occupational safety management system of a construction organization based on its rating assessment (rating B and C) may be the basis for demands from the General Construction Contractor to revise the regulations on the occupational safety management system of a construction organization. Construction organizations that have received an A rating can, on their own initiative, update documents as part of the development of their own occupational safety management system.

In relation to construction organizations with ratings B and C, based on the results of the calculation of which a corrective action plan has been developed, the responsible employee of the labor protection service and the Curator of the contract of JSC “NIPIGAS” monitors the dynamics of the implementation (closure) of the developed industrial safety measures aimed at improving target indicators and development of the Industrial Safety Management System.

Summary assessments (ratings) of construction organizations at the Project and Enterprise levels are taken into account when:

- conducting qualification assessments of construction organizations;
- assessments in the field of industrial safety, with the participation of a construction organization in competitive procedures.

The criteria and features of using assessment (rating) values for industrial safety, including the possibility of using its components (assessment in the field of occupational safety and assessment in the field of environmental safety) in motivating construction organizations, are regulated by the relevant local regulations of the project.

Thus, in the course of studying and researching the issues of collective motivation of construction organizations for safe work during the implementation of large investment construction projects, certain relationships were identified that make it possible to generalize the practice of collective motivation in the general construction contracting system, and also to emphasize that organizational and economic decisions formed in the process of preparing and organizing contractual work. Using the experience of JSC “NIPIGAS” in implementing large investment construction projects, the author generalizes the rating practice in the motivation system of construction organizations performing work under a contract. The main attention is paid to the process of motivation in the cycle of classical management: assessment (rating) – planning of activities – implementation of activities – evaluation of improvements. This allows the rating results to be considered in contract work when attracting construction organizations to tenders.

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研究数字营销对俄罗斯行业管理创新的影响
**STUDYING THE IMPACT OF DIGITAL MARKETING ON
MANAGEMENT INNOVATIONS IN THE RUSSIAN INDUSTRY**

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抽象的。 本文研究了工业公司管理效率的数字营销指标和数据及其关系。研究人员根据 2020 年和 2022 年网络就绪指数的变化以及 ROSSTAT 发布的信息和通信技术 (ICT) 使用数据,探讨了俄罗斯联邦创业数字化进程的总体状况问题。网络就绪指数 (NRI) 中的多项指标表明,尽管俄罗斯工业面临许多严峻挑战,但在社会数字化条件下,俄罗斯经济仍具有相当高的发展程度。作者在数字营销生态系统的创建和运作的背景下研究了营销数字化转型的方向和影响程度。网络就绪指数 - 2022 (网络就绪指数 - NRI 2022) 的某些指标让我们得出结论,俄罗斯的人口、商业结构和政府当局在有效使用互联网方面拥有很高的技能。俄罗斯工业企业实践中的数字营销确保了在其所有活动领域使用数字技术作为竞争优势: 运营流程、业务流程、营销以及与市场利益相关者的互动。根据作者总结的正相关性,可以假设,旨在发展数字营销的努力可以被评估为一种管理创新,可确保业务活动的增长,从而提高工业公司的效率。

关键词: 数字化、营销数字化转型、数字生态系统、网络就绪指数—NRI 2020。

Abstract. *The article examines digital marketing indicators and data on the management efficiency of an industrial company, and their relationship. Researchers address issues of the general state of digitalization processes in entrepreneurship in the Russian Federation, based on changes in the Network Readiness Index for 2020 and 2022, as well as data on the use of information and communication technologies (ICT) published by ROSSTAT. A number of indicators included in the Network Readiness Index (NRI) indicate a fairly high degree of development of the Russian economy in the conditions of digitalization of society, despite a number of serious challenges facing Russian industry. The authors examined the directions and degree of influence of the digital transformation of marketing in the context of the creation and functioning of digital marketing eco-systems. Certain indicators of the Network Readiness Index - 2022 (Network Readiness Index - NRI 2022) allow us to conclude that the population, business structures and government*

authorities of Russia have high skills in the effective use of the Internet. Digital marketing in the practice of Russian industrial enterprises ensures the use of digital technologies as a competitive advantage in all areas of their activities: operational processes, business processes, marketing and interaction with market stakeholders. Based on the positive correlations summarized by the authors, it can be assumed that efforts aimed at the development of digital marketing can be assessed as a management innovation that ensures growth in business activity, which increases the efficiency of an industrial company.

Keywords: digitalization, digital transformation of marketing, digital ecosystem, Network Readiness Index—NRI 2020.

Introduction. In conditions of economic uncertainty, digital technologies used by domestic industrial companies as part of the implementation of the Industry 4.0 concept are blurring the boundaries between established classical markets and forming new business models and tools. Digitalization of assets involved in the value chain process involves their unconditional integration into a digital eco-system, ensuring a high level of convergence of business processes and the use of artificial intelligence (AI) in management activities. A digital enterprise that uses an artificial intelligence system in marketing activities in real time is in a state of constant adaptation with the external environment, which ensures the functioning of a unified digital system of products and services and increases the efficiency of the company.

However, there is now a need to consider efficiency from a multidimensional perspective that also takes into account the economic, social and environmental impacts on society. When studying management activities in the context of achieving economic efficiency of an industrial company, it should be noted that maintaining it even in the medium term, not to mention scaling it, is a rather complex process. To cope with global challenges and increase the competitiveness of Russian industrial enterprises, it is necessary to implement several strategies. Thus, the use of the lean manufacturing concept, which ensures increased productivity, maximization of product quality and optimization of waste, does not allow overcoming pressure from all interested market stakeholders involved in the value chain. The use of marketing strategies, in particular digital marketing, solves many issues related to adaptation to the external environment.

Relevance of the topic. Global trends have accelerated the pace of technological development of industrial companies around the world, but focusing only on innovation is an insufficient approach during the period of global digitalization of the industrial community. Now, Russian companies are faced with the task of developing research innovation capabilities to ensure sustainable competitive advantages during the deployment of the mobilization economy. In addition to managing products and services, an industrial company must be focused on innovating technology and processes to stay ahead of global competition in many areas, including military-industrial complex (MIC).

During the “Industry 4.0” period, a stable trend has formed that characterizes the specificity of the present time - the constant increase in the role of digitalization in operational and management processes [3]. Many Russian companies operating in both the B2B and B2C markets are faced with the paradox of digitalization: staff are encouraged to continuously autonomously innovate, while regulations and operating guidelines provide for strict operational processes while requiring a flexible response of the digital eco-system to environmental factors . This situation in management practice raises the question of how the introduction of digital marketing into the practice of companies affects the ability to generate not only production, but also management innovations.

The purpose of the study is to evaluate the implementation and application of digital marketing as a factor in increasing the efficiency of management innovations in an industrial company.

The scientific novelty of the research lies in the systematization of digital marketing tools and technologies in the context of the formation of an effective innovative digital management system.

The research hypothesis is that digital marketing transforms the company’s management system, improves business processes and improves the quality of the marketing eco-system, creating an innovative environment in the management of an industrial enterprise.

The research methodology is based on an integrated and systematic approach, which is used in the analysis of complex economic systems. In this case, the following empirical methods were used: comparisons, analogies, groupings, including the experimental and theoretical level (analysis and synthesis, logical method). Statistical data from the official websites of the Federal State Statistics Service and international information platforms were grouped and used.

Main part. Digital - technologies introduced into marketing activities, such as artificial intelligence (AI), big data, IoT, “end-to-end influence” in the format of marketing partnership alliances, contribute to the modernization of management processes, which has become a reality. Table 1 provides an overview of various scientific approaches regarding the impact of digitalization on production and management innovation.

Table 1

Reviews of scientific studies assessing the impact of digitalization practices on the effectiveness of innovation

Concept	Researchers	Types of innovation (product and/or process)	Research methodology	Subject of study
Lean Manufacturing (LM)	Johnston and others (2011)	Does not play a central role in the study	Desk research	Comparing Lean Six Sigma, Creativity and Innovation in general
Lean Manufacturing (LM)	Anthony and others (2016)	Innovation in products and processes	Quantitative survey	Interdependencies between Lean Six Sigma and product, service and process innovation
Digital Enterprise	Yu.Pukha et al. (2016)	Innovation in management processes	Quantitative survey	Relationship between the Industry 4.0 concept and digital technologies
Digitalization as the basis of innovation strategies	Y.M. Urinson, K.S. Panfilov (2020)	Digital - technologists in innovative processes	Desk research	Study of the connection between digital technologies and innovative development strategies
Innovative development of economic systems	M.A. Izmailova and others (2021)	Digital - technologies and innovative processes	Hybrid Research	Relationships between digitalization in economic sectors and the strategy of innovative development of the Russian Federation

Source: compiled by the author based on sources “Industry 4.0”: creating a digital enterprise” <https://www.pwc.ru/ru/publications/industry-4.html> (access date: 10/25/2023); “Studying the impact of lean manufacturing methods on the effectiveness of technological innovation” https://e-tarjome.com/storage/panel/fileuploads/2020-01-22/1579690632_E14198-e-tarjome.pdf (access date: 10/26/2023); “Digitalization as a factor in the development of innovative strategies using the example of some countries” <https://www.hse.ru/data/2020/10/17/1372384543/Digitalization%20as%20a%20factor%20development%20innovation%20on%20example%20some-rykh%20countries.pdf> (access date: 10/28/2023);

Over the past 30 years, the use of the most optimal tools to achieve operational efficiency has been addressed within the framework of the Lean Manufacturing (LM) concept. The LM concept focuses on eliminating non-value-added operating and management activities through continuous improvement. In the conditions of a

mobilization economy, simply optimizing lean production tools for introducing innovation is extremely insufficient. Therefore, within a single industrial company that uses lean manufacturing tools, there is always a need to search for new technologies, new approaches to management processes, and tools that develop the company's innovative capabilities. Johnston and others argue that management process improvement techniques, including lean methods, are a form of innovation [5].

Examining the categories of “lean production” and “management innovation” as two different definitions, they actually represent different characteristics in content. Thus, management innovations require taking risks, and, first of all, they are based on available information, including that collected in a marketing information system (MIS).

Johnston et al. believe that lean manufacturing (LM) is applied in repeatable, stable and sustainable environments, while Anthony et al. (2011) argue that LM promotes low variability [2]. On the contrary, innovation is described by Yu. Pukha as new, complex, dynamic, often unfamiliar and risky. However, if an industrial company implements lean manufacturing principles in its market practices, lean manufacturing principles can be used to develop and apply lean innovation models. The author argues that lean manufacturing and innovation can complement each other, and translate the approaches formulated in the concept of lean manufacturing into innovation management goals.

At this point in time, a significant number of scientific studies devoted to innovation have been developed; the impact of digitalization of marketing activities on the effectiveness of management innovations has not yet been thoroughly studied. LM tools, digital marketing tools, and the effectiveness of management innovations have not been studied either in this particular combination or separately in relation to cause-and-effect relationships. To address this ambiguity, the paper uses existing literature to draw conclusions about the causal effects of marketing digitalization on innovation and managerial process capabilities. Based on the share of organizations using broadband Internet access in the Russian Federation, conclusions can be drawn about the dynamics of digitalization in the Russian Federation: 31.0% (2007), 86.6% (2019), 93.0% (2020) .

Accordingly, it can be argued that the basis of the economic policy of Russian industrial companies is the digitalization of operational and management processes. The increase in the amount of marketing data is exponential: in the area of “consumer behavior” alone, the array of data collected by B2C market companies over the past 2 years has grown by 300% and this trend will increase.

The impetus for the development of digital technologies in marketing was the process of “servitization” to meet the needs and problems of clients (companies) through the provision of additional services and product customization in accordance with the individual needs of clients. The optimal price for renting digital in-

infrastructure, for example, from the Yandex company attracts new clients to digital platforms on individual terms, sharing with them their infrastructure and collected data sets. The formation of “service-oriented” marketing strategies allows us to stimulate the development of digital technologies for industrial enterprises. Adequate rent for the use of digital platforms allows startups at the “seed” stage to enter the market.

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Digital marketing eco-systems, when creating marketing partnership alliances, offer great opportunities in the process of managing this digital system. Modernization of marketing management of companies operating in the B2B market creates not just an eco-system, but an innovative eco-system, within which new data is collected on the consumer, competitor, partner, market, etc., which involves the accumulation of new “knowledge” » about the market, as well as the transfer and exchange of “knowledge” between system participants. Digitalization of marketing processes within the framework of an innovative eco-system of partner companies facilitates the exchange of not only marketing data, but also ready-made solutions in the field of marketing management. As a result, a decentralized marketing communication structure operates, which is aimed at optimizing the volume of transaction costs and increasing the synergistic effect for the marketing partner eco-system.

The high turbulence of the external market environment indicates that the effectiveness of traditional marketing tools for B2B market companies may be decreasing. Digitalization of marketing, for example, in terms of target audience (TA) research, allows you to see a consumer segment as a collection of micro-segments or even micro-fragments. This allows you to focus on personalizing marketing communications to bring the consumer closer to purchase and improve tactics of interaction with purchasing companies.

Table 2

NRI sub-indices 2020, 2022 Russia in the ranking of countries in the world

NRI sub-indices Business	Rating		NRI sub-indices	Rating	
	2020	2022		2020	2022
Government	34	40	Future technologies	57	61
Economy	34	31	Access	59	11
Contribution to SDGs	47	46	Quality of regulation	105	103
NRI sub-indices	51	75	Using virtual social networks	84	88

Source: compiled by the author from the source “The relationship between digitalization and the quality of life of the population: measurement and interpretation”; <http://www.isesp-ras.ru/narodonaselenie>; <https://networkreadiness-index.org/wp-content/uploads/reports/countries/russian-federation.pdf> accessed October 27, 2023)

Modern Russian companies are placing new demands on the convenience of communications with partner companies, brands, and the availability of a range of marketing communications across various channels and platforms. Omni-channel marketing in an innovative eco-system means creating a consumer-friendly contact system, without barriers or obstacles. Since the global pandemic COVID-2019, companies and partner eco-systems have sharply intensified their efforts to virtualize events for constant interaction in an on-line environment. Internet broadcasts have become traditional events and have remained an essential tool for promoting a brand and company over the past five years. The use of martech marketing technologies is associated with the need to increase the efficiency of interaction with consumer companies. The need for regular lead generation creates a need for the marketing eco-system to use artificial intelligence (AI), which will significantly reduce the time for processing and analyzing marketing data. World events and ongoing changes in geopolitics have created expectations among ordinary consumers that large and medium-sized businesses also strive not only to earn profits, but also to offer social projects to society. The modern Russian consumer collects information about social projects within the eco-system and correlates it with their own personal values and attitudes, which they take into account when making purchasing decisions. Marketing communications should be filled with information about ongoing social projects, which indicates the urgent need for their inclusion in PR communication campaigns.

Conclusions. The relationship between the digitalization of marketing activities and the quality of eco-system management lies on the surface. By examining the NRI index (network readiness index) for the Russian Federation, one can draw

conclusions about the country's inclusion in the digital economy and the high potential of the country's economy to develop in the context of digitalization. When calculating the Network Readiness Index (NRI), the following indicators are taken into account: the introduction of new technologies, the readiness of regulatory bodies, businesses, and management structures for digitalization, inclusion in digital eco-systems. Moreover, NRI sub-indices for the period from 2020 to 2022 increased in almost all positions [1].

Subindex "contribution to SDGs", ranked 51st in the ranking (2020), and in 2022. already 75th place, shows the positive impact of digitalization on the sustainable development of Russian companies, and suggests that the digitalization process has turned into a process of innovative development of partner systems and not only industrial enterprises, but the entire national economy.

ROSSTAT data for the last three years indicate that for the purpose of using the Internet, the first position is "the use of virtual social networks." This confirms the data of the NRI-2022 model for the Russian Federation and in the ranking "use of virtual social networks" it ranks 88th [4].

Individual NRI indicators confirm the network readiness of eco-systems in general, and the country in particular, at a high level for the digitalization of operational and management processes. This is confirmed by the fact of a high level of use of virtual social networks, the rapid development of domestic marketplaces, the Internet of things, etc.

Digital - marketing within the digital eco-system of partner companies is a tool that shapes the quality of management of this system: the dynamics of material flows, management competencies, marketing communications, sustainability and financial performance.

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信息空间对经济发展影响研究的主要方法论
**THE MAIN METHODOLOGICAL APPROACHES TO THE STUDY
OF THE IMPACT OF THE INFORMATION SPACE ON ECONOMIC
DEVELOPMENT**

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抽象的。本文致力于考虑各种方法论来研究信息技术和信息空间对该地区经济发展的影响。给出了单一信息空间的定义,作为分析区域层面经济发展的关键要素。得出一些方法论概念和方法对于现阶段研究信息空间的意义的结论。

关键词: 信息技术、信息空间、经济发展、方法论、方法论途径。

Abstract. *The article is devoted to the consideration of various methodological approaches to studying the influence of information technologies and information space on the economic development of the region. A definition of a single information space is given as a key element for analyzing economic development at the regional level. Conclusions are drawn about the significance of certain methodological concepts and approaches for studying the information space at the present stage.*

Keywords: *information technology, information space, economic development, methodology, methodological approach.*

In the modern world, information technologies play an increasingly important role in the economic development of society. Of particular importance is the analysis of the influence of a single information space on the polarized economic development of regions, especially in the context of the Russian Federation.

Economic development is a multifaceted process that is characterized by an increase in the production of goods and services, an increase in labor productivity, an increase in the standard of living of the population and the modernization of the economic structure of society. The main indicator of economic development is the

level of economic growth, which is determined by the increase in production and income in a country or region.

One of the key indicators of economic development is GDP (gross domestic product), which reflects the total volume of goods and services produced over a certain period of time. GDP growth is an indicator of a country's economic growth. Another important indicator is GNP (gross national product), which takes into account the income of citizens outside the country. GDP and GNP indicators allow one to assess the level of economic development and compare it between countries.

An important indicator of economic development is the unemployment rate, which indicates the availability of jobs for the population, and the inflation rate, which reflects the rate of growth in prices for goods and services. Indicators of the standard of living of the population, such as average income, access to education, medical services, and housing, also reflect the level of economic development. It is important to take into account not only the absolute values of these indicators, but also their dynamics over time.

A single information space is a complex concept that includes a system of information technologies, communications, data, and regulations to ensure access to information. In the modern world, a unified information space plays a key role in economic development, social life and interaction between various individuals, organizations and states.

One of the main roles of a unified information space is to promote sustainable economic development. Thanks to free access to information and data exchange, entrepreneurs and organizations can quickly find partners for cooperation, build new business models, expand their markets and increase competitiveness. This promotes economic growth and increased production efficiency.

An important aspect is also the influence of a single information space on the polarized economic development of Russian regions. The emergence of new technologies and network resources creates opportunities for the integration of remote and underdeveloped regions into the world economy. However, with uneven distribution of access to information resources, regions may face widening differences in the level of development. Thus, the methodological aspects of the study should include an analysis of the current state of the information infrastructure of Russian regions, as well as the identification of obstacles and opportunities for eliminating inequality in access to information.



Figure 1. Structure of the SIS

One of the approaches to studying the influence of the information space on economic development is the network approach. Network analysis allows you to explore the relationships between various nodes of the information space and economic indicators. Analysis of social networks allows us to assess the influence of social connections on the formation of the information space and economic development of regions.

Another methodological approach is institutional analysis. It allows us to study the role of institutions in the formation of the information space and their impact on economic development. The study of institutional factors will help determine which institutions contribute to the development of information infrastructure and stimulate economic growth.

Another important methodological approach is the analysis of the digital economy. Digitalization of the economy has a significant impact on economic development, so the study of digital technologies and their impact on various sectors of the economy becomes necessary. Analysis of the digital economy will help to understand what innovations contribute to the development of the information space and stimulate economic progress.



Figure 3. Economic development

Modern research into the influence of the information space on economic development requires an integrated approach, including network analysis, institutional analysis and analysis of the digital economy. Understanding these methodological approaches will help to identify the key factors that determine the influence of the information space on the economic development of Russian regions and justify possible ways to improve the economic situation through the rational use of information technologies.

One of the modern theories concerning the influence of a single information space on the economic development of Russian regions is the theory of regional polarization. According to this theory, the processes of world globalization and digitalization may lead to increased differences between developed and less developed regions, which may ultimately increase social and economic inequalities.

Research shows that a unified information space can have both a positive and negative impact on the economic development of regions. On the one hand, access

to information and modern technologies helps accelerate economic growth and increase the competitiveness of regions. On the other hand, uneven distribution of information resources can exacerbate existing problems and increase polarization.

Methodological approaches to researching this topic include both qualitative and quantitative methods. Qualitative methods include document analysis, expert interviews, and case studies. Quantitative research methods include statistical data, analysis of economic indicators and modeling of economic development at the macro and micro levels.

Thus, studying the influence of a single information space on the polarized economic development of Russian regions is of great importance for understanding modern economic processes and developing effective development strategies. Further research in this area will identify the key factors that determine the success or failure of these strategies in different regions.

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是什么阻碍了上海合作组织 (SCO) 共同经济战略的形成
**WHAT SLOWS DOWN THE FORMATION OF A COMMON
SHANGHAI COOPERATION ORGANIZATION (SCO) ECONOMIC
STRATEGY**

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抽象的。 本文的相关性在于需要建立一个全球法律和秩序中心，以支持世界政治、社会经济进程并确保其平衡、便利和正义。 上合组织本来可以成为这样一个中心，但目前它的潜力有限。 该组织的主要目标包括加强成员国之间的互信和睦邻关系； 双方在政治、科技、文化以及教育、能源、交通、旅游、环保等领域开展有效合作； 共同提供和维护该地区的和平、安全与稳定； 努力建立民主、公平、合理的国际政治经济新秩序。

正在实施的伙伴关系模式的独特之处在于其透明度，并且根据《上合组织宪章》，它不针对其他国家或国际组织，在解决重大国际和地区问题时排除区域性、意识形态化或对抗性思维。

关键词: 经济合作、超国家组织、中国、俄罗斯、中亚国家、潜力。

Abstract. *The relevance of this article lies in the need to form a global center of law and order that supports political, socio-economic world processes and ensures their balance, expediency and justice. The SCO could become such a center, but today its potential is limited. The main objectives of the organization include strengthening mutual trust and good-neighborly relations between member States; mutual assistance in effective political, scientific, technical and cultural cooperation, as well as in the fields of education, energy, transport, tourism, environmental protection and others; joint provision and maintenance of peace, security and stability in the region; striving to create a democratic, fair and rational new international order, both political and economic.*

The peculiarity of the partnership model being implemented is its transparency and the fact that, in accordance with the SCO Charter, it is not directed against other countries or international organizations, and excludes block, ideologized or confrontational thinking in solving important international and regional problems.

Keywords: *economic cooperation, supranational organization, China, Russia, Central Asian countries, potential.*

Fundamentals of the SCO functioning and its potential, priorities of the current stage of development

The collapse of the Soviet Union contributed to the emergence of new republics in Central Asia and the resumption of border problems with China. In January 1992, the PRC recognized the existence of the new republics and began to establish diplomatic relations with them, which helped clarify disputed border issues [1]. The first priority for all parties was to ensure early stabilization in the region in the context of the changed political, economic and military situation. To this end, during the meeting of the Presidents of Russia – Boris Yeltsin, China – Jiang Zemin, Kazakhstan – N. Nazarbayev, Tajikistan – E. Rakhmonov and Kyrgyzstan – A. On April 26, 1996, the Shanghai Five was formed in Shanghai, which included the participating countries. Subsequent summits and meetings led to a deepening of cooperation, especially in the areas of regional cooperation in the fight against terrorism, illegal immigration, and drug trafficking. The SCO member states also advocated the preservation of the Central Asian region as a nuclear–weapon-free zone and support for the idea of a multipolar world and a counterweight to the dominance of the United States [5, 7].

The functioning of the SCO was regulated by the Charter of the Shanghai Cooperation Organization dated June 7, 2002, which also specifies the key objectives of the organization [19]:

- strengthening mutual trust, good-neighborliness and friendship between the member states;
- Cooperation in maintaining peace, security and stability in the region;
- development of effective cooperation in the fields of trade, economics, politics, science, culture, education, transport, environmental protection and many others;
- Building and promoting a new political and economic international order based on the principles of democracy and justice.

The multilateral Treaty on Good–Neighborliness, Friendship and Cooperation, signed on August 16, 2007 at the SCO summit in Bishkek, emphasized the right of states to choose a political system, inviolability of borders and confirmed the agreement not to participate in alliances directed against other SCO member States. The Shanghai Cooperation Organization is considered to be the pillar of military security in the Central Asian region, although the military character is currently only an addition to its leading, political and economic character. Moreover, if we take into account that countries such as India and Pakistan (both have nuclear weapons) received membership status in 2017, in terms of its impact on security in the region, the SCO is perceived as an equivalent and at the same time a competitor to NATO [18]. The SCO cooperates with many third countries: Afghanistan, Belarus and Mongolia have observer status, while Turkey, Qatar,

Azerbaijan, Armenia, Cambodia, Nepal and Sri Lanka have the status of dialogue partners, Turkmenistan is also a permanent participant in SCO summits. From 01.01.2024 Argentina, Egypt, Ethiopia, Iran, Saudi Arabia and the United Arab Emirates became members of the community [15]. Other countries such as Kuwait, Maldives and Myanmar have applied to become dialogue partners.

The Shanghai Cooperation Organization covers a vast territory – from Kaliningrad to Vladivostok and from the White Sea to the South China Sea - and after the inclusion of observer states in it, its southern borders reach the Indian Ocean and the Middle East [17]. The SCO member states produce more than 22% of global GDP, they are home to almost 42% of the world's population, and their share in world exports and imports is 18 and 15%, respectively. Moreover, these countries have huge reserves of oil and natural gas.

The SCO promotes open regionalism, pursues common political and security goals, and seeks optimal mechanisms and institutions to strengthen economic cooperation and deepen cultural, humanitarian and environmental contacts [11].

We can agree with the researchers [3, 8, 12, 13], Those who believe that, organizationally, the SCO is not an integration association in which maximum unification is achieved by delegating the sovereign prerogatives of the member states to supranational bodies. Rather, it is an attempt to build an equal partnership between countries of different sizes, economic potential and political systems, as well as different cultures and civilizations. Despite the numerous challenges that the SCO has recently had to face, including the political crisis and economic recovery after the collapse caused by the COVID-19 pandemic, the untapped economic potential of the region is huge, as evidenced by the growing trade and investment cooperation [14]. Modern cooperation within the SCO is based on three main pillars [10, 16, 20]:

- Regional security, which was a basic factor in the creation of the SCO; the leaders of the countries of the region met for consultations on security and combating threats (terrorism, organized crime);
- Economic cooperation, which has become an important element of economic relations between countries as an expression of the desire for economic integration;
- The implementation of political demands that were supposed to be a tool for achieving the common political goals of all Member States; in fact, the pursuit of the political goals of China and Russia clearly prevails.

Thus, the formal structure is filled with a variety of cultures, civilizations, history and political systems: from the oldest world traditions to new nations, from the two most populous states to Kyrgyzstan with a population of just over 5 million people, political structures that range from secular to religious, from multi-party to one-party. The composition of the association's members and observers

(with the exception of Mongolia) also presents a rich picture of ethnic, national, linguistic and religious pluralism and diversity.

Barriers and limitations of the SCO's development and the reasons for the weakening of its position in the world

The Shanghai Cooperation Organization still does not play an important role in the world, despite the great political and economic importance of its main members – Russia and China. The reason for this is primarily the slow process of integration of the Member States, which are more concerned with the realization of their own interests and the fight against domestic political and economic problems. Moreover, both Russia and China fear mutual political dominance.

Another factor slowing down the integration of the SCO is China's active pursuit of economic development, in which the interests of its SCO partners do not play an important role. The economic policy of this country in relation to the SCO is mainly limited to using the organization to develop Chinese exports. In turn, Russia fears the gradual dominance of China in the SCO (China participates in financing the organization's activities to a much greater extent) and, as a result, blocks many development initiatives within the SCO that could strengthen China's position [9, 11].

Relations between the SCO member states are still bilateral rather than multilateral, and at the political level they mainly concern only Russia and China [4]. The rest of the SCO member states are too politically unstable, economically weak and under the influence of the Russian Federation and China to play an important role in the international forum, except for India, which has also begun to be of great importance in recent years. It is difficult to clearly indicate the reasons for the lack of effective multilateral economic relations in world politics. We believe that in order to establish balanced and effective economic relations, the SCO must first overcome a number of barriers. The most important reasons limiting the SCO's ability to realize its own potential (as well as play a significant role in the international arena) include [2, 6, 10]:

- the imposition of political decisions by stronger neighbors (the effect of the former dominance of the Chinese and Soviet empires);
- the relatively short period of the organization's existence, which turned out to be insufficient to create strong common institutional ties that could replace national institutions in some areas;
- the conflict of political interests of the leading powers – Russia, China, India, seeking to gain a high world status;
- the lack of a clear vision of the role of the organization and the level of integration of states within its framework, as well as the definition and positioning of the stages of long-term development of the SCO;
- the lack of a common, unified foreign policy and especially a common position on the role of the United States in the region.

The Central Asian countries use their participation in the SCO mainly for propaganda purposes. They present their activities at this forum as a manifestation of a multi-vector foreign policy, primarily of Kazakhstan. However, in reality, the SCO is not a priority direction of the foreign policy of the countries of the region and does not lead to the strengthening of their international positions.

The Central Asian countries are currently striving to strengthen their positions in relations with Russia and China, therefore, they are creating alternative formulas for regional cooperation to the SCO, primarily pursuing Russian and Chinese interests. This process accelerated after 2016, when, as a result of the change of government, Uzbekistan made deepening regional ties a priority of its foreign policy and initiated consultative summits with the participation of five Central Asian countries. They have been held regularly since 2018, as a result of which cooperation at lower levels is intensified. This creates a political structure competing with the SCO, limiting its regional importance.

The political goals of China and Russia in the field of regional security in Central Asia are similar: both countries seek primarily to preserve the stability of the region and limit the activity of other external players, such as the United States or the EU.

To achieve the goals of its regional policy, Russia uses bilateral relations and the Eurasian integration structures under its control – the Eurasian Economic Union (EAEU) and the Collective Security Treaty Organization (CSTO). The SCO is also not a priority instrument of Central Asian policy for China, which considers bilateral economic cooperation within the framework of the “One Belt, One Road” initiative as the basis of its relations with the countries of the region.

Although the SCO initially became an important platform for political dialogue in Central Asia, over time and an increase in the number of members, it has lost its ability to respond to regional conflicts and security challenges. Currently, the SCO does not contribute to strengthening stability in the region and does not support the intensification of multilateral cooperation. The organization is dominated by Russia and China, and it serves primarily the realization of their interests in the region.

The SCO countries will strive not to deepen integration within the organization, but to further expand it. In their opinion, this should increase the prestige and propaganda importance of the SCO as a platform for dialogue, including with the participation of countries outside Central Asia. The expansion of the organization’s membership group is perceived by Russia and China as an additional tool to strengthen their influence in the region. Both countries can reduce this in the future, including by assuming the role of mediator in the Indian-Pakistani conflict or establishing pragmatic relations with the new government of Afghanistan.

As a result, economic relations are shifting to the plane of bilateral contacts between the participating countries or to fragmentation within the SCO, for example,

China: 1+5 (Central Asian countries) or Russia: 1+5 (Central Asian countries). Thus, economic relations within the SCO are fragmented and moving away from a single concept.

Conclusions

Summing up, we can say that the military and economic potential of the SCO, especially after India and Pakistan joined it, puts this organization in the position of an equal actor on the world stage. Compared to the monumental Chinese projects aimed at restoring the global economic order, the organization has a chance to gradually move out of regionalism and become an active participant in global processes.

The SCO faces a serious problem of internal integration. The problem of establishing close cooperation in the SCO seems to be primarily the negative perception of China by some members of the organization who fear Chinese domination. The reason for such fears is the conflicts between India and China.

Another obstacle is the internal crisis affecting this organization – the Russian market is clearly affected by the lack of reforms and the impact of sanctions, world prices for oil and energy raw materials, and India's growth dynamics, although high, does not balance China's economic advantage. In fact, the SCO does not pretend, at least so far, to be a global security player, since the organization faces a serious task of stabilizing the situation in Central Asia and restoring political balance.

The development of a unified economic development strategy acceptable to all participants is extremely difficult due to the discrepancies and even contradictions of national interests presented in the study. On the other hand, the common potential of the SCO members – economic, political and military – will be the key global importance of the organization in the near future.

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以中国和印度为例分析亚洲地区电子商务市场特征
**CHARACTERISTICS OF THE E-COMMERCE MARKET IN THE
ASIAN REGION USING THE EXAMPLE OF CHINA AND INDIA**

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注解。 本文分析了印度和中国的电子商务市场，以及该市场在其他几个亚洲国家的增长率。 描述了主要国家电子商务市场销量增长速度的因素。 在这些市场中占据领先地位的公司被单独考虑。

关键词：电子商务市场、亚洲地区的领导者、印度、中国、在线销售平台、电子商务市场的增长因素、中国和印度电子商务市场的发展预测。

Annotation. *This article analyzes the e-commerce markets of India and China, as well as the growth rate of this market in several other Asian countries. The factors of growth in sales volumes in the e-commerce markets of the leading countries in terms of its pace are described. Companies occupying leading positions in these markets are considered separately.*

Keywords: *e-commerce market, leaders of the Asian region, India, China, online sales platforms, growth factors in the e-commerce market, forecast for the development of the e-commerce markets in China and India.*

Over the past two decades, Asian countries have seriously competed with developed countries in world markets and occupied high places in the global competitiveness rankings. The high positions of these countries are related directly to

economic growth and improved quality of life of the population. Active internal competition contributed to structural changes and ensured macroeconomic stability. The two main engines of economic progress in the region are India and China, Asia’s largest economies. However, among the leaders in the global competitiveness ranking there are also small economies in this region.

The countries of East and Southeast Asia occupy leading positions, the share of this region in the global e-commerce market is 62.2%. In 2023, the TOP 10 countries in terms of sales of goods through retail e-commerce are: China (\$2.78 trillion); United States of America (\$843 billion); UK (\$169 billion); Japan (\$144 billion), South Korea (\$120 billion), Germany (\$101.5 billion), France (\$80 billion), India (\$67.5 billion), Canada (\$44 billion) and Spain (\$37 billion) (Figure 1).

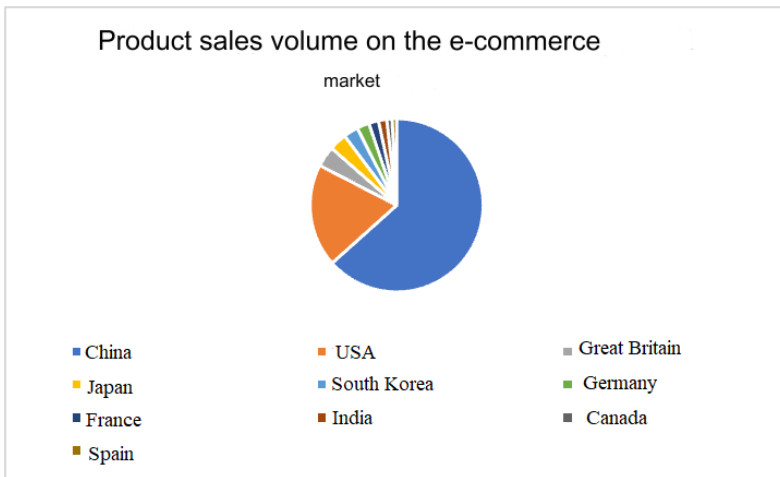


Figure 1. Sales volume of goods on the e-commerce market

Compiled by the author based on data: <https://www.oberlo.com/statistics/e-commerce-sales-by-country>

Sales volume in China’s retail e-commerce market is more than 3 times that of the US market. The third leader is also far behind the previous one, UK e-commerce sales are almost 5 times less than in the US.

The TOP 10 leading countries in terms of growth rate of sales of goods through e-commerce in 2023 included: the Philippines (24.1%), India (22.3%) and Indonesia (20%) (Figure 2).

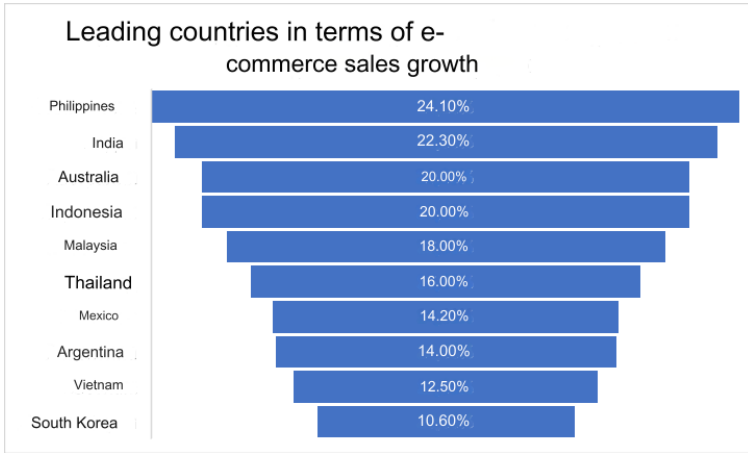


Figure 2. Leading countries in terms of growth rate of sales volumes in e-commerce

Compiled by the author based on data: <https://www.oberlo.com/statistics/e-commerce-sales-by-country>

Let us take a closer look at the Chinese e-commerce market. Due to the constant and rapid expansion of the consumer market and the development of digital technologies, e-commerce in China is gaining momentum. China's online retail sales are the highest in the world year after year. Thus, in 2023, the domestic e-commerce market will account for about 52% of retail sales. In value terms, online retail sales in China reached US\$2.78 trillion in 2023. In 2023, the number of Internet users in China accounted for 76.4% of the country's population, and the number of online shoppers was 1.079 billion people¹.

In 2023, 76% of China's total population made one or more purchases online, representing 1.073 billion people. By 2025, the number of online shoppers is expected to grow to 1.23 billion. These figures indicate the enormous potential of Chinese e-commerce, to which payment systems Alipay and WeChat Pay make a significant contribution. In 2023, 57.6% of all online purchases by retail customers were paid through these systems. By the end of 2022, WeChat Pay had 900 million active users, while Alipay had 1.3 billion.²

The growth of the e-commerce market is also driven by online shopping events such as Singles' Day. The idea of holding Singles' Day arose at the Chinese Nanjing University back in 1993 and was originally called "Bachelor's Day." On this

¹ <https://www.globaltimes.cn/page/202308/1297155.shtml>

² <https://www.fintechnews.org/alipay-is-the-most-popular-digital-wallet-in-the-world-in-2022/>

day, single people treat themselves with gifts and organize social events and parties. Now it is the biggest sale in China. According to consulting firm Bain & Company, total online sales during the event in 2022 were \$157.97 billion. The sales volume of e-commerce leaders in China Tmall, JD.com, Douyin and Pinduoduo during the “618” festival (the name is due to the date of the festival - the 18th of the 6th month) reached 111 billion US dollars³.

The trend towards “social commerce” is actively promoting in China. This concept was introduced in 2005; it describes a certain set of online tools for user collaboration on commercial sites, as well as the necessary options: ratings from users, shared access to selected lists, as well as any other useful information related to online purchases.

The most widely used mobile social media app in China is WeChat, followed by Twitter-like Weibo, messaging app QQ and short video app Douyin. Other platforms, such as Xiaohongshu, are specifically designed to improve the interaction between e-commerce and social media. For example, during the “618” sale mentioned earlier, the number of influencers creating short videos daily during the festival grew by 200% year over year, according to Alibaba-owned media agency Alizila, and the number of participating merchants grew by 55% year over year. .

Moreover, the number of streamers on online shopping platform Taobao who broadcast live during Singles’ Day increased by 139% compared to last year, doubling the time spent by users on the app. Live broadcasts, just like short videos, have had a significant impact on increasing sales. During the festival, Alibaba’s Taobao Live streaming channel recorded 490 live broadcasts and generated sales of over US\$1.39 billion (RMB 10 billion)⁴.

Chinese consumers spend more than 5 hours a day on their mobile phones and tablets, which is 2 hours more than the global average. According to statistics provided by the Ministry of Industry and Information Technology, the number of 5G stations is actively growing in China; compared to 2022, the increase was 42% (more than 1 million stations). About 30% of all active cellular stations are in the 5G segment. According to information published on the South China Morning Post resource, 5.5G (5G-Advanced) technology is gaining popularity in China. It is expected that the new standard will increase the capacity of mobile channels to 10 Gbit/s (the same figure for 5G is 1 Gbit/s). The use of the 5G-Advanced standard will help stimulate the development of the Internet of Things industry and increase its reliability.

The second country in the list of leaders in e-commerce market growth in 2023 is India. According to eMarketer and Statista, the online sales market grew 22.3% last year, driven by an increase in the number of retailers. From 2025 to 2030,

³ <https://jingdaily.com/posts/china-618-shopping-festival-2023-taobao-jd>.

⁴ <https://jingdaily.com/posts/china-618-shopping-festival-2023-taobao-jd>

growth is projected at 31.13%, and by 2034, India is projected to become the second largest e-commerce market globally, reaching around US\$200 billion by 2026⁵.

There are over 800 million internet users in India. It is planned that by 2025, 87% of households in this country will be able to easily connect to the Internet. By 2026, the number of online shoppers will increase to an average of 88 million in rural areas and 263 million in urban areas. The digital payments market will also show strong growth: from three trillion US dollars in 2022 to 10 trillion US dollars in 2026 (an increase of more than 3 times). The most actively used financial technology companies specializing in digital payments are Paytm, Mobikwik, Google Pay⁶.

In 2022, there will be a shift in consumer preferences towards goods related to caring for one's appearance and health. Sales growth in the categories "Beauty and Hygiene" and "Glasses and Accessories" amounted to 76.6% and 55%, respectively. Products in the home decor and kitchen appliances group sold 59.2% more. Experts claim even more confident potential growth for this group of products. People buy dishes, mixers, candles, vases, bedspreads and the like in huge quantities. Despite the fact that products in the Electronics and Home Appliances category have occupied the Indian market for a very long time, it continues to grow: in 2022, its increase was 39.7%. In this category, consumers most often buy audio equipment, headphones, smart watches, chargers for mobile phones and other equipment, which many have in abundance. In the fast-moving consumer goods (FMCG) market, the number of online orders in the Pharmaceuticals category increased by 28% in 2022 compared to 2021⁷.

It is important to note the creation of the Open Network for Digital Commerce by the Department of Development of Industry and Internal Trade of the Government of India at the end of 2021⁸— a state non-profit company whose actions are aimed at developing open e-commerce. The government's goal is to stop the dominance of American companies - such as Amazon.com and Walmart, in the e-commerce market. Open Network for Digital Commerce will help synchronize search results across e-commerce platforms, present products and services. Consumers and providers of goods and services will be able to transact without being tied to one application or platform. The Open Network for Digital Commerce is currently available in 273 cities and has over 35,000 merchants.

⁵ <https://cyberleninka.ru/article/n/buduschiy-rynok-elektronnoy-kommertsii-e-commerce-v-indii/viewer>

⁶ <https://static.investindia.gov.in/s3fs-public/2023-09/e-commerce%20brochure%20Single%20Page.pdf>

⁷ <https://infowordpress.s3.ap-south-1.amazonaws.com/wp-content/uploads/2022/12/22065627/india-e-commerce-trends-2022.pdf>

⁸ <https://ondc.org/>

The list of leading marketplaces in India opens with Flipkart. It has more than one hundred thousand registered sellers and ten million registered buyers, and the total number of users reaches one hundred million. In 2022, Flipkart's total revenue was Rs 43,357 billion⁹.

In 2010, with the support of the global e-commerce giant eBay, a large online sales platform, Snapdeal, was created in India. It specializes in selling products from fashion brands of clothing and electronics, and at prices below market prices. The platform is open to Indian and foreign sellers and provides storage, packaging, delivery of goods. Snapdeal's registration conditions make it one of the most worthwhile online platforms for those who want to enter the Indian e-commerce market. In 2023, Snapdeal's revenue was US\$46,448,644¹⁰.

Overall, the factors driving the growth of the e-commerce market in Asia are as follows. Firstly, there is an expansion of the Internet infrastructure with an increase in the availability and speed of the Internet and expansion of mobile communications coverage. Secondly, Asia is the most populous continent in the world, and accordingly, a huge consumer market. A larger number of potential buyers means more opportunities for online trading. Thirdly, the trend in the Asian region is to use social networks to make purchases. WeChat in China and Lazada in Southeast Asia are major platforms helping consumers easily discover research and buy products through social media. Fourth, the number of people using mobile phones is growing, which forces companies in the e-commerce market to create mobile applications that are as convenient and simple as possible. Fifthly, most Asian countries operate and develop their own digital payment systems, such as AliPay in China and Paytm in India, which makes it possible to speed up the processes of paying for goods and providing other services. Also, the growth in online sales is facilitated by improved logistics infrastructure and active development of technologies (including artificial intelligence)¹¹.

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⁹ https://www.business-standard.com/article/companies/flipkart-clocks-25-growth-in-fy21-revenue-at-rs-43-357-cr-losses-drop-23-122010401221_1.html

¹⁰ <https://www.businesstoday.in/technology/news/story/snapdeal-logs-rs-388-crore-revenue-in-fy23-reduces-losses-by-45-411353-2023-12-30>

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盎格鲁撒克逊人重返中亚的影响力日益增强以及塔吉克斯坦国家在欧亚制度发展中的作用

THE GROWING INFLUENCE OF THE ANGLO-SAXON RETURN TO CENTRAL ASIA AND THE ROLE OF THE TAJIK STATE IN THE DEVELOPMENT OF EURASIAN INSTITUTIONS

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抽象的。作者考虑了塔吉克斯坦与欧亚经济联盟和中亚国家可能互动的情景,以及盎格鲁撒克逊合作指导方针,反对深化与俄罗斯和中国的合作,试图了解塔吉克斯坦在各个全球化领域占据主导地位的可能选择。新兴的欧亚空间。

关键词: 塔吉克斯坦、俄罗斯、中国、盎格鲁撒克逊人、欧亚经济联盟、伙伴关系、C5+1、金砖国家、上合组织。

Abstract. the author considers scenarios for possible interaction of Tajikistan with the countries of the EAEU and Central Asia, with Anglo-Saxon guidelines for cooperation against deepening cooperation with Russia and China, with an attempt to understand possible options for its own dominance in various globalized sectors of the emerging Eurasian space.

Keywords: *Tajikistan, Russia, China, Anglo-Saxons, EAEU, partnership, C5+1, BRICS, SCO.*

Started at the end of April British Foreign Minister David Cameron's visit to the countries of Central Asia and meetings with state leaders in the C5+1 format is becoming a strategy for implementing "soft power" and a continuation of the Great Game of Foggy Albion within its centuries-old claim to the Eurasian expanses. And here the future of not only the countries of Central and Central Asia will be discussed, declared in the form of a diplomatic agenda on interaction "within the framework of a visit of agreed bilateral cooperation with each local player of the "new chess alliance", as a base in the political, trade-economic and cultural-humanitarian spheres, as well as in socialization and in the mutual alignment of priorities in current regional and international topics," but also to place emphasis on the growing dominance of the Anglo-Saxons in places of historical priorities. As a result of the visit of the former key prime minister of the British

crown for many years, who personified all the intrigues of the Foreign Office, a number of bilateral documents will be signed. The main one is the Agreement on Strategic Partnership and Cooperation between Kazakhstan and the UK, which has been developed over the past six years. Astana calls this document the foundation of new relations, which will strengthen cooperation in such key areas as trade and investment, security, intellectual property protection, energy, mining, transport, environmental protection, as well as banking, employment and social policy, science and education. A promising direction should be the joint extraction and processing of minerals that Kazakhstan is rich in - metals and rare elements, perhaps we will also talk about uranium, the rights to which are still firmly owned by the subsidiary of Rosatom State Corporation. However, nothing lasts forever and the change of proto-elites in Kazakhstan, which is increasingly trying to play its own game at the expense of the Chinese, the British, and the Indians, cannot but cause concern on the Russian side about the potential infringement of its own interests in the entire region Central Asia. It is significant that the program of David Cameron's tour of Central Asia, which on the eve of the trip he unexpectedly called "the most important region in the world," in addition to Kazakhstan, included Tajikistan, Kyrgyzstan, Uzbekistan and Turkmenistan. The final point will be a visit to Mongolia. Before this, David Cameron came to Astana 11 years ago, when he served as prime minister, but he considers the current tour, taking place in a different era, to be historical. It should be noted that this is the first trip in history by the head of British diplomacy to Kyrgyzstan, Tajikistan and Turkmenistan, as well as the first to Uzbekistan since 1997. Announcing the goals of the tour, David Cameron emphasized that the countries of Central Asia, neighboring Russia and China, are now choosing with whom to cooperate, and in this regard, it is time for Great Britain to join actively the race for influence in the region.

"We live in a competitive, competitive world. If you want to protect and promote British interests, you need to get outside your own country and compete. Central Asia is at the heart of some of the biggest challenges facing us, and it is vital for the UK and the region that we contribute to its future prosperity," said David Cameron. The decision to begin a pivot to Central Asia in London was made at the end of last year, when the report "Countries at a Crossroads: British Involvement in Central Asia" was presented to the Foreign Affairs Committee of the House of Commons of the British Parliament.

This document contains recommendations for building qualitatively new relations with the countries of the region in the "C5+1" format, which has existed in relations with Washington since 2015, but has not yet been created with London.

The authors of the report sharply criticized the previous model of British interaction with the governments of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, calling for more active opposition to Russia.

The main instrument of British influence in Central Asia was previously the Department for International Development with its representative offices in British embassies in the region. The department's goals were said to be promoting democracy, creating conditions for business ties, supporting migration and mitigating the effects of climate change. Promoting London's soft power is the task of the British Council, which implements the Creative Spark and Creative Central Asia programs.

However, after analyzing the state of London's relations with the states of Central Asia, the authors of the new British strategy concluded that the previous policy was not only ineffective, but also counterproductive, not allowing the formation of a loyal elite and maintaining, "corrupt autocracies" in power. As an example, the report's authors cited the fact that Britain had become a haven for the old Central Asian elite and a center of capital flight. With this in mind, David Cameron called on the Central Asian states to start largely their relations with a clean slate.

The hallmark of change, as they are understood in London, was the visit to Tajikistan that opened David Cameron's tour and negotiations with President Emomali Rahmon. "We want to start a new era in relations between the UK and the countries of Central Asia, starting with Tajikistan," the British Foreign Secretary said in Dushanbe, unveiling plans to create two new investment funds for the region.

"We will have a new investment fund to support small businesses, a green climate fund to invest in the environment. In addition, we will promote learning English. Any teacher in Tajikistan interested in learning or teaching English can do so with the help of our program," he listed the benefits of the new partnership during his visit to the Nurek hydroelectric station.

Speaking about the prospects for the development of green energy projects in Central Asia, the head of the British Foreign Office pointed out that this direction will allow the countries of the region to increase energy exports to the countries of South Asia and reduce their dependence on fossil fuels, primarily coal.

The signed air services agreement between the UK and Tajikistan is intended to lay the foundation for the opening of direct flights between Dushanbe and London in the future. In addition, another issue at the negotiations between Emomali Rahmon and David Cameron was labor migration - the United Kingdom is considering the possibility of establishing a quota for accepting seasonal workers from Tajikistan. "We consider Great Britain an important partner in Western Europe, our country pays great attention to the development and strengthening of diverse relations with the kingdom," said President Rahmon.

"It was recognized as necessary to attract capital from the United Kingdom in the development of the mining and metallurgical industries of Tajikistan, as well as in the food, pharmaceutical and agricultural industries," reported the press service of Emomali Rahmon.

In Bishkek, President Sadyr Japarov and Foreign Minister Jeenbek Kulubaev received the head of the British Foreign Ministry, and the visit followed a similar scenario to the visit to Dushanbe. The topics of the negotiations included political, trade, economic, investment, energy and transport cooperation. As David Cameron stated, Kyrgyzstan, rich in water resources, has great potential for cooperation with the UK, which is ready to support the development of environmental projects.

Meanwhile, against the background of the activity of London, which has entered the race for spheres of influence in the zone of strategic interests of Russia and China, Japan announced its growing ambitions in Central Asia. As Kyodo reported, the country's government has begun preparations for a summit with five Central Asian countries this summer. The meeting, which will be attended by Japanese Prime Minister Fumio Kishida, is expected to take place in Kazakhstan in August.

The very policy of the Anglo-Saxons and their assistants and partners in NATO and AUCUS, such as the "small Asian NATO," South Korea and Japan, cannot but cause concern in all republics, because it obviously has the expansionist nature of a classic hegemon and colonizer who wants translate Big Game 2.0. into new varieties of previously established relationships, vassals and overlords, colonies and metropolis, arriving under the illusion of "equal opportunities" for the countries of the Commonwealth and those who are just assimilated by the subjects of the English king Charles 3rd.

Therefore, a story about loyal friends and allies who will always be for the continuation of the post-Soviet project with national characteristics will be extremely important for Russia. In particular, Tajikistan, the regional champion in water resources and the "gateway" to Central Asia, is becoming one of the main players in this field. It is especially important to understand that through its economic zone on the border with Afghanistan, Tajikistan shapes the food agenda of all Asian countries, creating in the form of "soft power" ways for the further entry of the countries of this geographical community into both BRICS and the SCO.

It is especially worth noting that, in contrast to the Anglo-Saxons, the French, expelled by China and Russia, are beginning their movement in the region, who, with the help of the Vatican, receive almost unlimited funding for the resources of the Eurasian mountains and fields, rivers and other bodies of water.

The participation of Russia and Tajikistan in this interaction will continue to be in a state of control over the growing rates, in the fight against the sharply increased heroin drug trafficking and in the supply of weapons to non-systemic players and non-governmental actors in the countries of Central and Central Asia from abandoned NATO arsenals in Afghanistan and in disputed areas lands between India and Pakistan.

The adoption of clearer “road maps” in the CSTO and the EAEU, which have already thought about the “Tajik brotherly shoulder” from the point of view of the Russian military base itself in the region, as well as hundreds of thousands of residents going to Russia to work, will help inspire the 10th anniversary EAEU (May 29, 2024) a new set of opportunities and risk hedging for those countries that have already proven themselves to be participants in unity in the fight against terror and the growing expansion of classical European colonialists rushing into the region and dreaming of post-Soviet revenge.

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金融科技 (Fintech) 作为中国金融活动发展方向之一
**FINANCIAL TECHNOLOGY (FINTECH) AS ONE OF THE
DIRECTIONS OF FINANCIAL ACTIVITY DEVELOPMENT IN
CHINA**

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抽象的。现代世界经济的发展使得金融部门的数字化进程变得非常重要。为了成功实施金融政策，国家需要顺应全球趋势，引进先进技术，打造数字环境。为了应对现代世界的挑战，还需要改变现有的商业模式，改变法律对互联网上快速发展的社会关系的影响方式。文章考察了中国金融科技发展的主要阶段，并明确了促进此类技术发展的政府政策的特点。国家金融活动与金融科技作为其发展方向之一的关系是确定的。作者指出了相互关联的“金融”和“技术”类别的经济和法律意义。本文重点讨论中国区块链和加密货币的法律监管、大数据和机器学习等方面。该著作还分析了中国监管人工智能领域的方法。

关键词：金融活动、金融科技 (FINTECH)、区块链、加密货币、人工智能、全球化、法律政策。

Abstract. *The modern world economy is developing in such a way that the processes of digitalization of the financial sector have become important in it. To successfully implement financial policy, the state needs to follow global trends, introduce advanced technologies, and create a digital environment. To meet the challenges of the modern world, it is also necessary to transform existing business models and change approaches to legal influence on social relations that are rapidly developing on the Internet. The article examines the main stages in the development of financial technologies in China and identifies the features of government policy that promotes the development of such technologies. The relationship between the financial activities of the state and financial technologies as one of the directions of its development is determined. The author notes the economic and legal significance of the interrelated categories “finance” and “technology”. The article focuses on aspects of legal regulation of blockchain and cryptocurrencies in China, big data and machine learning. The work also analyzes China’s approaches to regulating the field of artificial intelligence.*

Keywords: *financial activity, financial technology (FINTECH), blockchain, cryptocurrency, artificial intelligence, globalization, legal policy.*

In light of modern challenges, most countries around the world are paying increasing attention to developing innovative solutions to ensure sustainable development and economic stability. Business is actively introducing and using digital technologies such as the Internet of Things, cloud computing, big data, artificial intelligence and robotics to improve and optimize production processes. The development of these areas, one way or another, requires government intervention and support. States allocate funds for this, and form state programs that determine the conditions for receiving these funds. Note that the technological development of business processes goes back several decades, but government intervention through financial and legal regulation of this area began relatively recently.

Researchers note that since the 1950s, computers have become an integral part of the banking sector, thereby providing centralization and batch processing of data. It is emphasized that this was the first step in the development of the financial sector using digital technologies. A decade later (by the 1960s), computers and other technical equipment replaced manual labor in the banking and securities industries. The development and constant improvement of digital technologies has contributed to an increase in the volume of transactions in financial markets.

Fu Tiantian's judgment is noteworthy, emphasizing that modern technologies continue to transform the financial sector, creating competitive goods and services. The author writes that such technologies allow the financial sector to play a key role in the economy, moving from traditional to modern finance¹².

The dynamic development and importance of financial technologies (FinTech) in the world is difficult to overestimate. They bring new opportunities and challenges to the financial industry.

It is generally accepted that the People's Republic of China (hereinafter referred to as China) is one of the world's leading innovators and leaders in the field of financial technology (FinTech). For Russian science and lawmaking, China's experience in this area as Russia's main trade and economic partner is of particular interest.

Turning to history, it should be noted that the development of financial technologies in China has gone through several main stages:

The first stage concerns the general informatization of finance (1993-2004). At that time, the People's Bank of China and other banking institutions began to digitalize their back office and services. Typical applications such as ATMs, POS

¹² Fu Tiantian Digital technologies in the financial sector of China // Innovations and investments. 2023. No. 5. URL: <https://cyberleninka.ru/article/n/tsifrovye-tehnologii-v-finansovom-sektore-kitaya> (access date: 04/14/2024).

terminals, core banking transaction systems, credit systems, clearing systems, etc. have been implemented.

The second stage is the development of the field of financing via the Internet (2004-2016). It was then that financial institutions and Internet companies began to create online platforms, attract large numbers of users, and use mobile Internet technologies to transform traditional financial services. Technology has connected assets, transactions, payments and capital into a single network. At that time, some fintech areas were developing quite rapidly (for example, the opening of online securities depositories, online banking, p2p loans and mobile payments).

The third stage is the development and integration of financial technologies (after 2016). It is characterized by the deepening and active implementation of financial technologies in various areas of the economy and everyday life¹³. As noted by E.V. Goryan: “The third stage of fintech development is currently ongoing. Unlike the previous one, modern fintech is broader in scope and includes new technologies of big data, cloud computing, artificial intelligence and blockchain. Taken together, they are used to create new or improve existing financial products or services, reduce transaction costs and improve operational efficiency. With the help of software products created on their basis, credit histories are studied based on big data, investing based on artificial intelligence, supply chain financing, etc”¹⁴.

One of the key indicators of the Chinese financial technology market is the high level of penetration of mobile devices and the Internet into everyday life. An important feature of financial technology in China, demonstrating its leadership and global progress in this area, is the rapid development of Internet infrastructure, especially in rural areas. The Chinese statistics site noted: “AliPay and WeChat Pay remain the dominant mobile payment methods in China as their combined user base is projected to reach nearly 2.5 billion users. Apps owned by Ant Financial and Tencent Holdings, respectively, are estimated to account for more than 90 percent of mobile payments in China, making the country the largest user of contactless mobile payments”¹⁵.

It should be noted that China is also actively introducing artificial intelligence and data analytics into various aspects of financial activities. From credit scoring to investment management and fraud prevention, artificial intelligence technol-

¹³ <https://www.china-briefing.com/news/a-close-reading-china-fintech-development-plan-for-2022-2025/>

¹⁴ Goryan E.V. National concept of fintech development: experience of the People’s Republic of China // Territory of new opportunities. 2022. No. 3. URL: <https://cyberleninka.ru/article/n/natsionalnaya-kontsepsiya-razvitiya-finteha-opyt-kitayskoy-narodnoy-respubliki> (access date: 04/16/2024).

¹⁵ <https://www.statista.com/statistics/1271130/mobile-wallet-user-forecast-in-china/> (дата обращения: 16.04.2024).

ogies are playing an increasingly important role in improving the efficiency and accuracy of financial transactions.

Of interest is China's active exploration of the use of blockchain to create new financial instruments, improve transaction security, and increase transparency in the financial system. At the same time, cryptocurrencies and digital assets serve as a means of investment and exchange. S.A. Barykin rightly emphasizes: "Blockchain technologies are among the most promising in the field of fintech. These technologies have the potential to create a more secure information environment for banking operations"¹⁶.

However, as it seems, in China the regulation of cryptocurrencies is quite imperative. For example, in 2017, China banned ICO (Initial Coin Offering) and cryptocurrency exchanges. The People's Bank of China also warned that virtual currency does not have the same legal status as legal currency. It was noted that "virtual currency is not legal tender and cannot be used as a means of payment in the market. Business activities involving virtual currency are illegal."¹⁷

It is important to note that Chinese fintech is not limited to just the domestic market. Chinese companies are actively expanding their presence in international markets, offering their products and services in other countries and regions. The development of financial technologies in China also determines the development of mechanisms for legal regulation of relations in this area. The state strives to create favorable conditions for the successful implementation of financial technologies in all areas of activity, including the management environment. There are also significant changes to legislation that balances innovation and consumer protection, as well as legislation to address money laundering and the financing of terrorism. It should be noted that the growing interest in financial technologies ensures the attraction of investors in this area, which contributes to the emergence of new innovative projects in the field of financial technologies and an increase in the number of start-ups.

Another feature of the development of financial technologies in China, as in other countries, is the increasing pace of global competition and international expansion of financial technologies, which creates new vectors of development for the global economy and, accordingly, forms a plane of relations that require new approaches to legal regulation.

It should be said that innovations have affected the lending sector in China. Fintech companies are increasingly using big data and machine learning algorithms to assess creditworthiness and provide loans to both individuals and businesses.

¹⁶ Barykin S.A. Financial technology market in China: current state and prospects // International trade and trade policy. 2020. No. 2 (22). URL: <https://cyberleninka.ru/article/n/rynok-finansovyh-tekhnologiy-v-kitae-sovremennoe-sostoyanie-i-perspektivy> (access date: 04/14/2024).

¹⁷ <https://ria.ru/20210924/kriptovalyuta-1751661419.html> (access date: 16.04.2024).

Platforms for online investing and asset management are actively developing, including a variety of products: funds, stocks, bonds, tools for automated investing.

The press conference held by the State Council Information Office (SCIO) presented China's latest investment, fiscal and financial data and policy directions. Thus, the conference participants noted that China has a sufficient supply of political decisions and rich monetary instruments. The role of lending by the central bank to scientific and technological innovations and technological transformations is emphasized, which is intended to contribute to the accelerated development of high-tech production and the digital economy. It was highlighted that significant efforts should be made in the areas of technology finance, green finance, inclusive finance, pension finance and digital finance¹⁸.

We emphasize that these goals were laid down in the Financial Technology Development Plan for 2022-2025. (a strategic document covering many areas of the digital economy), announced by the People's Bank of China. One of the key directions was the digital transformation of finance in the country.

Also among the main goals of the plans were the goals of stimulating innovation, improving the quality of life of citizens, increasing the competitiveness of the Chinese economy and transforming the country into a world leader in the field of digital technologies. Other strategic documents also focus on the development of specific sectors, such as digital medicine, e-commerce, digital education, etc.

Thus, to summarize, it can be noted that in China, as in a number of other countries, financial support for all areas of innovation is of great importance for stimulating the development of new ideas and technologies. Artificial intelligence is being actively implemented in the field of lending, investment activities, various business processes, as well as in the field of cybersecurity. China's ambitious goals to increase the pace of global competition and international expansion of its own financial technologies in global markets provide additional incentive. However, despite the active state support of the Chinese state for the development of financial technologies, in the legal regulation of these processes there is also a format of legal restraint, for example, preventing the legalization of non-state virtual currencies.

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网络版权法律关系法律规制的构想

**CONCEPTUALIZATION OF LEGAL REGULATION OF
COPYRIGHT LEGAL RELATIONS ARISING ON THE INTERNET**

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抽象的。由于世界生活在数字时代，本文的主题是相关的。在向数字经济转型的背景下，当创新被引入几乎所有生活领域时，迫切需要新的思维方式、决策和监管机制来理解数字权利的法律性质。文章揭示了数字权作为知识产权客体的法律性质，提出了其基本特征和可能的规制方法。提出将知识产权制度延伸至以数字权利作为民事权利客体的法律关系的构想；体现了理解信息空间版权活动规制方向和机制的现实意义，是知识产权和民间科学知识保护立法形成的重要内容。

关键词：版权、法律规制、数字环境、虚拟空间、内容、作品、法律关系、保护、规制、角色、游戏财产、知识产权。

Abstract. *The topic of this article is relevant, since the world lives in the digital era. In the context of the transition to a digital economy, when innovations are being introduced into almost all spheres of life, new ways of thinking, decision-making, and regulatory mechanisms that provide an understanding of the legal nature of digital rights are urgently needed. The article exposes the legal nature of digital rights as objects of intellectual property, presents their essential features and possible methods of regulation. The concept of extending the intellectual property regime to legal relations in which digital rights act as objects of civil rights is proposed; the practical significance for understanding the directions and mechanisms for regulating copyright activity in the information space is reflected, which is an important element for the formation of legislation on the protection of intellectual rights and the knowledge of civil science.*

Keywords: *copyright, legal regulation, digital environment, virtual space, content, work, legal relations, protection, regulation, character, game property, intellectual property.*

Modern society, undoubtedly, cannot exist outside the framework of legal regulation.

The basis for the formation of domestic legislation was, among other things, the provisions of the Universal Declaration of Human Rights, an important conceptual idea of which is the formation of a legal regime that guarantees the effective protection of human rights, provided that each person, in addition to rights, bears responsibilities to society.

In the conditions of building and maintaining the rule of law in the vector set by the Universal Declaration, the legal regulation of legal relations arising on the Internet seems to be an urgent need.

One of the important areas of ensuring the rights of every person, as well as preserving and developing the country's intellectual potential is the formation of a modern understanding of the existence of the institution of copyright in the digital environment.

Analysis of existing practical experience and scientific research allows us to come to the conclusion that copyright objects on the Internet can be divided into two groups: classical objects that have a material carrier in the objective world, translated into digital form and posted on the network, and objects that do not have material media and created directly on the network, in virtual space¹⁹.

I believe that despite the specifics of their objective expression and accessibility for perception by other subjects, copyright objects created in virtual space must meet the requirements imposed by the Civil Code on copyright objects (creative nature).

The specifics of the information and virtual space also influence the methods of legal regulation and protection of rights. Copyright protection methods can also be divided into those that apply only to virtual copyright objects and those that apply to all copyright objects.

In the virtual space, methods of self-defense of law come first, among which technical means of protection play a leading role: watermarks, encryption, online authentication and others²⁰. It is also possible to use pre-trial methods of defense

¹⁹ See, for example: Voynikanis E. A. Intellectual property rights in the digital era: a paradigm of balance and flexibility. — M.: Jurisprudence, 2013. — 552 p.; Rozhkova M. A. Digital assets and virtual property: how the virtual relates to the digital [El. resource] // Law.ru. URL: https://zakon.ru/blog/2018/06/13/cifrovye_aktivy_i_virtualnoe_imuschestvo_kak_sootnositsya_virtualnoe_s_cifrovym (access date: October 8, 2023). Kurazhenkova O. S. Problems of copyright protection on the Internet / O. S. Kurazhenkova, O. I. Filonova, A. V. Chelovechkova // First International Scientific Conference on Digitalization Issues: EDCRUNCH URAL - 2020: conference materials, Ekaterinburg, September 29–30, 2020 / scientific editor T. Yu. Bystrova; Ministry of Science and Higher Education of the Russian Federation, Ural Federal University named after the first President of Russia B. N. Yeltsin. — Ekaterinburg: Ural University Publishing House, 2020. — P. 149-155. — EDN BLKNOJ.

²⁰ See for example: Osipov M. Yu. Copyright protection on the Internet: main features and problems / M. Yu. Osipov // Current problems of Russian law. — 2018. — No. 12(97). — pp. 116-122. — DOI 10.17803/1994-1471.2018.97.12.116-122. — EDN YUERCH.

related to filing a demand to eliminate violations with the violator himself or the person responsible for posting unlawful information or content.

And if for classical objects of copyright self-defense is the least preferable or impossible, then for virtual objects it is a priority²¹.

If it is impossible to restore rights in the virtual space, traditional methods of protection, mainly related to judicial protection of rights, must be applied.

Here, too, difficulties arise due to the nature of the information space. Thus, at the stage of collecting evidence, the problem arises of identifying the person who committed the copyright violation and proving his guilt²².

In this regard, the responsibility of the information intermediary seems to be a justified position of the legislator due to his stronger position compared to the author himself, who is the weaker party in legal relations²³.

An incentive to restore violated rights and identify the violators themselves could be the imposition on information intermediaries of the obligation to identify the person who committed the copyright violation, instead of the liability established by Art. 1253.1 of the Civil Code of the Russian Federation, by adding Art. 1253.1 of the Civil Code of the Russian Federation is another exception to the rule of liability to the author.

The problem of the concept of legal regulation of legal relations arising on the Internet deserves special attention.

Analysis of various approaches to the legal nature of such relations shows the absence of an unconditionally suitable concept²⁴. However, the concept of intellectual property that is closest to relationships on the Internet. At the same time, it also has disadvantages, expressed, in particular, in the inability to unambiguously explain the essence of objects that exist only in virtual space.

In this regard, I believe it is possible and necessary to use a mixed approach to regulating legal relations on the Internet. Thus, copyright legal relations on the Internet should be considered from the perspective of intellectual property, supplemented, if necessary, with regulation appropriate to the essence of the relationship.

²¹ See for example: Ivanova E. P., Sergo A. G. Combating piracy on the Internet // Law. Journal of the Higher School of Economics. – 2013. – No. 3. – P. 177-195. – EDN RYGFEN. Savina V. S. Concept and legal nature of utilitarian digital rights / V. S. Savina, A. V. Gurko, V. A. Svechnikov // Intellectual property. Copyright and related rights. – 2022. – No. 10. – P. 5-11. —EDN EPMEKP.

²² See for example: Perepelkina Ya. A. Virtual gaming property: prospects for legal regulation // Journal of the Intellectual Rights Court. – 2020. – No. 3(29). – pp. 45-59. – EDN TSKOZK.

²³ See, for example: Rozhkova M. A. Digital assets and virtual property: how the virtual relates to the digital.

²⁴ See, for example: Shugurov M.V. The paradigm for modernizing copyright of the European Union in the context of the digital economy // International Law. – 2019. – No. 4. – DOI: 10.25136/2644-5514.2019.4.30788

Game objects stand out against the general background as virtual objects of copyright, for example, game accounts, game property²⁵. On the one hand, the game property belongs to the game developer, who seems to provide them for use by the players, and on the other hand, it is the players who create a unique character profile with a unique combination of property or characteristics.

At the same time, earning money while playing or acquiring gaming property for a fee is similar to receiving fruits from renting property.

However, the main difference from the above is that all the attributes of the game were invented and created by the developer himself. A user or player cannot create anything of their own that the developer has not provided for.

With this approach, the user's copyright and his creative participation in the creation of objects within the game are called into question, because The user does not bring anything of his own, but only follows the moves pre-thought out by the developer.

At the same time, in relations with other users and other third parties, the game property appears in a different capacity: it acquires value due to the creative contribution of the user. A particular user, with his mental and other abilities, was able to reach such a level in the game, create such a unique profile of his character that another user could not achieve. Under these conditions, game property can be seen as having creative input and as the creation of the user (author).

Game property in legal relations with third parties becomes similar to objects of intellectual property, namely objects of copyright, and therefore it should be considered as an object of intellectual rights and appropriate legal regulation should be extended to it.

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从巴什基尔器乐文化的历史看
FROM THE HISTORY OF BASHKIR INSTRUMENTAL CULTURE

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注解。这篇评论文章致力于巴什基尔器乐文化的历史，它是人民音乐文化的一部分。指出了有关该主题的最重要的研究，表明了作者注意到的器乐的特殊特征。这些例子让我们了解巴什基尔人的器乐文化以及音乐家在社会上的荣誉。在巴什基尔人的传统文化中，举行严肃的音乐比赛，这是邀请表演者回家并展示真正的民间才华的传统。有趣的是 kuraist 比赛的例子，它是根据非常复杂的程序进行的，并测试了音乐家在人民中的权威，以及杰出的、有诗意的半职业音乐家的存在。此外，本文还提供了有关当今流行的库比兹民间乐器的一些信息。

关键词：文化、音乐、器乐、巴什基尔、音乐家。

Annotation. The review article is devoted to the history of the Bashkir instrumental culture, which is part of the musical culture of the people. The most significant studies on the topic under consideration are indicated, indicating the special features of instrumental music noticed by the authors. These examples allow us to get an idea of the instrumental culture of Bashkirs and the honor of musicians in society. In the traditional culture of Bashkirs, serious musical competitions took place, the tradition of inviting performers home and revealing true folk talents. Interesting are the examples of the kuraist competition, which took place according to very complex programs and tested to the authority of musicians among the people, the presence of outstanding, poetically gifted semi-professional musicians. Further, the article provides some information about the kubyz folk musical instrument, which is popular today.

Keywords: culture, musical, instrumental, Bashkir, musician.

The musical culture of each nation has specific features, which are manifested primarily in folk music created by past generations. It has stood the test of time and is passed down to generations as something valuable and revered. On the basis of folk art, in accordance with the laws of the evolution of society, professional music is developing.

A number of works are devoted to the study of instrumental music of the Bashkirs. It was first discussed in the monograph by S.G. Rybakova. The scientist quite objectively assesses the cultural environment of the multinational Ural region, especially highlighting Bashkir ethno-instrumentalism in it: "... the music of the Bashkirs <...> is divided into two categories: instrumental music and vocal music. The first almost prevails over the last..." [7, p. 113-114].

Of the subsequent works devoted to the instrumental creativity of the Bashkirs, the works of S.I. can be considered significant. Rudenko "Bashkirs" (2006), L.I. Lebedinsky "Bashkir folk songs and tunes" (1965) A.M. Kubagusheva "Traditional Bashkir folk instruments" (1997), R.G. Rakhimov "Bashkir folk instrumental culture" (2006). The above studies are fundamental in Bashkir musical ethnography.

The first professional researcher of Bashkir folk music S.G. Rybakov wrote that despite national customs that allow playing music in certain conditions... in the evening, after sunset, at feasts, weddings, holidays, music, as the most developed form of spiritual life of the Bashkirs, plays a huge role among them. [7, p. 48, 49, 228, 230, 244]. He recorded (of course, not all) forms of music-making - singing on the road, in the evening on wanderings around the fire. Finally, playing music for yourself, as a satisfaction of your artistic needs. Apparently, F.G. Akhatova is right. is that "a person who was born and lives here has a subtle soul and a sensitive heart. He cannot help but sing and play music: he is filled with feelings of great gratitude to life and pride in his cultural heritage." [1, p. 3].

From scientific literature, it is known that musicians among the Bashkir people have always been held in special esteem. For example, R.S. Suleimanov cites an interesting legend in his book confirming this: the head of the Tamyan-Katai canton once decided to hold a grand competition for kuraists, singers, and dancers. It was announced that the winner would receive a "dunen" (a 3-4 year old horse), the singer - a "kunana" (a 2-3 year old horse), and the dancer - a ram. On the appointed day, many kuraists, singers, dancers, and nomads from all around gathered near Mount Shunkarovo, which is located near the village of Bikkulovo. The head of the canton arrived in a troika and ordered: "The first condition for kuraists: each must play two kuyas - a long one and a short one. The listeners will say what else needs to be played. If the kuraist correctly performs all three melodies, he will move to the 'second step', i.e., advance to the second round. The conditions for the second step: the musician will be asked to perform one long kuy without prepara-

tion and tell the story of another, then determine - which song will the other kuraist play? The conditions for the third step: the kuraist will be asked to play three new kuyas, with the first one using the 'uzlau' technique (throat singing), the second one using the 'chest' technique, and loudly enough for the music to be heard on the mountain and by a person walking ten versts away against the wind. And finally. If the kuraist tells the story of the third kuy, then his dunen...". From the legend, it is evident that musical competitions were held with very complex programs. Suleimanov R.S. is correct in stating that "participation in such contests required constant creative efforts in developing and perfecting performance skills". Researcher F.G. Akhatova notes that "from ancient times among the Bashkir people, the ability to sing, play musical instruments, and dance was practically equated with administrative talents". Saltykov I.V. also writes that "...outstanding, poetically gifted musicians-vocalists stood out from the folk environment and were semi-professionals in the conditions of old Bashkir life". Literature also contains information that in the family of one of the first professional musicians from the "Ural Muslims" environment at the beginning of the 20th century, Mansur Sultanov, there was a custom of "inviting folk singers and kuraists to sing folk tunes at celebrations and family events, especially in the summer when they lived in the village". Thus, in traditional Bashkir culture, serious musical competitions took place, the tradition of inviting performers home existed, and true folk talents were revealed. In our case, we are talking about a kuraist, i.e., a performer on the kura - the main musical instrument of the Bashkir people. The kura attracted the attention of many travelers, researchers, and scholars who studied the Bashkir region. But the kura was not the only musical instrument among the Bashkir people. [12, p. 370].

Since ancient times, various types of traditional musical instruments have been known on the territory of the Republic of Bashkortostan. This is the ancient musical instrument of the Bashkirs - kubyz [5, p. 350; 3, p. 13; 6, p. 3, etc.]. According to the observations of the famous ethnographer S.I. Rudenko "Among the instruments found among the Bashkirs, two were the most common: kubyz and kurai. Kubyz, in turn, was of two kinds: it was either a wooden plate with a tongue carved on it (agas kubyz), or the well-known harp, an iron bow with a steel or copper plate vibrating in it (timer kubyz)" [7, p. 263]. Agas kubyz, as R.G. writes. Rakhimov, for a long time was considered a disappeared instrument. But in 1985, he managed to find a performer on agas kubyz in the Mechetlinsky district of the Republic of Bashkortostan [6, p. eleven]. Some researchers believe that men rarely played the kubyz, and that it was an instrument for women and girls [5, p. 350; 7, p. 263]. Nevertheless, men, according to R.G. Rakhimov, they play better on kubyz.

Epics, fairy tales, legends, songs, riddles, and proverbs of the Bashkir people speak about the archaic nature of their origin. Thus, in the Bashkir epic "Zayatu-

lyak and Khyukhlyu” there are the following lines: Hey, dumbyram, dumbyram, / Uyna, kunel asylkhyn, / Dumbyram minen uynayzyr, / Kyl-kumyzym hornayzyr, / Tynlai kilgen ezemder, / Uzen-use belmazer. (Hey, dumbyra, dumbyra, / Play and have fun / My dumbyra will play, / Kyl-kubyz and sornai, / People who came to listen, / Caught up in the muse, freeze. [4, p. 51] There are many such examples from different genres. The Bashkirs even have legends or fairy tales with etiological motives about the origin of folk musical instruments (“Kurai”, “Kubyz” [5, p. 94; 387]). As L.P. Atanova wrote, “kurai musical instruments appear in fairy tales.” dombra, violin, possessing magical powers” [2, pp. 57-59]. In some fairy tales, the violin, in others, when touched, the dombra begins to sing in a human voice about its unfortunate fate, denouncing the murderer, because its strings are made of hair. and the intestines of the dead [10, p. 71]. Bashkir instrumental culture is a heritage that dates back to ancient times. Historically, from all available musical instruments, the Bashkirs selected the melodic ones that best met the aesthetic needs of the people.

According to research by Bashkir scientists, more than three dozen musical instruments were used in the everyday life of Bashkirs at the beginning of the twentieth century. Among the wind instruments, kurai and its varieties are known: куук kuray, sur-kurai, hyбузгы, as well as sornai and borgo. As for the strings, there were kyl-kubyz, dumbyra, scimitar; percussion: dungur, dumburzyak, nagra; idiophones – shakildak; self-sounding - kubyz. [1, p. 51] Currently existing: kurai, kubyz, dumbyra, kyl-kubyz is being revived, the rest of the folk musical instruments listed above have fallen out of use. Sornai, for example, is a signal instrument, and Dumburzyak, nagra, and dungur are percussion instruments. In ancient times, they were used to announce the beginning of national holidays; they were used in military campaigns and notified about upcoming nomads and dangers. In the 20th century, Instruments of European origin became popular among the Bashkirs: talyanka, mandolin, etc.

Currently, Bashkir folk musical instruments are well represented in the cultural life of the Republic of Bashkortostan. In addition to the fact that they, along with such musical instruments as the piano, button accordion, etc., sound from the professional stage, various festivals and competitions for performers on folk instruments are organized. In schools, colleges, and universities, folk instruments are included in the curriculum; the work of clubs and electives for studying and playing them has intensified.

Thus, Bashkir folk musical instruments, in particular kurai, kubyz, kyl-kubyz, dumbyra, continue to be actively used in modern conditions.

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支持残疾儿童在包容的社会和教育环境中进行观赏活动
**SUPPORTING THE ORNAMENTAL ACTIVITIES OF CHILDREN
WITH DISABILITIES IN AN INCLUSIVE SOCIAL AND
EDUCATIONAL ENVIRONMENT**

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注解。 本文讨论了在包容性社会和教育环境中对残疾儿童的观赏活动的支持。介绍了在矫正教育条件下组织观赏活动的经验。表征儿童对装饰物应用意义的理解特点。解决视觉问题的多向方法是在儿童获得装饰性构图知识和技能的背景下展示的,并有可能将其转化为实际活动。

关键词: 残疾儿童、装饰画、装饰活动、装饰的应用意义、包容性社会和教育环境。

Annotation. *The article discusses the support of ornamental activities of children with disabilities in an inclusive social and educational environment. The experience of organizing ornamental activities in the conditions of correctional education is presented. The features of children's understanding of the applied meaning of the ornament are characterized. Multidirectional approaches to solving visual problems are shown in the context of children acquiring knowledge and skills in composing ornamental compositions with the possibility of transferring them into practical activities.*

Keywords: *children with disabilities, decorative drawing, ornamental activities, applied meaning of ornament, inclusive social and educational environment.*

Our appeal to the ornamental activities of children with disabilities is due to a number of reasons, including the search for expressive means of influencing their emotional state and effective practices of artistic and aesthetic development that contribute to the accumulation of aesthetic impressions that can expand interaction with the environment in the process of life. .

Representing an original cultural and historical code of a creative reflection of the environment, the ornament is integrated into the visual, everyday, labor, and sociocultural environment and acts as a folk arts and crafts. The specificity of ornamental activity is subject to the laws of the implementation of visual tasks: repeated repetition and alternation of pattern elements, ordered rhythm and symmetry of the arrangement of pattern elements on the working surface, length and balance of compositional solutions [4; 6; 7, p. 2].

In this article, we focus on activities of decorative painting conducted in a specially created subject-developing environment. It should be noted that children's desire to participate in ornamental design plays a predominant role, with considerations for any developmental disruptions taken into account when individualizing the technical execution of ornamental compositions. The study was conducted at the "Family Center for Diagnostics and Development of Children and Youth" in Moscow. It involved 15 children with disabilities (including delayed mental development, cognitive impairments, musculoskeletal disorders, and autism spectrum disorders) who regularly attend a creative workshop named "Meaningful Workshop" in their free time. The research positions included examining methodological aspects of incorporating ornamental activities into the correctional-developmental process, understanding the practical significance of ornamentation by children, and the potential for transferring their acquired knowledge and skills in creating ornamental compositions into practical activities.

During the research of methodological aspects, it was established that children's ability to create and draw ornaments is subordinate to the revelation of their inner potential and the solution of correctional-educational tasks aimed at developing visual perception, motor coordination of hand and finger movements, spatial orientation on the plane of the template; forming skills to act by example and verbal instruction, organizing their own actions; independently choosing forms and types of decoration for an object with characteristic properties of pattern arrangement. Analyzing possible options, it can be noted that elementary ornamental activity is practiced in the process of correctional-developmental education. By influencing children's emotional sensations, geometric and plant, motifs are usually used in ornamentation. In choosing their motifs and expressive means, preference is given to one element and static compositions - identical images arranged symmetrically. The constructive basis of the ornament is a rapport grid of rectangular, square, or circular shape, on which a rhythmic series of repeating

elements is fixed using measurements, points, or dotted lines. Confirmation of the productivity of incorporating ornamentation into various types of children's activities can be found in studies dedicated to decorative painting [1; 5], the study of mathematics [3], and the creation of ornamental compositions based on national traditions [2]. Significant importance is attached to the decorative design of items and crafts made by children themselves. However, there are still many questions regarding the methodological support of ornamental activities for children with disabilities, especially when it comes to its implementation in socially oriented organizations.

A targeted study of understanding the applied meaning of an ornament showed that most children associate the beauty of an object with color. When decorating dishes, clothing or crafts, they most often turn to internal decorativeness (painting objects in different colors). Appeal to external decor (the presence of ornamental elements in the drawings) was recorded only among five observed participants in the experiment. At the same time, the ornamental motifs and compositions of the children of this group were characterized by low expressiveness since the simplest elements of geometric patterns were used: horizontal lines and dots. The results of the children's survey were significant for us in the context of understanding what makes an object beautiful. Despite the existing experience in the decorative design of self-made crafts, in the answers of the majority of children, the pattern and its purpose were presented in general terms as a beautiful drawing, an object or a beautiful picture and were not perceived as decoration. However, when purposefully comparing similar images of objects presented with and without decoration, the children were able to identify the pattern and correlate it with the decoration - the "holiday".

The study also confirmed the possibility of progressive transfer of knowledge and skills in drawing up ornamental compositions into the practical activities of children, which is facilitated by the organization of correctional and developmental education. Thus, in the lower grades, ornamental activity is carried out in decorative drawing and handicraft classes; in the upper grades, it extends to decorating products made in school workshops (sewing, carpentry, cardboard). During extracurricular hours, ornamental activities are integrated into various areas of additional education and take place in studios, clubs, and creative workshops, where conditions for creative activity and self-realization are created for each student. In addition, it turned out that an integral role in the implementation of ornamental activities is the provision of tasks in an entertaining and exciting form. For example, a strip is presented in the form of a belt or braid. Drawing up an ornamental composition in a rectangle is coordinated with the outlines of a rug, bookmark, towel, picture frame. The image of the ornament in the square corresponds to the decoration of a gift box, pillow, napkin, or handkerchief. Round-shaped objects are comparable to decorating a napkin, plate, cake, or cookie.

In socially oriented organizations, an atmosphere of subjective well-being of children is created with an emphasis on their personal achievements and constructive interaction in the group. Realizing the cognitively inexhaustible sociocultural significance of the ornament, it seems possible for them to appropriate the socio-cultural experience reflected in elementary ornamental activity. Mastering available means and techniques of decorative drawing in a relaxed atmosphere requires creating special conditions that take into account the special needs of each child. Emphasized significance is attached to the consistent involvement of children in ornamental activities.

Focusing on the accumulated methodological experience, we have identified correlated areas of work to involve children with disabilities in ornamental activities. First, methods and techniques for children to master ornamental activities were tested and attitudes were formed to enrich their expressiveness through external decorativeness. This suggested:

- development of interest in ornamental activities and focusing on ornament as a unique means of expressiveness of objects (emotional and motivational component);

- acquaintance with folk crafts and their characteristic external expressiveness, the formation of ideas about the variety, features and purpose of ornament in human life (emotional-cognitive component);

- initial mastery of techniques for composing ornamental compositions and techniques for drawing elements of painting (technical component).

The content of the classes included conversations about Khokhloma, Dymkovo, Gorodets, Gzhel painting, about decorating festive costumes, national clothes and hats. All work was accompanied by a visual demonstration of folk arts and crafts. A set of features of ornamental technique for each craft was identified. Prepared templates depicting plants and animals were used; geometric shapes, mosaic details, buttons, by manipulating which children learned to place them on the surface of stripes, rectangles, squares and circles imitating real objects. The execution of graphic elements (straight lines, oblique lines, intersecting lines, arcs, curls) was practiced using cells, dotted lines, reference points, and using control lines.

There was no time limit for completing the classes. Familiarization with folk crafts, training exercises in composing and drawing ornaments were carried out with regular repetition and consistent transfer of the knowledge and skills acquired by the child into various types of activities:

- visual activity aimed at enhancing the expressiveness of an object drawing through external decorativeness, which involved the inclusion of patterned elements (strokes, strokes, dots, lines), the use of colors and their combinations using artistic materials (paints, pencils, brushes, crayons);

- decorative design of the home interior through the manufacture of products by children, which were later used in interior decoration of the room, kitchen, hallway (panels, stands, cutting boards, boxes, amulets);

– communicative activity, the productivity of which is significant for the child and his family since achieving a practically useful result indicates the child's maximum activity in cooperation with an adult;

– introducing elements of ornament into needlework (embroidery, knitting, patchwork appliqué, weaving) with the aim of updating the appearance of objects or when creating new things within the age range;

– targeted propaedeutic work to help a child master writing skills (at the request of parents).

The goal-setting of transferring acquired knowledge and skills into practical activities is due to technical component of ornamental compositions and unfolded in socially oriented stories: "In the land of beautiful things", "How things are decorated", "Beautiful things in our home", "In a clothing store", "I'm going to visit", "Pick up a gift", "Make a pattern". The format of the lessons is a game, a trip, an excursion, preparation for a holiday.

Some parents had the impression that children's ornamental compositions are characterized by the same type of pattern design, however, with clear examples and with the active inclusion of parents in the practice of ornamental activities, it was possible to show that due to combining graphic elements, their location on an object basis, the use of various materials and color solutions, you can work with the ornament endlessly.

Concluding the review of supporting the ornamental activities of children with disabilities in an inclusive social and educational environment, we note that at this stage of the study it was possible to:

– analyze and generalize the pedagogical experience of conducting ornamental activities in the process of correctional and developmental education of children with disabilities;

– to characterize the focus of children's ornamental activities on enriching their life experience, artistic, aesthetic and emotional-personal development, carried out in the context of enhancing external expressiveness in the design of gifts, household items, clothing, and home interiors;

- to establish that the transfer of knowledge and skills in drawing up ornamental compositions into the practical activities of children is possible only under specially created pedagogical conditions.

During the short period of research (January-April 2024) on the basis of the socially oriented organization "Family Center for the Development and Diagnostics of Children and Youth", it was possible to identify the difficulties that children with disabilities experienced when composing and drawing an ornament. They manifested themselves in an insignificant volume and slow pace of perception of information about folk crafts and crafts, in the predominance of repetition of display actions, in maintaining the order of drawing elements due to a decrease

in visual control, and in the inability to control hand movements. Meanwhile, the results obtained confirmed the ability of children with disabilities to isolate the expressiveness of an ornament as a whole, which, in our opinion, opens up prospects for including ornamental activities in the correctional and developmental process, which will require systematization of methods and techniques in the sequence of presenting tasks in each of the designated areas.

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信息社会中的媒体领域和青年价值观
**MEDIA SPHERE AND YOUTH VALUES IN INFORMATION
SOCIETY**

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抽象的。文章讨论了现代媒体领域和信息社会中年轻人价值观转变的相关问题。作者着眼于青少年在通过互联网交换信息时积极参与网络传播手段的背景下对公民、爱国者、工人和家庭男人的教育过程。

关键词：青年；社交媒体；价值取向；信息社会。

Abstract. *The article discusses issues related to the modern media sphere and the transformation of the values of young people in the information society. The authors focus on the processes of educating a citizen, patriot, worker and family man in the context of the active participation of young people in the means of network communications when exchanging information via the Internet.*

Keywords: *youth; social media; value orientations; information society.*

In the modern era of digitalization and the rapid development of communications, the nature of the media sphere has changed significantly, affecting the processes of upbringing and training of young people, as the most mobile and promising part of society. Young people, as a special subject of social relations, are influenced by both internal and external social transformations taking place in a globalizing world [1, p. 500]. The information society plays an important role in shaping the values of young people that determine the complex processes of educating a citizen, patriot, worker and family man, which also affects the competitiveness and further socio-economic, technological, scientific and technical development of the modern Republic of Belarus.

In this regard, the education system of the Republic of Belarus is faced with the task of adjusting and developing appropriate programs for educating young people with an emphasis on preserving the traditional values of the Belarusian people.

As practice shows, many researchers appeal to socio-psychological, gender and age characteristics, giving priority to the influence of the toxic media sphere on the younger generation, which was one of the reasons for using young people to make destructive changes in the information society. In many ways, modern events in the world with a mass performance of young people took place and are taking place under the influence of modern information technologies. The age boundaries of involvement of the younger generation in active users of electronic social means of network communications (social media) are dynamically changing. Thus, the change in the media sphere and the rapid rejuvenation of the user environment by Internet resources is happening faster today and young people are increasingly using modern social media as a means of communication and leisure, which is facilitated, including by parents, peers, society [2, p. 106].

Everyone knows that reality for young people changes in the process of using social media (mainly TikTok, Instagram, YouTube), which is one of the main information challenges for the existing education and training systems of the younger generation in an information war [3, p. 61].

Having positioned themselves at the beginning of the creation of social networks, instant messengers as a means of self-expression become a means of manipulating and influencing public consciousness in order to transform the values of young people. Modern information, its transfer play a key role in the life of society today, we can talk about a toxic media sphere, about the “digital effect of the crowd,” when random or specially formed informational occasions resonate with many users of social media, and such initiated destructive content of the information society transforms the values of young people [4, p. 241].

And in such a situation, in the process of forming the values of young people, scientific research of this problem and the adoption of operational decisions at the legislative level are vital, focusing on the spiritual and moral potential of the younger generation in the context of modern challenges [5, p. 156]. In modern conditions, in the process of implementing innovative approaches to education and educational technologies, factors that minimize the time spent on research, development and implementation of appropriate and more effective options for interacting with the younger generation become the leitmotif. Mobility, dynamism, speed in making decisions, performing tasks come to the fore, where an integrated approach is important, which allows you to quickly move from the development of guidelines to their implementation in educational institutions.

However, the education system cannot and should not adapt to modern information and political trends with lightning speed, focusing only on the needs and interests of society every minute. Such tasks are solved within the framework of educational work through the functioning of various public associations and organizations, as well as in the course of targeted and timely information work with

young people. And the basis for such work is the preservation of a system of traditional values, based on the most important task of the progressive development of society to ensure the continuity of generations (intergenerational communication) based on historical memory and the implementation of the evolutionary phased development of the country with the active participation of various categories of youth (information work).

The emphasis on the state ideology and traditional values of the Belarusian people is not accidental today, since all these semantic and fundamental aspects of the life of society need the same PR, promotion and advertising as a new phone, chips or a music album of a modern group. At the same time, an important rule for the formation of the information agenda is not prohibiting information content, but forming a positive and creative reflection of the younger generation (videos of lessons, school experiments, laboratory work, other forms of knowledge presentation that are uploaded to social networks), and it is important for state educational institutions today to support such initiatives and create conditions for their development.

In terms of ensuring information security, serious work is underway to develop relevant regulatory legal acts. An important part of such documents should be issues that will regulate the stay on the Internet of children and adolescents, control and ensure responsibility on the part of official representatives of minors and young people, educational institutions, and the state. In fact, today a state standard for the use of Internet resources should be formed, based on world experience.

At the same time, the basic principles of tightening legislation should not be based on restrictions alone, but can contribute to the concentration of forces on the formation of media literacy, digital hygiene, fact-checking and safe surfing on the Internet for the younger generation and the population as a whole. The younger generation has great potential for participation in the socio-economic development of countries. However, these opportunities largely depend on the implemented youth policy by state governing bodies. Global Information Society today largely determines the priority of information in the world and in the process of intensive digitalization the toxic media sphere transforms the values of young people [6, p. 97]. And in this case, when personality and society are a source of moral responsibility, it is important to focus on organizing the upbringing of the young generation in the information society.

In the context of the democratization of public life and the formation of a single information space, social initiatives of young people are of particular importance. Their orientation (progressive or regressive) can be regulated (adjusted) by state governing bodies, with the participation of the most active groups (organizations) of young people. The achievements of the harmonic unity of the interests of the state and society in the development of youth initiatives, as well as their specific implementation in practice, are of very relevant scientific and practical importance.

Most likely, today, without a comprehensive analysis of processes and phenomena in the youth environment, it is impossible to develop and implement specific management models for the implementation of state youth policy. Therefore, the relevance of the scientific study of the place and role of young people in the information society is increasing, especially at the present time, when contradictions are aggravated against the background of the ongoing information war in a multipolar world [7, p. 61]. And as a result of objective changes in the existing social reality and the media sphere, young people become one of the main objects of influence of destructive forces in the information society, which largely determines the relevance of research on youth topics.

Thus, the information society as a social system represents a certain integrity, where it is the young person who is the link between the group and society, purposefully carrying out his creative activities. A person's spirituality is a creative personality working for the benefit of his country, possessing such qualities as hard work, kindness and honesty, which are formed in the family and also in the process of organizing education by social institutions and social constants of violence in the information society [8, p. 158].

The Global Information Society is focused today on information violence and destructive confrontation, which does not at all contribute to the creation of favorable conditions for the existing crisis-free social reality, and the growing destructive wave that changes meanings (meanings), as never before, leads technogenic civilization to the so-called «axiological entanglement», provoking the rapid spread of the «freeloader effect». And as a result of such, a value devaluation, the younger generation is gradually deprived of the «moral compass» and moral self-control decreases, deforming all information, changing the «image of meaning» and «the image of the expected future». And all this in the future, affecting young people and the perception of information changes the ideas of the younger generation about the state and society.

But this is not all, since the behavioral-emotional background of the activity of a modern personality presupposes an emphasis on «image-meaning», i.e. emphasis on what allows you to realize the interests of a young person in the process of work in the future. As a result, global issues related to the media sphere and the values of young people in the information society have always been and will be an urgent problem field, which is also associated with the upbringing of a citizen, patriot, family man and worker in the modern Republic of Belarus.

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阿塞拜疆精神价值观的保护和教育领域的改革
**PRESERVATION OF SPIRITUAL VALUES AND REFORM IN THE
EDUCATIONAL FIELD IN AZERBAIJAN**

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注解。 鉴于阿塞拜疆近年来进行的广泛改革，本文将重点关注阿塞拜疆的教育计划改革，重点是确保尊重民族价值观。 文章特别阐明了课程改革的动力，讨论了保存和关怀民族价值观领域的改革目标和目的，并审视了教师在学校层面改革中的作用。 文章基于2016-2023年教育部门发展项目 (ESDP) 的定量和定性监测评估数据，考察了国家新课程在学校和课堂的实施情况，探讨了学生对课程改革的接受程度。 公众，包括家长、学生、教师和校长。 将讨论置于历史背景下，文章强调了从集中式自上而下的课程规划方法转向课堂层面的课程开发所面临的挑战，其中教师的角色转变为转变国家价值观的角色 学生。

关键词：国家价值观、责任、公民、测量、课程。

Annotation. Given the breadth of reforms carried out in recent years in Azerbaijan, this article will focus on the reform of educational programs in Azerbaijan, focused on ensuring the care of national values. In particular, the article will clarify the impetus of curriculum reform, discuss the goals and objectives of the reform in the area of preserving and caring for national values, and examines the role of teachers in reforming at the school level. Based on quantitative and qualitative monitoring and evaluation data from the Education Sector Development Project (ESDP) in 2016-2023, the article examines the state of implementation of the new national curriculum in schools and classrooms and discusses the level of acceptance of curriculum reform among the general public, including parents, students, teachers and school principals. Putting the discussion in a historical context, the article highlights the challenges of moving from a centralized top-down approach to curriculum planning to curriculum

development at the classroom level, where the role of teachers is transformed into the role of transforming national values for students.

Keywords: *national values, duty, citizen, measurement, curriculum.*

Following the collapse of the Soviet Union in 1991, Azerbaijan embarked on a long series of educational reforms aimed at replacing Soviet educational ideologies with Western-oriented values of democracy and market economics. According to the Ministry of Education, the main goal of the new reforms was to “rebuild the sector with the needs of a developing market economy and the future social development of the country” [2, p. 5]. These principles were clearly reflected in the Law on Education (1992, 2016), which defined the following goals of education in independent Azerbaijan: education of citizens and individuals with free and creative thinking, respecting the principles of statehood and national patriotism, human rights and freedoms, preserving traditions democracy and aware of their social responsibility; training personnel and professionals who preserve and develop the spiritual and universal values of the people, have a broad worldview, are able to evaluate innovations, and also acquire theoretical and practical knowledge, modern thinking and are competitive; ensuring the acquisition of a variety of knowledge, skills and habits that serve the development of society and the state and prepare for work and life.

“One of the most important factors determining the legitimacy of the formation of a democratic republic is the fact that it arose as a result of a national historical tradition” [5, 465].

Implementation of new educational reforms was initially slowed by political instability associated with the Nagorno-Karabakh conflict (1988–1994), which severely limited the government’s ability to implement extensive reforms in the 1990s. The pace of education reform slowed further due to rapid economic decline, hyperinflation, and budget cuts in the 1990s. Despite economic recovery since the mid-1990s, investment in the education sector has remained significantly low. According to the UNESCO Institute for Statistics (2019), education expenditure as a percentage of GDP was 7.5% in 1990, fell to 3.8% in 2000 and 2.8% in 2017. Due to financial restrictions, the education system deteriorated significantly during the Soviet period. Perhaps the most notable result of deteriorating education was recorded in the 2006 Program for International Student Assessment (PISA) study, which ranked Azerbaijan among the countries with the lowest scores in reading and science. However, Azerbaijan scored above average in mathematics [13].

Given concerns about declining quality of education, the pace of learning has accelerated significantly since the 2000s. In practice, this entailed the transfer of a “post-socialist education reform package,” a set of globally “traveling” educational policies symbolizing the “modernization” of post-Soviet education systems

in regions of curriculum management and the teaching and learning process. In Azerbaijan, the reform “package” included, among others, student-centered education, decentralization, privatization, standardization of student assessments, and liberalization of textbook production.

In 2003, by order of the Ministry of Education of Azerbaijan, educational programs for grades 1–4 of secondary schools were approved in several languages of the peoples of Azerbaijan, including Talysh [2, p.58].

Jews occupy a prominent place in the ethnic mosaic of Azerbaijan. Most of the Jews live in the Cuban region, they also learn their native language [4, p. 261-274]. In the far west of Azerbaijan, in the border Lachin and Kelbajar regions, as well as in the Nakhichevan Autonomous Republic, Kurds live [6, p.85]. Lezgins live in the northern regions of the republic. Here, in primary school, education is conducted in the Lezgin language. There are many such examples of multiculturalism and all this is reflected in educational reforms [11, p. 26].

Soviet curriculum planning was characterized by a top-down approach, which was mainly aimed at “developing human resources that could work in a planned economy” [9, p. 10]. The emphasis was on acquiring knowledge through memorization of facts, but not necessarily on applying knowledge and developing skills in different situations. Although the teaching and learning experiences of different teachers varied, the typical teaching method in Soviet schools was a straightforward presentation of facts or skills, with teachers heavily dependent on the official textbook. Reflecting on the content of educational programs in Soviet Azerbaijan, N. Baimova wrote: “Education is mainly focused on the assimilation and reproduction of facts, rather than on the development of problem-solving and critical thinking skills; the content of education is mainly theoretical and has limited relevance to everyday life; classes are teacher-oriented, and teachers do not pay attention to the abilities and needs of individual students, as well as to the preservation and development of the national values of Azerbaijan” [3, p. 81].

Standardization and uniformity were ensured by centralized planning and implementation of training programs. The school curriculum was usually developed in Moscow (or the capitals of the Soviet republics) and then distributed to schools throughout the Soviet Union. In this context, the teacher’s role was limited to transmitting standardized materials to students, and the students’ job was to memorize them.

Although centralized curriculum development may have played an important role under Soviet conditions, it proved inadequate—both in terms of curriculum content and curriculum development process—when Azerbaijan gained independence and began the transition from a planned to a market economy in the 1990s. In the 1990s, curriculum reform mainly focused on removing Soviet ideology from the existing curriculum and introducing new subjects. The National Cur-

riculum 2006 was developed as a set of achievement standards that define what students should know and be able to do as a result of learning at each grade level and across a range of subject areas. This was a fundamentally new approach in the curriculum development paradigm [8].

The New National Curriculum was approved by the Cabinet of Ministers in 2006 and began to be implemented at the primary level in all schools across the country in 2008, emphasizing the importance of applying knowledge and skills, preserving national values and traditions. As a result, the new national curriculum of 2006 introduced reforms mainly in six areas, including the formulation of learning outcomes for each subject area, teaching methods, student assessment, and learning resources.

In addition to redefining the meaning of quality education, the new curriculum reform has also changed the role of school teachers. The teacher's role will change from an "expert" of factual knowledge to a "coordinating, guiding and consulting player": the teaching and learning process is established through mutual cooperation between teachers as coordinating, guiding and consulting players and students as researchers, practitioners and creating players, taking into account the following principles: integrity of the teaching and learning process; creating equal opportunities for learning; student-centeredness; focus on developing students' knowledge, skills and attitudes; motivation for activity; creation of a supportive environment [3, p. 4].

Based on research conducted during the implementation of the new reform, teachers are applying these important changes in their daily practice. In particular, how are teachers and schools responding to the new curriculum reform? How do teachers see their new responsibilities and to what extent do they accept their new role in communicating national values to students? These questions are crucial for understanding the current state of development of the education system in Azerbaijan, since they affect some of the most important aspects associated with rethinking quality education: teacher professionalism and teacher participation in the teaching and learning processes [13, p.9].

In 2007, the Ministry of Education of Azerbaijan approved a new textbook policy that allowed teachers to act as experts in evaluating new textbooks that were submitted by publishers for the new primary education curriculum [7]. To understand the significance of this experience, it is necessary to go back and remember the history of the development and evaluation of traditional textbooks during the Soviet period, when the right to write textbooks and evaluate the school curriculum remained exclusively with teachers of higher educational institutions [13, p. eleven]. The new policy radically changed the role of teachers, viewing them not only as passive users of textbooks, but also as developers of textbooks that take into account national interests. According to a 2019 report by the Ministry of

Science and Education, the new sets of textbooks for each subject were positively evaluated by teachers, who praised the introduction of new teacher guides [10].

During baseline studies, the majority of teachers in Azerbaijan supported the reform process and emphasized “teacher professionalism” as the main factor determining the quality of education in the country [13]. In addition, teachers note that children express their own opinions more skillfully and are better aware of civic values and society as a whole (Table 1).

Table 1

Statement	Bad	Satisfactorily	Fine	Perfect
Students interact with others while learning	3,6	28,0	47,3	20,8
Students express their opinions clearly and comprehensively throughout their learning.	1,3	28,7	45,7	23,8
Students learn about civic values and society	3,3	24,4	46,3	25,4

The most interesting finding from the study results is that teachers believe that students’ active participation in the learning process and the role of the classroom environment provide the necessary support for learning. Updates used in world practice with concepts are included in the national pedagogical process or are introduced [1, 16].

It is important to note that in the 2019 study, a large number of teachers admitted that they would like to return to the old curriculum in all (10% of all respondents) or some (43.7% of all respondents) academic subjects and continue teaching as they did in previous ones decades. Elementary school methodologists who participated in both observational studies provided interesting insights to explain the discrepancy between practice and rhetoric: [13]

- There is a mixture of old and new with each other. Many teachers embrace innovation, but many of these innovations are lost in the implementation process.
- Implementation of the new curriculum is impossible without technical materials, - The new curriculum consists of several components, one of which is dedicated to additional teaching strategies.

Another interpretation of the data is that perhaps teachers are becoming more critical of various reform initiatives and thinking more about their own abilities to implement curriculum reform. In particular, curriculum reform required teachers to make significant changes to their classroom practices—from deciding how to teach and what resources to use, to determining how to prepare for classes and how to evaluate teaching/learning outcomes. In addition, in 2018-2022. respondents repeatedly expressed the need for continuous review and improvement of the curriculum. This testifies to the great self-awareness of teachers of their professional needs in the context of new curriculum reforms, including those related to the transmission of national values.

Conclusions. Recent years have been characterized by a series of ongoing reforms at all levels of the educational system of Azerbaijan. Reforms to the school curriculum have been particularly profound, requiring a reformulation of not only the content of the curriculum, but also the teaching and learning process itself. At the political level, commitment to a new understanding of educational quality has been clearly demonstrated in political declarations, ministerial statements and academic rhetoric that emphasize the values of child-centred learning, creativity, critical thinking and lifelong learning skills, preserving national values. In particular, the 2019 national curriculum emphasized the importance of applying knowledge and skills, placing the price tag at the center of pedagogical discourse [15, p.47]. In summary, the new national curriculum led to reforms in several interrelated areas, including learning objectives and learning outcomes, teaching methods, student assessment, learning resources, teacher education and professional development, and school structure and libraries - thus redefining what and how they teach in schools.

The new curriculum reform required a reconsideration of the teacher's role. In addition, teachers are now consulted as "experts" in the design and evaluation of textbooks being developed. In other words, the new reform entailed a transformation of the entire "pedagogical culture" in Azerbaijani schools, taking into account national values. Preserving and transmitting national values requires access to ongoing professional development opportunities, a collaborative school environment, and encouragement, recognition, and support from officials within the education system. It is therefore essential to create the desired supportive environment that involves the collective participation of teachers, school principals and policy makers, as well as collaborative working structures that serve to enhance competencies and improve communication between the various stakeholders in education.

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动机作为现代教育的一个宝贵元素
**MOTIVATION AS A VALUABLE ELEMENT OF MODERN
EDUCATION**

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抽象的。新现实条件下儿童的发展是一个复杂且多方面的问题，取决于许多因素，例如技术变革、社会文化变革。所有这些都影响到改变教育环境、开发学童教学方法和现代方法的需要。本文分析了“动机”现象作为现代教师的一个重要活动领域。作者列举了激励影响因素，并提出了改进教学活动的方法。文章还考察了各国的教育实践，并研究了学童的领导方面。对学校社会支持的方法进行了评估，并考虑了其表现形式的基本原则。

关键词：教育、学童动机、社会支持、教育活动、教学方法。

Abstract. *The development of children in the conditions of new realities is a complex and multifaceted problem that depends on many factors, such as technological changes, sociocultural transformations. All this affects the need to transform the educational environment, develop approaches and modern methods of teaching schoolchildren. The article analyzes the phenomenon of “motivation” as an important area of activity for a modern teacher. The author cites factors of motivating influence and suggests approaches to improving teaching activities. The article also examines the educational practices of various countries and studies the aspect of leadership among schoolchildren. The approach of social support in school is assessed and the basic principles of its manifestation are considered.*

Keywords: *education, motivation of schoolchildren, social support, educational activities, pedagogical approach.*

It is noted that “the very concept of education etymologically means the formation of an image (the image is a consequence of education), personality. And it is not without reason that the absence of an image (without image) coincides with the word ugly. A similar etymology can be seen in the English language”²⁶. Motiva-

²⁶ Zernov D.V., Iudin A.A., Ovsyannikov A.A. *Social guidelines and well-being of Russian teachers // Population. 2014. No. 4. P.44*

tion plays an important role in education. Half of the students' success depends on it. You should pay attention to a number of key aspects that create the necessary motivational vector.

One of the factors of motivating influence in the educational environment is the goals and ambitions that are set for students both at home and at school. At the same time, it is especially important to help the student decide on goals and ambitions not only at school, but also in life. It is the understanding of what the child is striving for that can help to better understand the importance of learning and build approaches to overcome emerging difficulties on the way to achieving the intended goals.

Studies of educational practices in various countries show that the main part of managing each organization, starting with the recently fashionable school children's organizations, children's parliaments or business organizations of various types, consists of coordinating work and achieving set goals. For example, in Bulgaria this process includes the need to train, develop and develop new leaders. M.N. Usheva writes: "Therefore, leadership is an invariable part of effective management. When we talk about leadership and management, it must be emphasized that at best, every manager should be a leader, but this is not always the case. Leadership manifests itself mainly in interpersonal relationships and is associated with the fact that a group of people strives to achieve common goals"²⁷.

Scientists write: "Professional self-determination proceeds in several stages - from primary professional motivation in childhood to the formation of motivation for work activity in the process of work through the actualization of motivation in the course of receiving vocational education."²⁸.

The second important factor contributing to the motivation of schoolchildren is the support of others.

Under the influence of various unfavorable circumstances, children are currently experiencing developmental problems, various deviations in physical and mental development are observed, and serious behavioral disorders are also observed. The social situation also has a negative impact on educational institutions. Schools were given a new task - to demonstrate a humane approach to the educational process and to build innovative forms of education. When such principles are applied in practice, serious imbalances arise in the child's emotional and cognitive development. The contradictions caused serious problems in raising children, and maladjustment occurred at school. Parents, teachers and other significant

²⁷ Usheva M.N. *Management in the style of positive leadership in secondary education in Bulgaria through school self-government // Pedagogical education. 2009. No. 4. P. 162-169.*

²⁸ Iudin A.A., Sitnikova I.V. *The educational system of Russia and the professional choice of youth // National Research Nizhny Novgorod State University named after. N.I. Lobachevsky. Nizhny Novgorod, 2023. P. 6.*

adults can play an important role in motivating students by supporting, encouraging and helping them overcome challenges²⁹.

In many countries, great importance is given to social support, which appeared as an element of the educational environment at the end of the last century. It is noted that the term “escort” was first introduced in 1993 by T. Cherednikova. Psychological support in a complex aspect was considered by many domestic scientists and teachers, including L. M. Shipitsyna, I. S. Yakimanskaya. Signs of anxiety and ways to eliminate them were studied by A. I. Zakharov, Z. Freud. Over a long period of time, psychologists have been identifying the true causes of this phenomenon, trying to find effective ways to eliminate the problem. Comprehensive support is a complex of development diagnostics and correctional and developmental programs aimed at eliminating identified problems³⁰.

Social support includes some principles of supporting a child’s activities, including children with disabilities.

One of these principles is providing the child with the opportunity for self-determination in various life situations, as well as reinforcing his right to make personal choices. At the same time, thanks to the use of innovative pedagogical technologies, support for schoolchildren’s activities has become multidirectional and combines the participation of parents, teachers, psychologists and medical workers (if necessary). The essence of the principle is also that the child develops a certain key to communication with peers and the teacher, and determines the vector of the path in achieving small and large goals. An adult accompanies the student on this path, helps to form a subjective, responsible position in relation to the events that surround the child.

The third factor that helps strengthen the motivation of schoolchildren is the development of a strategy for creating and maintaining interest in the subject. In this aspect, the teacher’s ability to create interesting and stimulating lessons that capture the attention of students is essential. Along with this, it is required to demonstrate the connection of the educational material with the students’ own interests and life goals.

Encouragement and praise serve as the fourth motivating factors in the educational environment. It is this factor that helps students strengthen their self-confidence and gain inspiration to acquire new knowledge.

I.I. Tolstolutsкая rightly notes: “Children who are timid and insecure especially need encouragement. A positive assessment of work, behavior, and actions strengthens their faith in their own strengths and raises them to a new level of

²⁹ <https://vogueindustry.com/17270189-psychological-and-pedagogical-support-is-individual-support-definition-and-features> (access date 14.04.2024).

³⁰ <https://vogueindustry.com/17270189-psychological-and-pedagogical-support-is-individual-support-definition-and-features> (access date: 14.04.2024).

moral development”³¹. Indeed, praise can demonstrate to children that their efforts and achievements are appreciated by others. It is praise that can create a feeling of support and confidence. At the same time, as already noted, motivation for learning occurs. Children seek additional recognition of their own successes.

Another important factor, motivation, is helping schoolchildren adapt to their individual needs. The implementation of this approach consists of personalized assistance to each child to discover and realize their potential. Each child is unique and this uniqueness manifests itself in various areas: creative, sports, etc. Therefore, testing should be carried out, the directions of interests of students should be determined and, as a result, they should be involved in those areas in which this potential is identified. By adapting children in education taking into account the manifestation of their abilities, schoolchildren are inspired to creative thinking and self-expression. At the same time, as a rule, children develop a positive self-esteem, which has a positive effect on their motivation.

Perhaps the most significant factor in motivational activities in an educational environment is setting realistic expectations and communicating to children the fact that success does not come without effort and patience, and failure is just a small part of the learning process. Therefore, it is especially important for a teacher to develop and convey to schoolchildren a strategy for overcoming difficulties and adapting to a changing reality.

As H. Columbus said: “You will never cross the ocean if you are afraid of losing sight of the shore.”³².

Summarizing the above, it should be emphasized that the motivation of schoolchildren is a process that requires attention and support from parents, teachers and educational institutions.

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考虑扳手腕运动员的个体心理特点形成对决方式

TAKING INTO ACCOUNT THE INDIVIDUAL PSYCHOLOGICAL CHARACTERISTICS OF ARMWRESTLER ATHLETES TO FORM THE MANNER OF CONDUCTING A DUEL

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注解。 本文探讨了扳手腕运动员的个人心理特征对于形成其战斗方式的重要性。 对扳手腕运动员的进攻和反击战斗风格进行了分析。 研究结果显示, 会计揭示了既定的差异, 这有助于优化具有不同个人格斗风格的运动员的训练过程。

关键词: 运动员 - 扳手腕运动员, 个人 - 心理特征, 战斗方式, 会计, 训练过程。

***Annotation.** The article examines the importance of taking into account the individual psychological characteristics of arm wrestlers to form their manner of fighting. An analysis was carried out among arm wrestlers with attacking and counterattacking fighting styles. As a result of the study, accounting is revealed established differences, which can help optimize the training process of athletes with different individual styles of fighting.*

***Keywords:** athletes - arm wrestlers, individually - psychological characteristics, manner of fighting, accounting, training process.*

Introduction

During the training and competitive process in arm wrestling, understanding the individual psychological characteristics of athletes plays a key role in the formation of an effective strategy and tactics for conducting a fight. Athletes of the highest sportsmanship, with equal regalia and competitive experience, as a rule, can adapt to their opponent in order to gain superiority during the fight, or adapt directly during the fight to one or another strength superiority or technical skill of their opponent. However, in arm wrestling, attention is not paid to the individual psychological characteristics of the athlete, since most arm wrestlers at the initial stage of sportsmanship, absolutely unconsciously during the training process, prepare for an attacking manner of conducting a fight, and during competitions they cannot realize themselves in the proven concept of conducting a fight and auto-

matically switch to a counterattack, which in turn is ineffective, since due attention was not paid to such a scenario during preparation. This approach leads to a high degree of injury and loss of time.

Materials and methods

It is a generally accepted fact that there are three main styles of fighting: attacking, counterattacking, and combinational.

The study, the results of which are presented in the article, was aimed at studying the individual psychological characteristics of highly qualified athletes involved in arm wrestling with different styles of fighting. At the first stage of the experiment, 20 arm wrestlers were recruited to participate. Then a selection was made of typical representatives of the attacking and counterattacking style of fighting. The selection was made through observations. The qualification of the manner of conducting a duel was determined only if the characteristics were identical across all five channels of information. In this way, 12 athletes were selected - 6 with an attacking style of fighting and 6 with a counterattack. To confirm objectively the homogeneity of the selected groups in terms of individual fighting style, discriminant analysis was used. The strength of the nervous system relative to excitation was studied in all arm wrestlers according to the motor method of V. S. Merlin and anamnesis [1]. Imbalance - the balance of the nervous system relative to excitation was determined using the method of N. S. Leites and the questionnaire of Y. Y. Kiselev [2]. The manifestations of extraversion and neuroticism were revealed using the Eysenck questionnaire [3]. In connection with the objectives of this study, a discussion of its results and their interpretation is carried out on the basis of a comparison of the indicators of both groups of athletes - arm wrestlers. The indicators of the athletes and the attacking manner of conducting the fight are indicated first everywhere, and the counterattack is indicated second.

Results and discussions

In terms of the strength of the nervous system relative to excitation, there were no significant statistical differences between the athletes involved in arm wrestling in both groups. The indicators themselves are equal - 1.09 and 1.07 - according to laboratory methods, 37.1 and 35.03 - according to anamnestic methods. These data indicate a strong nervous system relative to arousal in both groups, with slightly greater nervous system strength in attacking arm-wrestler. A strong nervous system is a necessary condition for the success of competitive activities of arm wrestlers. During the training process, and especially in the competitive process, the activity of an arm-wrestling athlete is accompanied by significant neuropsychic stress, due to the possibility of receiving a painful blow to the arm, injuring it, the need to "cut" weight, etc. It can be assumed that arm-wrestling is selected in ultimately; athletes with a relatively strong nervous system are able to more easily withstand significant psychophysiological stress. In terms of the

imbalance of the nervous system relative to arousal, the differences turned out to be statistically significant at $p = 0.01$, the indicators were equal - 44.35 and 36.98; for the balance of the nervous system, too - 22.48 and 28.01 ($p=0.001$). Probably, a shift in the balance of nervous processes towards excitation in attacking athletes, somewhat complicating the adequate perception of the situation of the fight, contributes to the construction of active, offensive activity at the arm table. These arm wrestlers fight with peculiar “explosions” in the form of a blow or a series of blows. Moreover, conversely, athletes with a more balanced nervous system due to excitement conduct the fight carefully, reacting adequately to the opponent’s actions, using his weak technical aspects for counterattacks. In terms of extraversion, the distinctions are unreliable, however, we can talk about a tendency towards extroversion of arm wrestlers in an attacking manner of fighting and introversion of arm wrestlers in a counterattacking manner. The indicators are equal - 25.66 and 23.90. Since introverts have an advantage over extroverts in vigilance tasks, this explains the difference in these indicators. After all, constant vigilance is necessary for counterattacking arm wrestlers to recognize the deceptive actions of the attacking enemy and timely counteractions. Significant differences were revealed in neuroticism indicators - 22.05 and 27.35 ($p=0.001$). The higher level of neuroticism in counterattacking athletes is explained by the following: manifesting itself in anxiety, internal anxiety, and fear of low evaluation of one’s performance, neuroticism contributes to the formation of such a manner of conducting a fight when the arm-wrestler rarely aggravates the situation himself, but waits for an opportune moment for retaliatory attacking actions.

The next stage of analysis of the obtained data was correlation analysis. The intercorrelation matrices included 6 indicators each (Tables 1 and 2)

Table 1

Indicators	No.	1	2	3	4	5	6
Strength HC(lab)	1		708	068	-023	-128	-018
Strength HC(anam)	2			-065	-111	-107	-049
Unbalanced. HC(lab)	3				-248	331	-071
Balanced. HC(anam)	4					104	166
Extraversion	5						-168
Neuroticism	6						

In both matrices, indicators of the strength of the nervous system relative to arousal, obtained by laboratory and anamnestic methods, significantly correlate with each other - $r_1=708$, $r_2=687$ ($p=0.001$). This indicates the validity of these methods and the legitimacy of using the most efficient and less cumbersome. This

is the anamnestic method of “life” manifestations of the typological properties of the nervous system.

Table 2

Indicators	No.	1	2	3	4	5	6
Strength HC(lab)	1		687	-242	059	111	085
Strength HC(anam)	2			-203	130	087	-020
Unbalanced. HC(lab)	3				-324	-169	-022
Balanced. HC(anam)	4					-021	-044
Extraversion	5						403
Neuroticism	6						

There is a significant correlation coefficient between the indicators of imbalance and balance of the nervous system only for counterattacking athletes - $r = -324$ ($p = 0.05$), for attackers it is unreliable.

In attacking arm wrestlers there is a connection between indicators of extraversion and nervous system imbalance – $r=331$ ($p=0.01$); for counterattacks – extraversion and neuroticism – $r=403$ ($p=0.01$). The first coefficient is explained by the following: in both properties, a system of response to the influence of the external environment, similar in some respects, is manifested. Extroverts are characterized by significant dependence on the environment because they exhibit behavioral reactions that characterize the lack of balance of nervous processes. The imbalance of the nervous system towards arousal is manifested in the inadequacy of emotional states in the sports environment, the inability of the athlete to refrain from impulsive actions that are unnecessary at the moment. The combination of extraversion and imbalance of the nervous system ensures greater effectiveness in the attacking style of the fight. The second coefficient - a combination of extraversion and neuroticism - provides greater effectiveness in a counterattacking manner of the fight, when the arm wrestler does not aggravate the situation during the fight. The basis of this interaction is either balancing or synergy with the symptom complex of extraversion-introversion and neuroticism. Taking into account the established differences can help optimize the training process of athletes involved in arm wrestling with different individual styles of fighting.

Conclusion

Based on the study, we can conclude that taking into account the individual psychological characteristics of arm wrestlers plays an important role in shaping their style of fighting. Understanding the psychological characteristics of each arm wrestler allows coaches and athletes to optimize strategies and tactics, which helps

to increase performance and efficiency in the competitive process. Thus, an individual approach to each athlete, especially at the initial stage of sportsmanship, is important to prevent the loss of time in the practical search for an individual manner of conducting a fight, achieving high sports results in arm wrestling, and avoiding a high degree of injury in arm wrestling.

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概念隐喻理论概述

CONCEPTUAL METAPHOR THEORY OVERVIEW

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抽象的。 本文讨论的是人类思维中认知或概念隐喻的理论。 隐喻观点是从认知的角度来看待的,关于概念隐喻理论的各种观点正在被观察。 该研究主要关注概念隐喻的构建和解释所涉及的认知过程。 研究了对认知隐喻的理论和实践研究做出贡献的最重要的语言学家的著作。 概念隐喻的类型是从语言所揭示的人类认知的角度来定义的。

关键词: 认知语言学、概念隐喻、认知隐喻、概念隐喻理论、目标域、源域、认知、概念化。

Abstract. *The present article deals with the theory of cognitive or conceptual metaphor encoded in human mind. Metaphorical view is dealt with from a cognitive perspective and the various opinions on the conceptual metaphor theory are being observed. The study has primarily focused on the cognitive processes involved in the construction and interpretation of conceptual metaphors. The works of most important linguists that have contributed to the theoretical and practical investigations of the cognitive metaphor have been studied. The types of the conceptual metaphor have been defined from the perspective of human cognition revealed in the language.*

Keywords: *cognitive linguistics, conceptual metaphor, cognitive metaphor, conceptual metaphor theory, target domain, source domain, cognition, conceptualization.*

Conceptual metaphor is currently one of the most relevant topics in cognitive stylistics. Since the investigation of a conceptual metaphor by the American linguists Lakoff G. and Johnson M., metaphor has been analyzed from a cognitive point of view. This has allowed many linguists to study the cognitive processes of people's speaking and writing. Moreover, it has provided an opportunity to thoroughly explore concepts, which arise in the mind. Thus, conceptual metaphor theory has provided linguists with cognitive tools to understand how people see the world and display themselves in everyday speech.

Before referring to the theory of cognitive or conceptual metaphor, some connected definitions should be provided.

A metaphor, as it is given in Encyclopaedia Britannica is “a figure of speech that implies comparison between two unlike entities, as distinguished from simile, an explicit comparison signaled by the words ‘like’ or ‘as.’” The example of a metaphor can be “Juliet is the sun” taken from Shakespeare’s “Romeo and Juliet”, where a heroine is compared to the sun with her brightness, importance and beauty.

Cognition that is basic for conceptual metaphor theory is a mental process of learning and acquiring knowledge as a result of cognizing the surrounding world and processing this information in the individual’s mind. At the same time, conceptualization is a mental process of meaning construction and concept formation in the mind of a person [1, p. 79].

Conceptual or cognitive metaphor theory deals with all these terms and how they are connected within a human’s mind. The theory was developed by George Lakoff and Mark Johnson in their work “Metaphors We Live By”, 1980. Generally, the theory was investigated by Johnson M. (1987), Lakoff G. (1987), Lakoff G. and Turner M. (1989), and later on from a bit different perspective by other linguists, such as Gibbs R. (1990, 1992), Way E. (1991), Steen G. (1994), and Kövecses Z. (2002).

The idea proposed by Lakoff G. and Johnson M. in their book bases on the conceptual character of metaphor. The traditional conception of a metaphor is purely linguistic, and views it as a specific stylistic device used for speech adorning. Metaphors are considered to be applied by writers and poets or those who wish to make their language more beautiful and, consequently, are seen as “the matter or extraordinary rather than ordinary language” [2, p. 4]. In general, people do not think that they need metaphors and do not believe that they constantly deal with them.

Lakoff G. and Johnson M., in their turn, tried to prove that our thought and, thus, action are metaphorical in their nature, that the whole world perception and cognition are built on metaphors. People think, conceptualize and act subconsciously and automatically, so these cognitive metaphors can be traced mainly in language, as language is the tool to express our conceptual world picture.

In general, the suppositions by Lakoff G. and Johnson M. can be presented as follows:

- Conceptual metaphors might be noted in language in our casual life.
- Conceptual metaphors shape not just our communication, but also the way we think and act. So, they are not mainly the property of words, but rather of concepts.
- Thought itself is fundamentally metaphorical in nature and, thus, our conceptual system is metaphorical.

- Cognitive metaphors are prevalent in communication. We do not just use them in language, but we actually perceive and act in accordance with these metaphors.

To these Zoltan Kövecses in his book “Metaphor: A Practical Introduction” adds such criteria as: metaphors are used for understanding concepts, but not simply for aesthetic purposes; metaphors are not usually based on similarity; they are used by ordinary people, not just artistically talented ones; metaphors, thus, are “inevitable process of human thought and reasoning”. The author suggests that many “dead metaphors”³³ are so naturally interwoven into our speech that we do not understand and do not even consider them being metaphors, though once they might have been those. In such examples as “a local branch of this organization” and “cultivating business relationships” the words in italics do not seem to be uncommon for everyday speech and to bear strong metaphoric meaning, however, their more careful examination reveals their metaphorical nature. So, to some extent we cannot name this kind of metaphors “dead”, as they govern our thinking processes and are met frequently in our speech [3, p. 10].

Thus, what is a conceptual or cognitive metaphor? This is the way, in which one idea or concept that is named a conceptual domain is understood in terms of another conceptual domain. The conceptual domain can be referred to “any coherent organization of experience” [3, p. 22].

Moreover, it is claimed by Mathias W. Madsen in his work “Cognitive Metaphor Theory and the Metaphysics of Immediacy”, 2016, that cognitive metaphors refer to general human perception as they seem to be similar throughout nations [4]. So, the principles of the brain working being basically same for all humans, thus, base on metaphorical thinking, building kind of cognitive mapping with the help of conceptual domains. Still, despite its popularity, many scientists doubt this theory as lack of evidence was provided by Madsen M. to support his hypothesis.

As it was mentioned, the cognitive metaphor is based on analogy drawn between two different concepts. The concept that is being described is named a target domain. The concept, in terms of which the target domain is described, from which metaphorical expressions are drawn, is named a source domain. Target domains are usually more abstract and include such concepts as emotion, thought, relations, social organizations and other human experience. Source domains are generally more specific and refer to actions and objects, such as journeys, food, plants, buildings, etc.

Kövecses Z. in his book “Metaphor: A Practical Introduction” investigated several kinds of source domains and proposed the most common ones [3, pp. 34-38]. These include:

³³ “Dead metaphors – metaphors that may have been alive and vigorous at some point but have become so conventional and commonplace with constant use that by now they have lost their vigor and have ceased to be metaphors at all”. Kövecses, Z. 2002.

- human body based on the application of such expressions as “the heart of the problem; to shoulder a responsibility; the head of the department”;
- health and illness (a healthy society; a sick mind; she hurt my feelings);
- animals (using such animals as a tiger, a lion, a brute, a sly, a dog, a fox, a cow, a snake, when describing the personal traits and the behavior of certain people);
- plants (a budding charm; the fruit of his efforts; the branch of linguistics; he was a person I should like to cultivate; exports flourished last year; the flower of our youth);
- buildings and constructions (a towering genius; he’s in ruins financially; she constructed a coherent argument);
- machines and tools (the machine of democracy; conceptual tools; she produces a book every year); games and sport (to toy with the idea; he tried to checkmate her; he’s a heavyweight politician);
- money and business (spend this opportunity wisely; it saves you one hour; ruins were invested with romance; the general was invested with the command);
- cooking and food (high-rate inflation is a recipe for disaster; this is a watered-down conclusion; he cooked up a dishonest scheme; she’ll cook up a convincing explanation; I worked all day, I’m way baked to do anything tonight);
- heat and cold (in the heat of passion; a cold reception; an icy stare; a warm welcome);
- light and darkness (a dark spirits; she brightened up; he lighted her heart);
- forces (she swept me off my feet; you’re driving me nuts; don’t push me!);
- movements and direction (he went crazy; she solved the problem step by step; inflation is soaring; our economy is galloping ahead).

According to the author, the most common target domains are the following. It should be noted here that in the examples in italics, words associated with source domains are highlighted, whereas common phrases have meanings within target domains [3, pp. 39-42].

- emotion (she was deeply moved; he was bursting with joy; he unleashed his anger);
- desire (she is hungry for knowledge; I am starved for affection; he’s burning to go);
- morality (I’ll pay you back for this; she resisted the temptation; he’s a straight shooter; he’s a shady character);
- thought (she’s grinding out new ideas; he hammered the point home; he searched for the memory; I see your point);
- society/nation (what do we owe society? neighboring countries; a friendly nation);

- politics (they forced the opposition out of the House; the president plays hardball);
- economy (Britain has pruned the budget; the country builds a strong economy; the growth of the economy);
- human relations (their friendship blossomed into true love; they were in the flower of relationship; it's a budding relationship; they can trace their relationship to the first date; you should work at being friendlier with others);
- communication (he is putting too many arguments into one paragraph; this is a dense essay; the given information should be digested);
- time (soon time will come for a new plan; the holidays are approaching; time flies so fast);
- life and death (the baby will arrive soon; her father is gone; Jack has passed away; the old man has departed peacefully);
- religion (when God is referred to as Father, Shepherd, King, etc. and the believers are seen as God's children, sheep, subjects, etc.);
- events and actions (he went crazy; she turned thirty last month; you're driving me nuts).

In his turn, Madsen M. argues that it is not always possible “defining a coherent and cognitively valid” concrete meaning within a cognitive metaphor and single out certain more frequent domains based on human experience. The author supposes that, despite generalizations driven, an individual experience is still important and influences metaphor's formation [4, pp.881-908].

In 2001, somehow similar and at the same time opposite ideas were expressed by Zouheir Maalej in the work “Metaphor Making and Processing”. The author claims that in processing and understanding of a conceptual metaphor some pragmatic aspects should be taken into consideration. So the author considers that individual characteristics, time, place, relations and culture still can influence not only cognitive metaphors' creation within the brain and the language, but the way they are perceived and processed by individuals [5, pp. 105-123].

Kövecses Z. claims that the construction of a conceptual metaphor has a psychological base, thus, being possibly seen as in instrument for producing new expressions and organizing human thought. It plays an important role in the construction of our social, cultural, and psychological reality [3, p. 12].

One more term refers to the links that exist between two domains and is called cognitive mapping. These are systematic correspondences between the constituencies of the target domain and the source domain. The process of mapping is based on the knowledge structures that are built in our brain and reveal certain background knowledge and associations between two domains and the way they may be linked to each other [6]. Some features that are supposed to be inherent

for target domains are in reality those of the source domains, which we use unconsciously in our language. The mentioned pre-linguistic associations are also named image schemas and are described as structures within cognitive processes, which establish patterns of understanding and reasoning [5]. The image schemas are connected with space, time, moving, controlling, and other concepts connected with human body and brain.

Esther Romero and Belen Soria have their own conception of mapping that occurs while perceiving a cognitive metaphor. They suppose that to understand a cognitive metaphor appropriately, a person should at the same time perceive “a contextual abnormality and a conceptual contrast”, which help to identify the metaphor and activate some conceptual mechanisms for its interpretation. Thus, cognitive metaphor processing requires pragmatic mapping as well to understand provisional metaphoric meanings [7, p. 3].

There are several types of cognitive metaphors build on different perception of target and source domains and relations between them. Lakoff G. and Johnson M. in their book “Metaphors We Live By” divided cognitive metaphors into the following subtypes [2, pp. 23-26]:

- Structural metaphor: when one more complex concept, usually more theoretical (target domain), is represented in terms of another, more precise concept (source domain). Connections between the two concepts can be made based on global recognition, attitudes and values, beliefs and assumptions. Research into everyday discourse illustrates this metaphorical representation within each culture, and similarities in worldview regarding specific foci give rise to the same structural metaphors conveyed in language.
- Orientational metaphor deals with spatial orientation. This type is connected with categories like up-down, in-out, front-back, on-off, deep-shallow, central-peripheral, etc., arranging the whole conceptual system in spatial connections with one another. Because our brains use these orientations based on how our bodies move and feel in the environment, we implicitly use the same categories for our sensations and emotions. G. Lakoff and M. Johnson argue that orientation metaphors are not the same for all countries and that they depend on national characteristics and worldviews, which are influenced by cultural perspectives.
- Ontological metaphor is one of the most common types of conceptual metaphor; however, it is also one of the least observed by speakers. It is based on the idea of interpreting unmeasured objects or experiences as entities and substances that can be quantified, located, pointed to, and therefore classified. This mental structure that imparts abstract entities helps us perceive them, allowing us to establish a relationship and position with

them. In everyday life, people usually interact with material things, adopting their movements, actions and interactions with them. As a result, our minds think about abstract concepts in the same way.

- Container metaphor is based on our physical view of the world and ourselves as containers that have an “in-out” orientation. It starts with people’s perceptions of the rooms they are in, then moves on to districts, cities, nations, and the entire planet, each of which is viewed as a container having spatial qualities and the possibility of something to be in or out [1, p. 86]. Similarly, some objects or abstract ideas are also endowed with these container properties, limits, and quantities.

One more cognitive metaphor type that is called a conduit metaphor was elaborated by Michael J. Reddy in his work of 1979. It has some analogy with container metaphor in terms of words seen as containers, into which ideas and thoughts are put as objects and sent via a conduit to the interlocutor that extracts them from imaginable container and perceives. The whole communication, thus, is seen as conduit with messages sent and received. Reddy proposes that language figuratively transfers human thoughts and feelings. Thus, a weak speaker of a language cannot send his/her ideas properly, making listeners understand him/her not fully of improperly, while a good language speaker transfers ideas well making listeners understand him/her as needed [8].

All in all, conceptual metaphors reveal metaphoric associations in our brain. Two domains linked may not necessarily (and even most often do not) have similarities in their casual meaning, however, the subconscious resemblance based on psychological and cultural characteristics and subsequent behavior makes us create verbal expressions that apply words inherent for a source domain in terms of a target domain. This metaphorical usage is so natural that we do not realize it until language expressions are analyzed.

A cognitive metaphor is based on the principles of metaphorical nature of the thought, where certain links are drawn between two seemingly different concepts and are demonstrated in the language we use. This is opposed to the traditional view on metaphor as purely stylistic device, used for speech beautification by especially talented people. Our entire conceptual system is metaphorical. Conceptual metaphors are used by ordinary people in their everyday speech, however, are not strongly visible in the language, until are analyzed.

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省会城市的哲学。 鲍里索夫的哲学思想
**PHILOSOPHY OF PROVINCIAL CITIES. PHILOSOPHICAL IDEAS
OF BORISOV V.N.**

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抽象的。 这篇文章展示了教授、博士的角色。 科学博士。 鲍里索夫 V.N. 新西伯利亚学术城和萨马拉市哲学社区的形成。 鲍里索夫 V.N. 以一个人和一个科学家的身份呈现。 在他的作品中，他展示了主体知识和反身（超主体）层面的相互作用，区分了作为普遍心理形式和哲学基本概念类别。 揭示了马克思主义理论中科学因素与乌托邦因素之间复杂而矛盾的关系。

关键词：作为认知过程的思维、作为逻辑过程的思维、认知活动的主体层面、认知活动的超主体（反身）层面、认知形式的认识状态、作为科学的马克思主义、作为乌托邦的马克思主义。

Abstract. *The article shows the role of the professor, Doc. of Ph. Sci. Borisov V.N. in the formation of the philosophical community of the Novosibirsk Academic Town and the city of Samara. Borisov V.N. presented as a person and as a scientist. In his works, he shows the interaction in knowledge of the subject and reflexive (supra-subject) levels, distinguishes between categories as universal mental forms and as fundamental concepts of philosophy. Reveals the complex and contradictory relationship between scientific and utopian elements in the theory of Marxism.*

Keywords: *Thinking as a cognitive process, thinking as a logical process, subject level of cognitive activity, supra-subject (reflexive) level of cognitive activity, epistemic status of cognitive forms, Marxism as a science, Marxism as a utopia.*

The most famous specialist in Soviet and Russian philosophy in China, Professor An Qingyan, in his fundamental work “Where Russia is Going. Russian philosophy after the collapse of the Soviet Union” presented a detailed panorama of philosophical thought of the Soviet and post-Soviet periods [1]. In general, the Chinese scientist gave a positive assessment of the state of philosophical science in Russia, noting the large research field of philosophical issues, the criticism of industrial civilization by Russian philosophers and their role in the study of global problems of our time. An Qingyan drew attention to the fact that many new ideas of philosophers in modern Russia are not sufficiently systematized.

Recognizing the ability of the Chinese scientist to comprehend the deep tendencies of Russian philosophical thought, I still want to share my thoughts about the meaning and place of Russian provincial philosophical reflection in the development of Russian philosophy. In this article we want to touch on the work of the Russian philosopher, professor, Doctor of Philosophical Sciences, Honored Scientist of the Russian Federation, who played a huge role in the formation of the philosophical community of the Novosibirsk Academic Town and the city of Kuibyshev (now the city of Samara).

Vadim Nikolaevich Borisov was born on April 19, 1927 in the city of Buzuluk, Chkalov region (now Orenburg Oblast), and graduated from school there. His father was from the party leadership, his mother was a teacher. In 1945, Vadim went to Moscow to enter the conservatory. They auditioned him and accepted him, but tenor opera roles did not appeal to him. So he entered the Faculty of Philosophy of M. Lomonosov Moscow State University (MSU), who graduated in 1949. At that time, despite strict ideological control, there was an interest in original philosophical texts and major philosophical problems in the Faculty of Philosophy. It is no coincidence that a glorious cohort of Russian philosophers was formed at the faculty: F.Kh. Cassidy, E.V. Ilyenkov, B.A. Grushin, M.K. Mamardashvili.

After graduating from Moscow State University, Borisov V.N. works at the Pedagogical University of the city of Kalinin (now the city of Tver), there he meets his future wife Nina Nikitina-Kartseva.

Since 1964 Borisov V.N. Heads the Department of Philosophy at Novosibirsk Akademgorodok University. Here, great science was done “live”, scientific discussions were held. Freethinking reigned in the scientific community.

In 1967 Borisov V.N. defended his doctoral dissertation on the topic: “The structure of thinking as a cognitive and logical process.” In his doctoral dissertation, Borisov V.N. distinguishes two levels in cognitive activity: subject and supra-subject (reflexive). At the subject level, “the acquisition and development of knowledge about the cognizable subject occurs. At the reflective (supra-subject) level, views, opinions, and concepts developed at the subject level of cognition are studied. Thus, at the reflexive (supra-subject) level, the scientist exercises control

over his own activities to create programs for achieving the goal, analyzes and evaluates the results of mental activity. In other words, the scientist at the first level (subject) receives knowledge about the cognizable subject, and at the next level, reflexive (supra-subject), the scientist consciously evaluates his own research program, including goals and results. Borisov V.N. himself defines the specifics of his epistemological position as “a non-linear description of the nature of the thinking process” [2]. Having become the head of the department of philosophy at the Novosibirsk Academic Town, Borisov V.N. continues research in the theory of knowledge, logic and methodology of science and at the same time directs the research paradigm to the focus of the genesis of socio-economic knowledge.

Borisov V.N. continues to develop his ideas in the city of Kuibyshev (now Samara), where he creates the Faculty of Philosophy at the State University. Under his leadership, a city seminar of philosophers is working, a postgraduate school and the first doctoral council on philosophy in the Volga region are being created. Fifty defenses for the academic degree of Doctor of Science were held in the Defense Council, four of them under the leadership of V.N. Borisov. Scientists from the following cities were defended in this council: Nizhny Novgorod, Perm, Ufa, Kazan, Saratov, Volgograd, Moscow. Borisov V.N. has his own 90 scientific works on philosophical issues.

In his works of the Kuibyshev and Samara periods, Borisov V.N. clarifies the epistemic status of cognitive forms: knowledge, hypothesis, delusion, belief, faith, doubt. Analyzing the ideological foundations of science, he clearly distinguishes his own foundation of science (ontological, epistemological, logical-methodological and sociocultural) and their reflexive reflection in the consciousness of the scientist himself and in various philosophical concepts [3]. Research in social philosophy continues. The focus of social philosophy is traditional ontology and epistemology, according to V.N. Borisov, are accepted not in the spirit of traditional disciplines, but as non-reflective practices and philosophy of spiritual activity. So, Borisov V.N. believes that philosophy “acts as a worldview, a justification for a person’s life ideals, which reflect his social interests. From the position of an active approach, Borisov V.N. rethinks the question of the relationship of consciousness to being. He says that the problem of consciousness to being is rooted in the structure of human activity itself, in the relationship between its purposefulness and objective factors independent of man and the social conditions of its implementation [4]. In the focus of what has been said, the relationship of consciousness to being in ancient philosophy is interpreted “in terms of the relationship between natural necessity and purposefulness; in the Middle Ages in terms of the relationship of nature to God, and in the modern era as a problem of freedom and necessity” [5].

In his work “Marxism as Science and Utopia” Borisov V.N. reveals the complex contradictory relationship between truly scientific and utopian elements in

the theory of Marxism. The author emphasizes the idea that the development of society is associated with the struggle not so much between the main classes of an obsolete economic formation, but rather between the bearers of new and old economic relations. Therefore, the post-capitalist stage of development is associated not with the proletariat, but with the formation of a socially “aggregate worker” [6]. Thus, the author concludes that the main utopian component of Marxism is the concept of the communist transformation of society through the proletarian revolution and dictatorship. The most historically persistent illusion in understanding the future is the idea of some ideal perfect society, which is devoid of any negative features. And if negative traits appear, they are interpreted as random deformations of this ideal society. The same illusion, believes V.N. Borisov, is inherent in the Marxist concept of communism, because from the position of materialist dialectics, there is an internal contradiction in every social phenomenon.

Unfortunately, in one article it is not possible to fully reveal the entire panorama of scientific ideas of V.N. Borisov and their influence on Soviet and subsequently Russian philosophical thought.

In conclusion, I would like to say that Vadim Borisov was a true intellectual, knew and loved history, world literature, higher mathematics, was fluent in German, which allowed him to read German philosophers in the original, and also knew ancient Greek well, was a candidate for master of sports in chess, sang romances beautifully.

There is time in a person, and there is a person in time, Vadim Nikolaevich Borisov was just such a person. He left a mark on history: in his works, in the memory of his students.

On October 11 at the Samara National Research University named after academician S.P. Korolyov there was opened a lecture hall named after Professor Borisov.

In the city of Samara, on the basis of the Samara State Technical University, “Borisov Readings” are held, which are very successful. His work and philosophical ideas are continued by his students [7].

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心理发育代偿性困难青少年社会交往能力结构中的社交交往能力及应对策略
**SOCIAL-COMMUNICATIVE SKILLS AND COPING STRATEGIES
IN THE STRUCTURE OF SOCIAL-COMMUNICATIVE
COMPETENCE OF ADOLESCENTS WITH COMPENSATED
DIFFICULTIES IN MENTAL DEVELOPMENT**

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注解。 研究结果讨论了有代偿性心理发展困难的老年青少年的社交和沟通技巧以及应对策略。 所获得的数据可以澄清所考虑类别中青少年心理支持计划的大致基础。

关键词: 社交和沟通技巧、应对策略、社交和沟通能力、心理发展困难、老年青少年。

Annotation. *The results of the study are discussed social and communication skills and coping strategies older adolescents with compensated mental development difficulties. The data obtained make it possible to clarify the approximate basis of psychological support programs for adolescents in the category under consideration.*

Keywords: *social and communicative skills, coping strategies, social and communicative competence, difficulties in mental development, older adolescents.*

Analysis of statistical data allows us to conclude that in recent decades there has been an increase in the number of children with various types of mental development delays (MDD). A significant part of them, after receiving appropriate correctional support, continue their studies in secondary schools. However, often, a difficulty in mental development that has not been completely overcome cannot but influence the organization of the mechanisms of psychological regulation of social behavior at subsequent stages of life.

The subject of our research is the social-communicative skills and coping strategies of older adolescents, in whose life experience there was the fact of delayed mental development with subsequent compensation. We interpret these regulatory formations as operational-behavioral and resource-mobilization components of the socio-com-

municative competence of the category of adolescents under consideration. In turn, social-communicative competence is understood as an integral psychological education that unites and harmonizes the internal means of regulating social behavior and interpersonal communication of a person [2; 4; 8; 14; 15; 18; 19; 20].

The formation of social and communicative competence is considered as one of the most important tasks of personality development in adolescence [2; 10, pp.418–429]. Moreover, it is interpersonal communication that is qualified by many domestic psychologists as the leading activity at this stage of a person's life path [6; 13].

Combining social communication skills and coping strategies within one study allows us to obtain a more panoramic psychological portrait of adolescents with compensated difficulties in mental development as subjects of communication and social behavior. This is achieved because the teenagers we are interested in are considered in two interconnected contexts of their existence. The first of them can be designated as everyday routine existence in the form of socially and age-typical communication situations. The second "existential context" is associated with the encounter of adolescents with circumstances that are perceived and experienced by them as "disturbing the usual course of life," "causing tension," "making demands that exceed the resources ... to cope with them," being defined in the consciousness of the acting subject as "difficult situations" [3; 5; 7; 16; 21]. A person's ways of coping with such life difficulties serve as reliable and reliable indicators of the overall level of personal maturity he has achieved, as well as the degree of formation of partial mechanisms of psychological regulation of behavior, activity and communication.

Also, the appeal to the resource-mobilization aspect of the social and communicative competence of adolescents who suffered from mental retardation in childhood is updated by the fact that the very fact that they have a delay in mental development with its subsequent compensation can be considered as the experience of being in a prolonged difficult life situation and its successful permissions. For obvious reasons, such a fusion of "experience of inferiority" and "experience of overcoming" is absent among their peers, whose mental development proceeded in accordance with the normative trajectory.

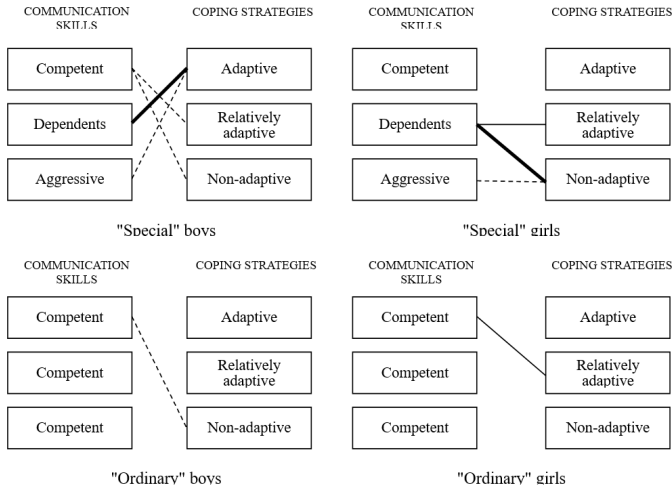
The above, in our opinion, makes legitimate the search hypothesis, which consists in the assumption that in the structure of socio-communicative competence (and in particular, its operational-behavioral and resource-mobilization components) there are three categories of characteristics, according to the level of development of which adolescents with compensated difficulties in mental development do not differ from their age-normative peers (1), are inferior to them (2) and superior to them (3). It should be noted that this hypothesis has previously demonstrated its productivity when considering the cognitive-representational, value-semantic and personal-regulatory components of the socio-communicative competence of the category of adolescents of interest to us [11; 12].

Organization and methods of research. The empirical basis of the study was made up of ninth-graders from secondary schools in Anapa and Krasnodar. The experimental group included 99 schoolchildren who were diagnosed with mental retardation in childhood: 54 of them were boys and 45 were girls. The control group consisted of 118 schoolchildren (62 boys and 56 girls), whose mental development proceeded in accordance with the age-normative trajectory. In what follows, the compared categories of adolescents will be designated, respectively, as “special (special)” and “ordinary (normative).”

A comparative analysis of social-communicative skills and coping strategies of the above-mentioned categories of adolescents was carried out. Social-communication skills were assessed using a test questionnaire of communication skills for adolescents and high school students, developed by L. Michelson et al. [17], adapted for the Russian-speaking sample by Y.Z. Gilbukh and modified by S.V. Krivtsova and M.N. Dostanova [9, pp.87–105]. The degree of expression of three basic variants of social and communicative behavior of adolescents was diagnosed: 1) competent (C), which involves building communication with a partner on the principles of equality of psychological positions and parity coordination of efforts to resolve a problem situation; 2) aggressive (Ag), which involves putting pressure on a partner from a psychological position “from above”; 3) dependent (D), associated with a psychological attachment to the partner “from below” and uncertain following him. The general (trans-situational) profile of the expression in the behavior of adolescents of the three variants of its construction described above and the partial profiles of the actions of adolescents in five types of socio-communicative situations were analyzed: a) responding to positive statements from a partner; b) responding to negative statements; c) responding to requests from others; d) conversations; e) manifestations of empathy. Identification of strategies for overcoming life difficulties inherent in adolescents was carried out using the E. Heim test, adapted in the laboratory of clinical psychology of the Psychoneurological Institute. V.M. Bekhterev under the leadership of L.I. Wasserman [1, pp.282–286]. In accordance with the logic of our study, the structure of coping strategies used by adolescents was assessed, differentiated according to the criteria of functionality and adaptability. In the first case, the ratio of strategies was revealed that differed in their psychological nature due to their connection with a certain area of mental functioning - cognitive (Cog), emotional (E) and behavioral (B). In the second case, the representation of strategies with different levels of adaptability in individual patterns of coping behavior of adolescents was revealed - adaptive (A), relatively adaptive (R) and non-adaptive (N). To clarify the test results, a sample survey of respondents was conducted. Mathematical and statistical processing of empirical data included calculation of average values, standard deviation, assessment of the statistical significance of intergroup differences using Student’s t-test for independent samples, frequency and correlation analysis

(according to Spearman). The packages of applied statistical programs Excel for Windows XP/7 and SPSS 13.0 were used.

The relationship between social and communication skills and coping strategies in adolescents with difficult and normative trajectories of mental development. The nature of these relationships differs fundamentally among adolescents with comparable trajectories of mental development. The main difference concerns the intensity of connections between the regulatory subsystems under consideration. If in age-normative adolescents these subsystems function almost autonomously, then in adolescents with compensated difficulties in mental development they are quite strongly connected with each other. This may indicate that everyday communication situations are more difficult for “special” adolescents than for their “ordinary” peers (which lead to a more active use of coping resources to build everyday contacts). The “reverse pattern” is also true, which is expressed in the fact that “special” teenagers more often and more actively use their communication skills in situations of overcoming life difficulties. It turns out that in their understanding the “social” plane of difficult life situations is presented more clearly than that of their “ordinary” peers. Accordingly, the resolution of life’s difficulties is seen to be much more communicatively mediated (“need to talk,” “ask for help,” etc.) (see figure).



Legend: solid lines indicate positive relationships, dotted lines indicate negative ones; Single lines correspond to the level of significance of the relationship $p < 0.05$; double lines – level $p < 0.01$

Figure. Relationship between social and communication skills and coping strategies of adolescents with difficult and normative trajectories of mental development

Due to the high functional interconnectedness of two behavioral regulation subsystems characteristic of “special” adolescents - in the context of everyday communication (1) and in the event of difficult life circumstances (2), - it seems possible to record a number of mutually predictive connections between these subsystems. In other words, in a sample of adolescents with compensated difficulties in mental development, it turns out to be possible, based on knowledge of the behavioral characteristics of these adolescents in typical situations of everyday communication (expressed in a certain combination of competent, dependent and aggressive actions), with a high degree of reliability to predict the choice of one or another method by these same adolescents coping with difficult life circumstances (expressed in resorting to a certain type of coping strategies - adaptive, non-adaptive, relatively adaptive). The opposite is also possible: based on an assessment of the general adaptability of coping behavior, predict the profile of everyday communicative behavior of adolescents.

It should be noted that such forecasting must necessarily be carried out taking into account the gender of “special” adolescents, since the relationships between the regulatory subsystems under consideration in boys and girls are fundamentally different.

Analysis of the results of the study allows us to conclude that the difficulty of mental development in childhood and its subsequent compensation have a significant impact on the operational-behavioral (social-communicative skills) and resource-mobilization (coping strategies) components of the social-communicative competence of the individual in older adolescence age. This influence is most clearly manifested not so much at the level of one or another component, but in the nature of their relationship and interaction with each other. In adolescents with compensated difficulties in mental development, the components of social and communicative competence under consideration are closely interconnected and actively interact with each other, in contrast to their age-normative peers, in whom these regulatory formations function almost autonomously.

This can be considered as evidence that everyday communication situations present greater difficulties for “special” adolescents than for their “ordinary” peers (which leads to a more active use of coping resources to build everyday contacts). In addition, “special” teenagers more often and more actively use their communication skills in situations of overcoming life difficulties. These teenagers see difficult life situations themselves as communicatively mediated and potentially solvable through communication with other people who are somehow involved in these situations.

The identified features of social-communicative skills and coping strategies concretize existing ideas in modern psychological science about the phenomenology, patterns and mechanisms of influence of difficulty in mental development in childhood on the regulation of social contacts and personal interactions at later

stages of life. The data obtained make it possible to clarify significantly the indicative basis for the development and implementation of programs for psychological support and development of adolescents with compensated difficulties in mental development as subjects of competent social behavior and interpersonal communication.

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中国文明：现代东方文化背景下的风俗、传统
**CIVILIZATION OF CHINA: CUSTOMS, TRADITIONS IN THE
CONTEXT OF A MODERN VIEW OF EASTERN CULTURE**

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抽象的。文章主要探讨中华文化的一些特征，探讨文明的起源、风俗规范、民族道德等问题。这个主题的相关性在于，当今人们仍然关注自己民族的传统和习俗，这有助于他们度过困难时期，了解其他民族，与他们建立联系，避免冲突。在将历史文化作为社会情境和文化情境进行比较的基础上，对俄罗斯和中国的文化特征进行了简要的比较分析。

关键词：中国、文化、传统、历史、文明、文化进程、社会化、个人、个性、社会、一体化进程、俄罗斯、身份、地缘政治、文化对话、文化影响、文化和历史阶段、文明。

Abstract. *The article is devoted to some features of Chinese culture, which examines such problems as: the origin of civilization, the norm of customs, and the morality of this ethnic group. The relevance of this topic lies in the fact that nowadays people are still attentive to the traditions and customs of their people, which help them survive difficult times, understand other peoples, establish contact with them, and avoid conflict. A brief comparative analysis of the cultural characteristics of Russia and China is given, based on a comparison of historical culture as a social situation and a cultural situation.*

Keywords: *China, culture, traditions, history, civilization, cultural process, socialization, individual, personality, society, integration process, Russia, identity, geopolitics, dialogue of cultures, cultural influence, cultural and historical stages, civilization.*

The process of globalization has not reduced the number and depth of fault lines between ethnocultural groups. Moreover, they, unfortunately, are growing. There is a growing understanding in the world that one of the objective needs in overcoming the crisis is the state policy of multicultural education.

Culture is an integral part of human life, which is carried out by the transfer of experience, values, traditions from one generation to another. This happens during

the process of socialization. The formation of the spiritual and moral qualities of a socially active personality is one of the main tasks of modern education.

The relationship of a person with the surrounding culture in the process of development of civilization was constantly changing, but the main thing in these relationships remained: the interdependence of universal human culture and the culture of an individual. A person is always the bearer of the general culture of humanity, as a creator, as a critic, and universal culture is an indispensable condition for the formation and development of a person's spiritual culture.

Philosophy of the 17th century put forward the position of the need for causality, both in nature and in human life. Spinoza wrote that a person is a "thinking thing", capable of cognizing the necessary connection of causes and, on the basis of this, determining his actions and actions. Thinkers of the 18th centuries tried to understand what personality is, how it influenced historical processes, and, of course, culture. The individual performs many social roles. A person strives for the most complete identification of his personal capabilities. At the same time, culture plays a priority role in the formation of personality, since thanks to it a person can become perfect - have many values, such as goodness, beauty, loyalty, good manners [8, 9, 10].

Culture is directly related to society, it plays a key role and performs numerous vital functions, the existence of man and society without which is simply impossible [5, 6]. The importance of culture in the process of socialization is described in detail in the works of A. Kardiner, I.S. Kohn, W. Lambert, R. Linton, A.V. Mudrik, R. Rohner and others. At the same time, as scientists point out, an important role is played by traditions, customs, abilities, skills that form collective social experience and way of life. Culture fosters responsibility for the inner and moral world; at the same time, human individuality is formed in the process of socialization.

Culture is an important way of social interactions and the integration of individuals in society. Many modern culturologists and socio-political figures argue that only traditional culture represents a truly national culture, and everything brought from the West is alien, external and transient. National cultures interacting on the world stage today should be used not as a means of dividing peoples, emphasizing their differences or the superiority of one nation over others, but as an instrument of rapprochement, deepening mutual understanding and enriching humanity.

Understanding and respect for the cultural traditions and values of peoples is an indispensable condition for the harmonious development of international and interethnic relations. Currently, there is an understanding that the solution to many problems of modernization of any country lies directly in the sphere of culture, therefore their effective solution depends, on the one hand, on preserving the cultural uniqueness of peoples, and on the other, on establishing a cultural dialogue

between them, the basis of which can be there should be only solidarity, and not a rejection of any hierarchy of peoples and their cultures. Culture is a holistic and organic phenomenon. It is not artificially constructed and does not transform; such experiments only lead to its destruction. In the minds of many people, including scientists, the idea of the specificity and diversity of the development of various cultures is affirmed, each of which is integrated in its own way into the global civilizational process, based on its deep spiritual and moral archetypes, which cannot be distributed between progressive and reactionary ranks. Dialogue of cultures is the natural existence of humanity, its cultural development. As a result of such dialogue, all cultures are mutually enriched, new works of art and philosophical teachings are born. Russian culture (albeit belatedly) absorbs the cultural traditions of the East, in particular, on the basis of ethnocultural traditions [1].

Chinese culture is one of the rich and ancient world cultures. The originality of Chinese culture is explained by the peculiarities and patterns of the historical development of the country within the framework of the Far Eastern center of Confucian civilization. Confucianism affected almost all spheres of social life. Ancient China, and in ancient times they called their country the Middle Kingdom, was located in East and Central Asia. It was here that one of the most ancient civilizations was born, which later influenced many peoples who inhabited the Ancient East. Despite the fact that there were constant wars, peasant uprisings, and raids by conquerors, the culture retained its continuity and traditions. Chinese culture was diverse and resilient. Periods of cultural development are stages of dynasty rule; culture of Yangshao, Shang, Zhou and Zhanguo, Qin and Han, Tang and Song, Ming and Qing dynasties. There was a special “cultural dynastic cyclicality”.

Chinese culture was characterized by: the absence of a priestly class, traditionalism, ceremonialism, literacy, philosophy, and art. The culture of the people was original, interesting not only for the inhabitants of the “heavenly Empire”, but also for the whole world. Each person was oriented towards his social role. It should be noted that this ethnic group had a predominance of moral principles over material ones.

Literary monuments have survived to this day: “The Book of Changes”, “The Book of Songs”, poetry collections, myths, fairy tales, religious treatises.

Modern researchers are still studying and developing the cultural traditions of China through the study of Chinese folk songs and customs, the development of systems for teaching students to expressively perform Chinese folk songs [12, 13, 14], musical and singing education of children in kindergartens [2, 4, 15, 17], the development of vocal and pedagogical competencies of students [3, 7], through the mastery of traditional Chinese chamber-vocal music [11, 16], etc. Interesting in the aspect of developing and strengthening cooperation is the appearance of modern works by researchers on teaching the Russian language in China as a foreign language using digital technologies [18], etc.

Chinese calligraphy is a unique pearl of Eastern culture. The art of calligraphy is realized with the help of traditional writing implements, which are called the “four treasures of the cabinet”: brushes, ink, paper and ink pots. The creations of calligraphy masters were highly valued in China: from the emperor to the commoner. Chinese hieroglyphic writing is still preserved in the modern world.

Today, an archaeological find has been discovered - the burial of a terracotta army in the famous tomb of the first emperor of China, Qin Shi Huang. This is the largest excavation ever carried out in this country. The figure of each warrior is unique, not one of them was similar to the other. Apparently, they first posed for a sculptor and then were buried alive along with their emperor. The figures of warriors depict those who made up the powerful army of the first Chinese emperor.

The Great Wall of China is translated as “an unbending mighty force, an insurmountable barrier.” This building is the greatest in the entire history of mankind. Its length is 9 thousand km, it passes through mountains, rivers, gorges - this is truly a labor feat of the people, which took the Chinese people almost 2 thousand years to accomplish. This is an absolute record of all time. There is even a mention of the wall in the National Anthem of the People’s Republic of China.

In recent years, the Russian Federation has gone through profound transformations that have affected all social spheres, including culture. Modern man lives in a world whose most important feature is cultural diversity; he constantly interacts with an ever-increasing variety of cultures and cultural communities.

An important channel for deepening mutual understanding and friendship between our peoples is cultural ties in various fields. In 2006, the Year of Russia was held in China for the first time. In 2007 - Year of China in Russia. 2009 is the year of the Russian language in China. 2010 is the year of the Chinese language in Russia. 2012 is the year of Russian tourism in China. 2013 is the year of Chinese tourism in Russia. In 2012 V.V. Putin made his first state visit to China. Russia became the first country visited by General Secretary of the Central Committee Xi Jinping as head of state - Chairman of the People’s Republic of China.

Russian regions are also friends with China. In particular, the Ulyanovsk Oblast has long-term cooperation with the PRC. Every year more and more guests in Ulyanovsk and the Volga region come here.

In 2013, with the support of the heads of state of the Russian Federation and the People’s Republic of China, the Volga-Yangtze working group was created, uniting 14 subjects of the Volga Federal District of Russia, as well as 5 provinces and the central city of Chongqing in the upper and middle reaches of the Yangtze.

The river ranks first in the world in terms of freight traffic. For several millennia, the only way to cross the river was by ferry. The Volga-Yangtze format has become a new mechanism for interregional cooperation between Russia and China. The Volga and Yangtze are great rivers of friendship, and the Chinese river

and the cities located on its banks preserve the memory of years of cooperation and friendship between our countries.

Meetings of the working group took place already in 2014-2015 in Shanghai, Ulyanovsk, Samara Oblast. Protocols and agreements on cooperation in various fields, including the humanitarian field, were signed.

There is political and economic rapprochement between Russia and China in a number of areas: energy, weapons production, trade in national currencies and strategic projects in the field of transport and supporting infrastructure. This is a development that is facilitated by the policies and actions of the West, including sanctions against the Russian Federation. Both countries are interested in cooperation. For decades before and after the transition to market relations in both countries, economic relations between Russia and China lagged behind trade ties with the rest of the world. Only now is there a movement towards political rapprochement and economic cooperation in a number of areas, the importance of which cannot be overestimated.

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1982年粮食计划实施背景下提高地区一级农业管理人员技能的问题（基于莫斯科地区的材料）

**THE PROBLEM OF IMPROVING THE SKILLS OF
AGRICULTURAL EXECUTIVES AT THE REGIONAL LEVEL
IN THE CONTEXT OF THE IMPLEMENTATION OF THE FOOD
PROGRAM IN 1982 (BASED ON THE MATERIALS OF THE
MOSCOW REGION)**

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抽象的。为农工业综合体的管理系统提供合格的人员和提高管理人员的教育水平的问题在农工业生产的各个管理层面都相当尖锐。本文讨论了与在工会一级以及在莫斯科地区实施提高农工综合体高级雇员资格水平和再培训措施有关的问题，作为实施 1982 年粮食计划的一部分。

关键词：苏联农工联合体、管理人员再培训、农工联合体管理高级培训、莫斯科州。

***Abstract.** The problem of providing qualified personnel for the management system of the agro-industrial complex and increasing the educational level of managers was quite acute at all levels of management of agro-industrial production. The article discusses issues related to the implementation of measures to improve the level of qualifications and retraining of senior employees of the agro-industrial complex at the union level, as well as in the Moscow region as part of the implementation of the 1982 Food Program.*

***Keywords:** agro-industrial complex of the USSR, retraining of executives, advanced training of management of the agro-industrial complex, Moscow Oblast.*

The crisis in the system of advanced training for managers and specialists of agricultural enterprises began long before the adoption of the 1982 Food Program. According to statistics, plans to improve the qualifications of agricultural managers and specialists were not implemented. Every year the number of students decreased, and did not increase, as envisaged by the plans for advanced training. Thus, the following trend is observed in advanced training faculties: 1981 - 331 people were trained, 1982 - 315, 1983 - 315. In advanced training schools, despite

the implementation of the plan, a similar situation was observed: 1981 - 2725 people, 1982 - 1767, 1983 - 1950, 1984 - 1396 [10, L. 173].

Realizing the need to improve the educational level of specialists from the Main Department of Agriculture of the Moscow Regional Executive Committee, the management took a number of measures to change the current situation. Thus, on November 11, 1983, the Main Directorate of Agriculture issued Order No. 232, according to which agricultural managers were required to improve their qualifications every 4-6 years.

According to data as of July 12, 1984, 1,150 people completed training in the first half of the year [11, L. 52]. Advanced training courses were conducted at the faculties of various agricultural universities and advanced training schools. It is worth noting that the plan for advanced training was completed by only 64% by faculties, and by 49.5% by schools [11, L. 52].

At the end of 1984, by order of the Main Directorate of Agriculture of the Moscow Regional Executive Committee [12, L. 7], a plan for training and advanced training of managers and agricultural specialists was approved. In accordance with the plan, it was planned to retrain 321 people from management personnel at advanced training faculties of universities, and 1,865 managers and mid-level management specialists at agricultural management schools.

The training was carried out on the basis of various agricultural educational institutions, including the Timiryazev Agricultural Academy, the Moscow School of Agricultural Management, the Gorsky and Don Agricultural Institutes, etc. The duration of training varied from 1 to 6 months.

In December 1985, a similar plan for training agricultural workers for 1986 was adopted [13, L. 15]. A feature of this plan was the reduction in the number of mid-level employees to undergo retraining - 1,764 people, and at the same time the plan for training management personnel and agricultural specialists increased - 529 people.

According to data for 1986, as a result of retraining, the number of managers and specialists with higher and incomplete higher education increased and amounted to 93.3% among managers of regional farms and 92.9% among agricultural specialists [7, L. 40].

Simultaneously with plans to increase the number of students in advanced training and retraining courses, the network of educational institutions for training was also expanded, the list of which was added to the Leningrad and Orenburg Agricultural Institutes and the Kherson School of Advanced Training.

Another event aimed at increasing the efficiency of management of the country's agro-industrial complex, as well as strengthening the role of specialists in this management, was the publication of Order No. 236 of the State Agrarian Industry "On the organization of work on conducting individual interviews with specialists

of the central apparatus of the State Agricultural Industry of the USSR” (May 26, 1986) [5, L. 224-228]. Interviews with employees of various departments of the State Agrarian Industry were ordered to be conducted before November 1, 1986 and, based on the results, to assess their professional skills, quality of performance of job duties, production and social activity. First of all, interviews were conducted with chief and leading specialists, heads of sectors and departments in the department.

To conduct these interviews with employees of the apparatus, a central commission was formed consisting of the Deputy Chairman of the State Agricultural Industry of the USSR and the heads of various departments and departments. In the main departments and departments, 2-3 commissions were created, which included highly qualified specialists, representatives of party, trade union and Komсомol organizations.

All interviews were conducted individually for each employee and documented in special protocols [5, L. 227-228]. The protocol indicated information regarding the employee’s date of birth, education and specialty, length of service and advanced training, as well as a brief assessment of his work in his position. Based on the results, measures were determined to implement the comments made by the commissions to improve the quality of employees’ work.

Despite the implementation of a number of measures to train and retrain management personnel for agriculture, the problem of a shortage of qualified local managers remained quite acute. Further evidence of this are letters to the editor of the newspaper “Rural Life” from ordinary rural workers, often containing complaints about the lack of qualifications of managers: “In the economy, our country has reached a dead end in a stagnant period, primarily because leadership positions in organizations and in production, especially in the middle level, were occupied by people who were economically illiterate... In many cases, the selection and placement of leading personnel, district committees, city committees, regional committees were carried out according to the principle, if you can talk your tongue, then you are fit to manage production... And if the candidate they nominated went wrong a year later, did not justify the trust of the team, then he was moved from one chair to another, from one team to another for the subsequent collapse of work” [6, L. 61].

In order to further implement measures to improve staffing of the country’s agro-industrial complex and in accordance with the order of the State Agro-Industrial Complex of December 28, 1987 “On the development of a scientific and technical program for staffing of the agro-industrial complex for the period until 2000 “Personnel” by order of the State Agricultural Industry of the USSR dated February 16, 1988 year, a laboratory of scientific and organizational problems of working with personnel was organized at the All-Union School of Agro-Industrial

Management. The main activities of the laboratory included forecasting the structure and needs for management personnel and specialists in the agro-industrial complex; development of scientifically based models of managers at all levels of management of the agro-industrial complex and models of educational institutions for training and advanced training of personnel; preparation of proposals for methods of continuous professional development of personnel; conducting and coordinating scientific research on socio-psychological problems of working with personnel [2, L. 241].

In connection with the renewal of the personnel training system, the All-Union Institute for Advanced Training of Managers and Specialists in the Fruit and Vegetable Farming Industry, by order of the USSR State Agricultural Industry dated March 1, 1988, was renamed into the All-Union Institute for Advanced Training of Managers and Specialists in Processing Industries and Trade (AUIATMS of the USSR State Agricultural Industry), which was entrusted with the function introduction of new management methods, etc. [3, L. 88-89]

Also, in light of the decisions of the CPSU Central Committee and the Council of Ministers, the USSR State Agrarian Industry issued order No. 236 of April 4, 1988 "On the restructuring of the system of advanced training and retraining of executives and specialists of the USSR State Agricultural Industry," which provided for the continuity of training of executives and specialists of the national economy. The new training system included the following areas of training: systematic independent training of the employee (self-education) according to an annual individual plan, participation at least once a month in ongoing seminars, short-term (at least once a year) training in educational institutions of the advanced training system and retraining of personnel, long-term periodic training (6 months, at least once every five years) at the All-Union and Republican Higher Schools of Agro-Industrial Management, at institutes, faculties and schools of management and advanced training, as well as internships in scientific and production associations; training in targeted postgraduate and doctoral studies, retraining [9, L. 173-175].

All managers and specialists were distributed to undergo advanced training and retraining in various types of educational institutions. For example, senior officials of ministries, departments, Councils of Ministers of the Union republics, and heads of associations underwent retraining and advanced training at the Academy of National Economy under the Council of Ministers of the USSR, the Planning and Economic Academy under the State Planning Committee of the USSR, republican intersectoral institutes for advanced training, and higher schools of management of national economic complexes. Employees of the central apparatus of ministries and departments, managers and chief specialists of enterprises, organizations and institutions, their deputies - in intersectoral institutes for advanced training and retraining of management personnel at universities, at faculties for

training organizers of industrial production, construction and planning at universities, institutes for advanced training, higher schools of management of national economic complexes, etc.

Intersectoral institutes for advanced training and retraining of management personnel were created at higher educational institutions. So, in the Moscow region they were opened at the Moscow Institute of Management. S. Ordzhonikidze and Moscow Institute of National Economy named after G.V. Plekhanov [4, L. 192].

Scientific and methodological management of the work on advanced training and retraining of management personnel of the national economy was carried out by the All-Russian Higher School of Management of the Agro-Industrial Complex, which performed three main functions - training of young managers and advanced training of personnel, scientific and methodological management of schools for advanced training of managers and specialists, schools of management of the agro-industrial complex in autonomous republics, territories and regions, carrying out research work on the problems of improving the forms and methods of advanced training [1, P. 472].

The All-Russian Higher School of Agro-Industrial Management operated a faculty for training managers of enterprises, associations and organizations of the agro-industrial complex. The faculty, in the direction of state agro-industrial committees of autonomous republics, agro-industrial committees of territories and regions, accepted specialists with higher education under the age of 35 who showed a penchant for organizational work. The training period for such specialists was nine months, of which seven were allocated for training sessions and two for internships [1, P. 472]. The main part of the teaching load, according to the plan, consisted of classes related to practical activities: analysis of specific situations, solving production problems, business games, etc.

In accordance with the decisions of the March (1989) Plenum of the CPSU Central Committee and the resolutions of the CPSU Central Committee "Main directions for restructuring the system of political and economic education of workers", the CPSU Central Committee and the Council of Ministers of the USSR "On the restructuring of the system of advanced training and retraining of executives and specialists of the national economy" By order of the agro-industrial committee of the Moscow region dated September 26, 1989, a comprehensive plan for regional training of executives and Mosoblagroprom specialists on issues of leasing and restructuring of economic relations in the agro-industrial complex of the region was approved for the 1989-1990 academic year. In accordance with the position held, the topics of advanced training courses were differentiated. Thus, for managers and specialists of enterprises, rental collectives, teachers and students of various forms of production and economic studies, it was recommended

to study the course “Rent: essence and practice”, for managers and specialists of the agro-industrial complex to study the course “Restructuring the Agrarian Sector of the Economy”, for managers and specialists of agro-industrial complex processing industry enterprises – course “Economics of agro-industrial complex processing industry enterprise in conditions of full self-financing and self-financing.” In total, 2,500 people were to undergo advanced training, including 430 people in advanced training faculties of universities, 1,270 in the Moscow School of Agro-Industrial Complex, and 800 in other schools and institutes [8, L. 65-79].

However, during this period, plans for training and advanced training of specialists in the agro-industrial complex system of the Moscow region are not being implemented. Thus, the plan for training specialists for 1989 was not even half fulfilled: 198 out of 430 planned people were trained at university faculties, 933 out of 2070 were trained at institutes and advanced training schools).

The problem of providing qualified personnel for the management system of the agro-industrial complex and increasing the educational level of managers was quite acute at the state, regional, and also at the district levels. The energetic efforts of the management to retrain and improve the qualifications of specialists in the relevant field did not lead to a significant improvement in the situation, since the measures taken were largely of a formal nature, associated mainly with increasing the number of students, rather than improving the quality of training. The knowledge acquired during the training process was weakly related to specific management practices in the agro-industrial sector, which in turn could not in any way influence the solution of pressing problems in the issue of improving the qualifications of executives in the agro-industrial complex.

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数字时代“博物馆”艺术新闻的特殊性
SPECIFICITY OF “MUSEUM’S” ART JOURNALISM IN THE
DIGITAL AGE

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抽象的。文章探讨了全球数字化时代“博物馆”艺术新闻的传播特征。本文的目的是确定艺术新闻发展的优先方向，因为它依赖于现代博物馆交流空间的特殊性。艺术新闻通过解决现代世界所需的文化和艺术问题来关注公众舆论和广泛的受众。研究方法综合运用于研究对象，优先采用归纳演绎法、分析综合法。“博物馆”艺术新闻作为新闻业的重要组成部分之一，旨在帮助博物馆作为一种传播手段发展。构成现代媒体空间基础的电子媒体决定了对内容的视觉部分的特殊态度，然而，即使在数字化的条件下，“博物馆”艺术新闻仍然受到19世纪古典新闻传统的影响。20世纪。艺术新闻的内容是自相矛盾的：其活动的对象总是相关的，因此仍然受到读者和专门为他们提供的文本的需求。但在现代条件下，新闻渠道与博物馆本身的营销公关服务之间需要尽可能紧密的互动，从而形成新的传播空间。在艺术新闻的媒体空间中，教育、交流和信息功能作为一个综合体，有必要考虑到现代观众通过各种信息源（包括数字信息源）跨媒体感知文化事件，这需要改进影响受众的策略。

关键词：艺术新闻、数字化、大众媒体、媒体空间、博物馆。

Abstract. *The article examines the communicative characteristics of “museum” art journalism in the era of global digitalization. The purpose of the article is to identify priority directions for the development of art journalism in its dependence on the peculiarities of the communicative space of a modern museum. Art journalism is focused on public opinion and a wide audience by addressing the issues of culture and art that are in demand in the modern world. The research methodology is applied to the object of study in a comprehensive manner, with preference given to the inductive-deductive method, as well as methods of analysis and synthesis. “Museum” art journalism, as one of the important segments of journalism in general, aims to help museums in their development as a means of communication. Electronic media, which form the basis of the modern media space, dictate a special attitude towards the visual part of the content, however, even in*

the conditions of digitalization, “museum” art journalism remains influenced by the traditions of classical journalism of the 19th-20th centuries. art journalism is paradoxical in its content: the objects of its activity are always relevant, and therefore remain in demand among the reading public and the texts dedicated to them. However, in modern conditions, it is necessary to have the closest possible interaction between news channels and the marketing and PR service of the museum itself, which would lead to the formation of a new communication space. In the media space of art journalism, educational, communicative and informative functions act as a single complex, and it is necessary to take into account that modern audiences perceive cultural events transmedially, through various sources of information, including digital ones, which necessitates the need to improve strategies for influencing the audience.

Keywords: *art journalism, digitalization, mass media, media space, museum.*

The development of digital technologies has radically changed the life of humanity, continuing to have a decisive influence on its further existence. It is no longer possible to imagine the life of society without the possibility of using the Internet and various online services, so the use of the media and the communicative potential of digital technologies is difficult to overestimate. The active transformations characteristic of mass media in the last two decades are directly determined by digitalization [See: 1; 2].

The very situation in society determines the processes occurring in the paradigm of modern journalism, because The main job of a journalist is to create mass media texts that must be disseminated quickly, which means that journalism is directly related to the means of communication. The moment of creation of any journalistic text is the beginning of the process of broadcasting information, when it is digitized. Combining the production and broadcasting of texts in the coordinates of digitization also means the synthesis of various types of activities - journalistic and communication. It is obvious that digitalization has a very tangible impact on journalism, which, at first glance, should bring extremely positive results.

However, at the same time as the undeniable advantages of digitalization, society is also faced with some negative phenomena that cannot be ignored, because they marked a crisis in the development of mass media [3]. Such is the sharp decline in the reliability and persuasiveness of information messages, as well as their sufficiency, which in general entails a certain destabilization in the functioning of society; violation of the proportions of broadcasting high-quality texts that would capture current knowledge, norms and values in the mass consciousness; reduction in the quality and quantity of such texts that would shape public opinion regarding current events and problems; a clear predominance of content for purely entertainment purposes to the detriment of genre diversity and artistic value of

texts. In this regard, art journalism turns out to be a branch of journalism in which the changes taking place in the media space have a complex and multidimensional effect, which is particularly related to the digitalization of society. Art journalism remains, even under these conditions, a very popular area of journalism that studies the issues of culture and art in a broad context, which is due to its focus on public opinion and a possibly larger audience [4]. In turn, this direction of the art discourse of journalism forms a complex of genres that are in demand in this communicative space. Genre diversity is also facilitated by the breadth of coverage of a wide variety of art forms and their modern modifications - from literature and theater to music, cinema and museum and exhibition activities. The development of “museum” art journalism occurs in the coverage of traditional events and events and innovative actions that promote the involvement of museums in active communication with the audience. Art journalism gets the opportunity to go beyond topics that might be of interest only to representatives of the professional art criticism environment.

“Museum” art journalism is faced with the need to form an audience that would feel the need both to visit exhibitions and to engage in the educational activities of the mass media themselves. The museum, representing in modern reality both a source of information and a partner in joint media projects, is focused on involving an increasingly larger audience in the information flow that is initiated by the museum communication space. Art journalism strives to reflect current information, which is facilitated by increasing digitalization, and museums and the media are trying to retain audiences by creating websites, using social media, and producing their own content, which increases the amount of information of interest to a wide audience.

Art journalism is aimed primarily at implementing an educational function, however, informational reasons are also important here. Cultural events are perceived by modern audiences transmedially: the addressee resorts to various sources (articles in the website section, instant messengers, discussions on social networks, reports, etc.), and the interpretation of cultural events creates broad prospects for the development of the communicative space of the mass media.

“Museum” art journalism, as one of the important segments of journalism in general, aims to help museums in their development as a means of communication. An event that is covered in the media has a greater appeal to the audience if it is told emotionally, involving the opinions of famous people, using various visual media in the digital environment. “Museum” art journalism in general depends on the informational occasion, which is very diverse - from exhibitions to thematic excursions, promotions, informal events, etc.

The modern world cannot do without digital technologies, which, of course, transform the communicative space of the mass media. Thus, the Internet brings

to it “a variety of forms and accessibility of potential sources, freedom from most types of control, the possibility of feedback, interactivity, relative delocalization, non-institutional character and lack of connection with other social institutions” [5, p. 26].

The modern media space is, first of all, the space of electronic media, in which the main advantage is the ability to broadcast high-quality images. Nevertheless, both in electronic form and in print, the discourse of art journalism remains influenced by the traditions of classical journalism of the 19th-20th centuries, which determines, for example, the demand for literary, musical and theatrical reviews [See: 6; 7]. It is obvious that art journalism is paradoxical in its content: the objects of its activity are always relevant, and therefore the texts dedicated to them remain in demand among the reading public.

Art journalism in the digital era maintains high demands on the professional competencies of a journalist: he must have deep knowledge in the field of a particular art, have culturally oriented thinking, promptly respond to the needs of a mass audience, while remaining independent in his judgments about works of art and, if necessary, rely on the opinion of recognized experts. An art journalist, of course, must understand how great the influence of mass media on modern culture is currently. The specificity of art journalism is that it not only broadcasts news in the field of art, but also shapes attitudes towards various cultural values, thereby fulfilling its socially oriented function.

A special type of art journalism is “museum” journalism, which is undergoing transformation not only in connection with global digitalization, but also due to the updating of new requirements for museum and exhibition activities in general. A modern museum is not only a repository of valuable works of various types of art, discoveries and achievements of mankind in various fields of natural sciences and humanities, but also a space whose main purpose is developmental and educational functions aimed at dialogue with the audience. Now the museum is focused on the visitor; it is obliged not only to exhibit certain objects, but also to interest them in history. M. McLuhan classifies museums as means of communication, which naturally entails the transformation of museum and exhibition activities and the optimization of feedback necessary for this communicative-pragmatic space [8, URL].

In the modern world, a museum, along with preserving cultural heritage, is faced with the task of developing innovative methods of interpreting cultural objects: these are actions and performances, festivals, creative meetings, Christmas and spring balls, thematic lectures and master classes. Therefore, “museum” art journalism is changing for the most effective contact with the visitor, to monitor feedback and the existence of the museum as a whole. We agree with the statement that media is a medium, and not just a means of transmitting information [9]. It

is obvious that any cultural event that comes to the attention of the mass media becomes significant for the potential public, which is also true for museums.

Art journalism objectifies the need for a museum as a means of communication to become one of the most important components of the media environment, recording and analyzing reality. It is clear that the audience does not perceive the reality that is open to the senses, but the one that is represented in the narrative and has emotional and evaluative potential. In other words, the reality that was described acquires a greater influence over modern man than the reality that is given to humanity in direct sensation. Therefore, an event covered by a journalist in the communicative space of a museum [10] is attractive to a wide audience, which also determines the dependence of “museum” art journalism on the information occasion.

As a structural element of the communication process taking place in the art space, the information occasion actualizes the audience’s information requests. Museum and exhibition activities are covered by art journalism in relation to the following objects:

- rare and unique exhibits (received, donated, found, etc.);
- new exhibition projects (bright, international, unique, etc.);
- celebrities as guests of the museum or participants in festivals and exhibitions;
- classes or excursions (special, thematic, etc.);
- promotions, flash mobs, unusual, informal events.

Information occasions for “museum” art journalism can be presented in the form of the following set of components of the communicative space:

- exhibitions, first of all, international, worldwide, rare; the theme of the exhibition and the participation of celebrities in the exhibition project have a special impact on the effectiveness of the impact on the audience). Art journalism turns to coverage of the preparation of the exhibition, installation and the process of bringing exhibits, and also uses the possibility of interviews with the organizers and curators of the exhibition, its partners. Force majeure situations that arise during the preparation or holding of an exhibition can also become an interesting informational occasion;

- press conferences and briefings held in the museum public space for the media. Here, a commentary by a famous person on news from the life of the museum may be of particular interest;

- special interviews with famous cultural figures, scientists, exhibition curators; here important are interview-messages for informational purposes and interview-opinions aimed at commenting on well-known facts and events;

- festivals, concerts and other “non-format” events in the museum;
- conferences, forums and other events taking place at the museum site in cooperation with other organizations.

The structural and functional diversity that characterizes the museum media space is due to the challenges of the digital era, which also influence art journalism. The information impact on a possible museum visitor is carried out purposefully, depending on the specifics of a specific target group, while online visual contact comes to the fore in this regard. It is obvious that the closest possible interaction between news channels and the marketing and PR service of the museum itself is becoming a necessary condition that contributes to the formation of a new communicative space. In this regard, art journalism in the context of digitalization must necessarily contribute to the development of the cultural and leisure environment of the museum, attracting possible visitors who turn to online media resources.

“Museum” art journalism is now developing based on a synthesis of completely traditional activities and events (a new exhibition, a new object) and innovative actions, because the modern world dictates new requirements for museums in the field of working with audiences. The most important task for art journalism is to go beyond topics of interest only to professionals in the field of art and art history, to involve the widest possible audience in the life of the museum.

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文学网络杂志与图书博客融合, 打造新型文学媒体

THE INTEGRATION OF LITERATURE ONLINE MAGAZINES AND BOOK-BLOGS FOR CREATION A NEW FORM OF LITERATURE MEDIA

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Abstract. *This study analyzes the state of modern online literary magazines and portals, such as “Reading”, “Formaslov”, “Literature”, “Gorky”, “Year of Literature” and popular book blogs. The dominant genre was identified as magazine and blogger reviews. As a connecting link, we can name the blogs of active literary critics who have received a philological education, have experience publishing in thick literary magazines and, accordingly, are qualified specialists in working with analytical genres of journalism. This work highlights book “amateur” blogs run by Dina Ozerova, Evgenia Lisitsyna, Guzel Ziyatdinovich, and literary blogs created by literary professionals - Daria Lebedeva, Anastasia Shevchenko, Ivan Rodionov.*

In recent years, literary blogs have been actively developing, their goal is to attract new audiences and involve them in the literary process through the interactive capabilities of blogs and multimedia content. Bloggers are actively introducing podcasts, creating special literary collections, and conducting audience surveys. As literary blogs developed and in connection with the growth in the number of their subscribers, online magazines began to attract book bloggers to review modern Russian literature on the pages of their publications.

Keywords: *literary online magazines, literary portals, book blogs, literary criticism, reviews, thick magazines, social media.*

The digitalization of modern media actively influences the process of convergence of journalism. The Russian press is inextricably linked with the Internet

environment; almost all newspapers and magazines, with rare exceptions, publish online versions of their publications. These are full-fledged multimedia sites with a lot of original content that is not available in paper format. In addition to the main website, publications are developing mobile versions; the largest media outlets are creating their own mobile applications. The sequence of convergence of publication formats varies: from print to mobile or from portal to radio. An example is the cultural project “Arzamas”, which is enjoying success in the media environment, while the mobile application “Radio Arzamas”, the content of which consists of podcasts and audio lectures, is gaining popularity.

It is worth noting that thematic publications are developing more slowly than news media. This problem especially concerns thick literary magazines, which are not sold in bookstores, do not stand on shelves next to entertainment magazines, and are of more interest to specialists in literature and philology. The websites of most literary magazines, such as “Our Contemporary”, “New World”, “Znamya”, have existed since the early 2000s, when the first online publications “Gazeta.ru” and “Lenta.ru” were already functioning [1]. Initially, the websites of these publications did not perform the full range of media functions, since they were archives of PDF copies of magazine issues with a catalog of authors. The works of the most famous writers were published in separate posts; there was no original content intended for the online version of the publication. The website of the magazine “Yunost” is better developed; it is updated more often; in addition to announcements of new issues, news from the world of literature appears on the website page. However, the websites of thick literary magazines cannot be called independent online media; they do not contain exclusive content different from the printed version, are not updated regularly enough, and multimedia technologies are rarely used.

In the context of the crisis of literary magazines described above, critics who were previously regular authors of publications have to look for other platforms for self-expression and attracting an audience. The departure of literary criticism into the blogosphere seems to be one of the most logical events in connection with the technological progress of society.

Literary online publications began to actively develop as independent media in the last ten years, in contrast to the first online news media created already in the late 1990s. The electronic magazine “Formaslov” and the literary portal “Gorky” were created in 2017[2], the literary portal “Pechorin.net” began to function in 2019, but already in 2023 the portal officially received the status of a network operating mass media. Earlier in 2015 In the same year, the “Year of Literature” portal began operating, created on the initiative of the Organizing Committee for the Year of Literature in Russia; the portal was given the status of an online media outlet, which is part of a special project of the “Rossiyskaya Gazeta”. “Year of Lit-

erature” regularly publishes thematic materials (from news to entertainment) within the literary and semi-literary sphere of activity. Most of the publications of online publications belong to analytical genres: reviews, surveys, thematic selections of books with a brief analysis of each work. The editorial policy of online literary publications is based on coverage of the modern artistic process, which includes new book releases, bestsellers, shortlists of significant festivals and competitions

The classic version of an analytical problem article is rarely found in online literary magazines. A problem article is a voluminous and multifaceted genre in itself, which does not correspond to the norms of online publications. A major news article in online media goes up to 5,000 characters, while a problematic literary article may go beyond 10,000 characters. The new approach is being implemented in the review genre, the most popular genre of online publications. Due to the need to captivate the reader, journalists write negative reviews less and less often; the majority are occupied by positive assessments with a significant percentage of annotations in the text. However, some authors of reviews in online publications still manage to follow the principle of objectivity, avoiding an enthusiastic retelling of the content of the work in favor of an analysis of the book.

One of the striking examples is the materials of the permanent author of the Gorky portal, Artyom Roganov. Since 2017, he has been published in thick literary magazines, his critical articles can be found on the pages of *Friendship of Peoples*, but over time, the critic transferred his creative activity to online literary publications. The decision to change the publishing platform is primarily justified by the freedom to choose material. If you pay attention to the list of reviews by Artyom Roganov, you will notice that the main characters of his articles are writers, finalists of major awards: Alexey Salnikov, Alla Gorbunova, Oksana Vasyakina, Jonathan Franzen, Sally Rooney. The novel by Shamil Idiatullin “Everything is like people’s”, a multiple finalist of the Big Book Award, was subjected to critical analysis: “The collection, which includes novels and short stories from different years, seems to be a passable mix. In addition, the preface to it says that most of these texts were written “poorly.” But it’s no secret that sometimes things that clearly do not claim to be opus magnum status can reveal the author and his prose in a new and interesting light. Regularly publishing reviews of works of popular and premium literature, Artyom Roganov formed his own media image of a critic on the pages of the online publication Gorky with his own specific views and tastes. The experience of “thick magazine” criticism allows Artyom Roganov to maintain a balance between objective analysis and the author’s interpretation of works.

A different vision of the review genre can be seen in the articles of Eduard Lukoyanov, who specializes in historical literature. In his reviews, his purely personal assessment of the text comes to the fore, and the journalist uses satire as the

main technique: Using the technique of stylization, the critic immerses the reader in the atmosphere of the work, a high degree of emotional and artistic beginnings attract readers not so much to the original source of the review, but to the text and the personality of the critic himself[7-8]. Thus, a critic of an online publication can promote his name as a brand, creating emotionally rich reviews not only of works of art, but also of non-fiction literature, which can be observed in the example of the works of Eduard Lukoyanov.

In printed publications, the freedom of choice for authors to analyze works is limited; the topic of the “review” section, as a rule, is dictated either by the topic of a particular issue of the journal or by the preferences of the publication itself[9]. Most often, priority is given to reviews of books by regular authors of the publication, thus, in the “Criticism” section of the magazine “Our Contemporary” the names of writers who are members of the Writers’ Union of Russia and the Council of Young Writers appear.

In search of a platform for self-expression, literary critics who previously published in thematic publications create their own accounts on the Telegram and Vkontakte platforms. A blog is considered a social network account where the author regularly publishes his notes, photographs, videos, and it is also possible to publish audio files in podcast format. These materials are united by one topic, which determines the focus of the blog and attracts a specific audience. Researcher Gryazeva A.I. calls blogging one of the most popular areas of journalism at present. She considers one of the main reasons for the popularity of this area to be its interactivity - subscribers can directly influence the content of the blog by commenting on publications, reacting to them and, thus, engaging in dialogue with the blog author[10].

Modern blogs are focused not only on book topics; publications should touch on literature to one degree or another, but bloggers themselves can choose general cultural topics: talk about exhibitions, analyze films, share interesting facts about the cultures of different countries, for example, if the blogger went to another country or is planning a trip, then on his channel he can publish a review of the attractions visited. However, not all researchers agree with the unification of all book blogs under the concept of “book blogging.” In his scientific article “Literary and book blogs: typological differences” Ryndin L.S. speaks of the thematic division of reader blogs into literary and book blogs. Amateur blogs are considered “book blogs”: “A book blog involves a review of a work you have read, a brief retelling of it and/or recommendations on what you can read in your free time.” Such blogs are usually run by amateur bloggers who implement informational and modal-evaluative communication strategies. Their publications are characterized by pronounced emotionality and subjectivity”[11]. While literary blogs are run by professionals with experience in literary criticism, who are familiar with the

history of literature and the theory of literary criticism, who have writing and journalistic skills and critical thinking. Thus, literary critics of thick magazines exploring the blogosphere can be called authors of literary blogs. Among the authors of literary blogs, it is worth highlighting Ivan Rodionov, Daria Lebedeva, Mikhail Rantovich. Their names have repeatedly appeared in the lists of awards: “_Lit-blog”, “Blogger of the Year”, “Blog Post”. They are also well-known personalities in the world of literature, regularly publishing in critical and artistic journals.

On the pages of their blogs, authors write not only about the books they have read, but also about the modern literary process, being its active participants. On Ivan Rodionov’s blog “sCounter” you can find announcements of upcoming lectures and round tables with the participation of the critic himself, his reports on writers’ congresses with his participation and conclusions on the results of literary awards such as “Yasnaya Polyana” and “Big Book”. The blogger is more involved in covering literary events than writing reviews of the books he has read. Among his posts, there are also often announcements of the publication of his articles and reviews in thick or online magazines. Daria Lebedeva, on the contrary, publishes full texts of reviews on her channel. Moreover, she was one of the first to use citation functionality in a blog format, remaining true to the original format of the literary review genre. Despite the general coverage of the literary world, blogs of literary critics are primarily aimed at promoting their name to create a personal brand. The events that Ivan Rodionov writes about are directly related to his own participation, thereby emphasizing his professional significance for the modern literary process.

Book bloggers, on the contrary, do not seek to include their activities in the field of the literary world. They act as outside observers of the development of literature, expressing their subjective point of view and ignoring the opinions of other experts. In a book blog, the choice of literary work to be reviewed primarily depends on the preferences of the reviewer, regardless of the advertising of the work. The lack of desire for intraliterary recognition is also evidenced by the design of the profile header of book blogs, which do not refer to the author’s first or last name - “Hemingway will call”, “greenlampbooks+”, “Book Caterpillar”, “Bookowski”. These blogs have a fairly decent audience for the Telegram network (from 2,000 to 12,000 subscribers); the authors maintain pages in the format of diary entries, more focused on books. These blogs contain a lot of information about their personal lives: moving, traveling, dreams and acquaintances, while the authors do not go very deep into analytics, instead of objective criticism, leaving short reviews of books, sometimes consisting of points “pros and cons” or “differences and similarities.” “ It is worth noting that the audience of these channels exceeds the number of subscribers to literary and book blogs focused exclusively on literature. Researcher Gryazeva A.I. divides blogs into three types: entertain-

ment, political and popular science. The first type is the most common and popular among the audience[10]. The blogs of Evgenia Lisitsyna, Yegor Appolonov and Sergei Lebedyanko are definitely entertaining. Readers are attracted by the frankness and “simplicity” of the authors; a feeling is created that bloggers remain on the same wavelength with their subscribers and speak about literature in a language understandable to the average person without the admixture of literary criticism[14].

Over the past few years, the book awards “_Litblog” and “Inspector General” have been received by authors who write at the intersection of book and literary blogs. One of the representatives of this trend is Dina Ozerova, the creator of the “Book Wanderer” channel. The main part of its materials are reviews and mini-reviews of modern literature, but in 2023 the channel also appeared reports from book exhibitions, reviews of literary schools visited, reports from literary awards, and summing up its own results of the awards. Dina Ozerova launched a series of literary podcasts “Ice and Fire” on the platform of her blog, where she regularly invites media personalities from the world of literature as guests. Having analyzed the content, we can talk about the active journalistic activity of the blogger in the field of covering the literary process.

In addition to maintaining her book blog, Dina Ozerova was also invited by editors to work in literary online magazines. Her reviews can be seen on the pages of the Year of Literature portal, in the online magazines Reading, and Online publications are interested in attracting book bloggers as online figures capable of influencing the opinions of the masses. Gradually, two opposing critical camps are being formed on the pages of these magazines: experts with experience in thick-magazine criticism and bloggers with a ready audience and a platform for “self-promotion.”

Thematic literary magazines, which for a long time existed separately from the network media space, in modern realities are forced to use new technologies and take into account the different needs of the audience, and therefore integrate into the world of network literature and journalism. Thanks to these changes, Internet versions of the thick magazines “Yunost”, “New World”, “Our Contemporary” appeared. In addition to copies of printed publications, online media are gaining popularity. In them, preference is given to analytical genres, since the main task is to illuminate the modern literary process in general and, in particular, to familiarize readers with the latest works of Russian and world literature[19].

Thus, journalists and publishers set themselves the general cultural task of popularizing literature through dialogue with the audience. The idea of communicating with subscribers on literary topics continues in the work of book bloggers. Nowadays there is an interpenetration of the “thick magazine” sphere of activity and the blogosphere. Literary critics maintain their own blogs, talking not only

about specific books, but also about events in the world of literature, sharing their own achievements and thoughts. While authors who started with a book blog are published in online literary media and expand the boundaries of their literary preferences, and therefore the horizons of their subscribers.

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关于与 1993 年俄罗斯联邦宪法有关的一些文物
**ON SOME ARTIFACTS RELATED TO THE 1993 CONSTITUTION
OF THE RUSSIAN FEDERATION**

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抽象的。从文化角度来看，宪法被视为历史和文化产物。分析了宪法通过的历史情境对宪法制品影响的特点。文章分析了与1993年俄罗斯联邦宪法相关的文物的特征，如：制宪会议文件、俄罗斯联邦宪法原文问题、宪法第一版、宪法副本、总统宣誓的宪法文本，艺术的重要性，包括俄罗斯联邦宪法的手写副本。这个问题尚未得到全面调查。

关键词：1993年俄罗斯联邦宪法、文物、制宪会议文件、宪法第一版、宣誓副本、宪法艺术副本。

Abstract. *The Constitution is considered from a cultural perspective as a historical and cultural artifact. The features of the influence of the historical situation of the adoption of the constitution on constitutional artifacts are analyzed. The article analyzes the features of such artifacts related to the 1993 Constitution of the Russian Federation as: documents of the Constitutional Conference, the question of the original text of the Constitution of the Russian Federation, the first edition of the Constitution, a copy of the text of the Constitution for taking the oath of the President, the importance of artistic, including handwritten copies of the Constitution of the Russian Federation. This issue has not been comprehensively investigated.*

Keywords: *1993 Constitution of the Russian Federation, artifacts, documents of the Constitutional Conference, first edition of the Constitution, copy for taking the oath, artistic copies of the Constitution.*

The national constitution has many guises: in the legal sense, it acts as a set of basic rules by which the state lives. However, this is a legal act in which these rules are fixed, and this must be done according to the legally established procedure and the relevant body. The preparation and adoption of such a legal act as

the constitution generates many related artifacts, which makes an important contribution to the national culture. As A.L. Dobrokhotov notes, it is artifacts that are the main structural units of culture [4, p. 355]. “Previously, an artifact was called something introduced by the study itself and not characteristic of an object in a normal state outside contact with research activities, but recently it has become common to designate an artificial object in general with this word” [9, p. 122, 14, p. 112-123].

Any national constitution is accompanied by a number of artifacts that ensure its popularization among the population, support the memory of it, visualize the content and role of the constitution in exhibitions and museums, perform the corresponding functions in state ceremonies, etc. The national complex of such artifacts related to the constitution differs from country to country, which is predetermined by the peculiarities of the historical situation of the adoption of the constitution, the traditions and legal culture of the country that have developed in the state [1].

In the process of discussing the draft constitution, many artifacts arise (the projects themselves, there may be several of them, memos to them, notes of famous figures on their copies of the project, documented in the minutes of the participants’ speeches, etc.). These documents will subsequently help restore the overall picture of the birth of the text of the constitution, the role of individual participants, the atmosphere of the time of its adoption and preserve it for posterity. One of the culminations of the constitutional process is the adoption and signing of the constitution. Here the final document appears, which itself becomes a significant artifact, in addition, in some countries, various items related to the moment of signing the text of the constitution are also preserved. However, it is not always easy to determine which document is the original constitution. This is predetermined by the historical situation of the adoption of the constitutional document, the peculiarities of the legal awareness of the participants, the degree of compliance with the previously adopted or newly established rules, etc. Thus, the US Declaration of Independence was adopted by the Continental Congress on July 4, 1776, but after approval by the states, its text was rewritten by a calligrapher and signed by Congress participants on August 2, 1776, this document is stored in the Museum of the US National Archives, but paradoxically Independence Day is considered July 4, i.e. the day of adoption of this document.

An ideal and unambiguous situation for determining which document is the original of the Constitution is the situation when it is approved and signed at a meeting of a body specially convened for this on the day of voting on this issue. However, in situations of acute confrontation between various political forces or a sharp change in political rules, such clarity may not exist.

Documents of the Constitutional Conference and the question of the original text of the Constitution of the Russian Federation

The Constitution of the Russian Federation of 1993 was created in the context of confrontation between bodies belonging to two branches of government: the legislative (Congress of People's Deputies and the Supreme Council created by him) and the executive (President of the Russian Federation and Government of the Russian Federation). Accordingly, two official drafts of the country's Constitution were prepared, which reflected different positions. By presidential decree of June 2, 1993 No. 840, a constitutional meeting was convened at which these projects were considered, in addition, the ideas of projects submitted by groups of scientists were used. The meeting worked in two chambers (Public and State), in addition, the Constitutional Arbitration Commission of the Constitutional Meeting and the Working Commission for finalizing the draft Constitution of the Russian Federation were created, which summarized the proposals expressed during the discussion. Thus, during the Meeting, many documents emerged that reflect the process of creating a draft Constitution.

At the Meeting, the presidential draft was adopted as a basis, and more than 500 amendments were made to it, which led to a change in almost 200 provisions of the original text of the draft [15, p. 21]. The meeting ended its work on June 15, but the text was finalized later, and then was presented to the President, who also amended it [for more details see 10, p. 26]. The project was supposed to be considered by the legislature, but a constitutional crisis arose with the confrontation of the authorities. Presidential Decree No. 1400 of September 21, 1993 suspended a number of articles of the 1978 Constitution and terminated the activities of legislative bodies. The draft was submitted to a referendum, at which the 1993 Constitution was adopted. Since the referendum was entrusted to the Central Election Commission, which was supposed to take stock and announce the adoption of the Constitution, the text announced in its decision can be considered the original, but it is identical to the draft, which can be interpreted in different ways.

It should be noted that from a historical and cultural point of view, all documents that took place at the Constitutional Meeting and later until the draft Constitution was submitted to a referendum, are an integral part of the constitutional process and should be stored in archives and considered as important artifacts.

On the one hand, indeed, a large array of these documents has been preserved in archives, and a significant part of them have been published, and over time the value of these publications will grow. Among such publications, it should be noted, first of all, the publication of transcripts, materials and documents of the Constitutional Meeting, carried out by the Presidential Administration in the publishing house "Legal Literature" [6] in 20 volumes with different circulations (from 2000 copies for 1 volume, up to 1150 copies for 20 volumes).

On the other hand, since this body, being deliberative, was formed not on the basis of suffrage, but by co-opting representatives of various bodies and organi-

zations [for more on this, see 10, p. 23], it did not clearly organize paperwork in terms of the requirements for mandatory archiving of materials. As a result, some of the materials remained with the participants in the Constitutional Conference. It is difficult to judge which part of them is stored in private hands, since evidence of this is found only in the memories of some participants. So, S.M. Shahrai in his book of memoirs writes about the draft Constitution handed over to him by Yeltsin with notes: “I still keep these pages of the manuscript of the draft Constitution autographed by the President of Russia” [16, p. 64]. Obviously, this makes it difficult for future researchers to create a complete and, accordingly, objective picture of the activities of the Meeting and the constitutional process.

The specificity of the historical situation of the adoption of the Constitution has led to the fact that in Russia there is no such artifact as a photograph of the signing of the text of the adopted Constitution by the head of state, which in many countries is widely used as a means of maintaining the historical memory of its adoption (photographs of J. Nehru, N. Mandela and other famous figures). The author did not meet the editions of the Constitution in the languages of the peoples of the Russian Federation, although in many subjects they are official.

First edition of the Constitution of the Russian Federation

In Russia, the first edition of the 1993 Constitution (in addition to the one published in the newspaper version in the official source) was carried out by the Legal Literature publishing house with a circulation of 2 million copies [8]. Based on the data provided on the website of the Federal State Statistics Service, the population in 1993 was 148.6 million people [13]. Even if we neglect how many were sent to libraries (the exact figure is unknown, but it can be assumed that a significant part of the circulation went to libraries), it turns out that only one out of 74 people in the country owns this artifact, in fact, their number is even less.

Inaugural copy of the Constitution of the Russian Federation

An important and unique artifact in any state is a copy of the document for taking the oath of office by the head of state. Although in many countries by tradition such an oath is taken on the Bible, the oath on the text of the Constitution is also widespread. To do this, a special copy of the document is made, drawn up in accordance with the procedure in which he must participate.

In the Russian Federation, until 1996, there was no tradition of taking the oath with laying hands on the cover of a copy of the Constitution. In 1996, when President B.N. Yeltsin was re-inaugurated, the inauguration procedure was changed, and by Decree of the President of the Russian Federation of August 5, 1996 No. 1158, a single copy of the text of the Constitution of the Russian Federation specially made for inauguration was approved as an official symbol of presidential power. However, this status remained for a single copy for less than four years and was canceled by Decree of the Acting President of the Russian Federation V.V. Putin dated May 6, 2000 No. 832. Although from that moment on, persons taking

office as President are entitled to take the oath on any copy of the Constitution, by tradition the same single copy is used.

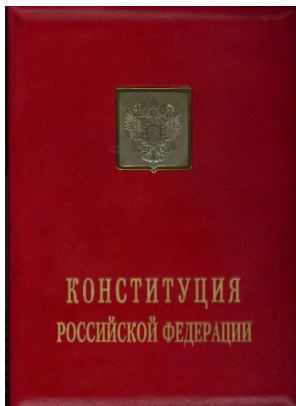


Figure 1. *Inaugural copy of the Constitution of the Russian Federation. Library of the President of the Russian Federation.*

No official description of this specimen has been claimed. However, in fact, there is a copy (Fig. 1) that includes the text of the Constitution, amendments to it, as well as acts of taking the oath on it by the presidents. The cover of the inaugural copy of the Constitution is made of monitor lizard leather, painted red, and is decorated with an overhead silver coat of arms of the country and an embossed gold inscription of the Constitution of the Russian Federation [12]. Due to the uniqueness of this specimen, it is of significant historical and cultural value. This copy is stored in the Library of the Presidential Administration [7].

Artistic editions of the Constitution of the Russian Federation

In addition to the usual editions of the text of the Constitution of the Russian Federation, which are periodically published, including in order to reflect the amendments made to it, certain efforts are being made to create artistic copies of the text of the Constitution, which become cultural artifacts, and thanks to this - objects of museum, as well as exhibition exhibiting and collecting.

So, in Russia, a completely successful attempt was made to create a handwritten copy of the 1993 Constitution of the Russian Federation at the initiative and efforts of enthusiastic calligraphers. This copy is not official, but is a cultural artifact showing respect for the Constitution, shown by citizens on their own initiative. It is stored in the Museum of World Calligraphy in the Ryazan Region [3]. In Russia, all constitutions, starting with the Constitution of the RSFSR of 1918, were printed. The tradition of manuscript books existed in antiquity, and it dates back to the pre-constitutional period. The creation of a handwritten version of the

Constitution in this sense is the maintenance of the ancient tradition of Russian calligraphy as such.

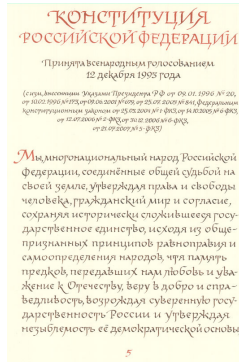


Figure 2. A calligraphic copy of the 1993 Constitution of the Russian Federation

A smaller copy of this unique specimen measuring 53x76 mm and weighing one hundred grams was published in a circulation of 1000 numbered copies. Each book has a unique number and name stamp of the master, handmade leather binding [11].

The original artistic illustrated editions of the text of the Russian Constitution include the edition, which is a creative project of M. Gorelov and N. Khudyakova [5]. The text of the Constitution in it is illustrated article by article by color images and schemes, made mainly in infographics with stylization for the Russian national style. This edition of the Constitution is already considered rare and is a collectible. In particular, it was exhibited at the auction house “Litfond” on March 2, 2023. [2].

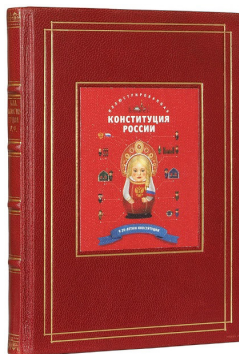


Figure 3. Illustrated Constitution of Russia.

Conclusion

The peculiarities of the preparation and adoption of the Constitution of the Russian Federation left their mark on the formation of a complex of related artifacts. In the question of the original Constitution, different interpretations are possible. The status of the inaugural instance was changing. Some of the artifacts related to the Constitution, which are widely used abroad to promote the ideas of the constitution and maintain cultural memory of it, did not appear due to specific historical circumstances. At the same time, steps have been taken and are being taken in Russia to create original artifacts with a national flavor.

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患有龋齿的吸烟和不吸烟青少年的体重指数

BODY MASS INDEX IN SMOKING AND NON-SMOKING YOUTHS WITH DENTAL CARIES

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抽象的。自 2019 年以来,我们对西西伯利亚 121 名患有龋齿的年轻大学生的吸烟和非吸烟情况的体重指数 (BMI, g/cm) 进行了分析。为了评估 BMI, 作者开发了一种“评估人身体发育的方法”(计算机程序国家注册证书编号 2008615639), 并获得了俄罗斯联邦计算机程序数据库“身体发育”国家注册证书编号 2023623997。俄罗斯联邦儿童青少年发展: 沿身体长度的区域体重回归量表。”研究发现, 2019 年至今, 18-22 岁男孩的 BMI 处于正常值特征水平 青春期的影响与居住地区无关; 与其他研究人员的数据没有显著差异, 吸烟对 BMI 没有显著影响, 但确实会显著增加龋齿的发生率。

关键词: 年轻男性、大学生、体重指数、吸烟、龋齿。

Abstract. *For the period since 2019, an analysis of the body mass index (BMI, g/cm) is provided in smoking and non-smoking tobacco among 121 young men with dental caries who are university students in Western Siberia. To assess*

BMI, the authors developed a “Method for assessing the physical development of people” (Certificate of state registration of computer programs No. 2008615639) and received Certificate No. 2023623997 of the Russian Federation on state registration of a computer program database “Physical development of children and adolescents of the Russian Federation: regional body weight regression scales” along the length of the body.” The study found that from 2019 to the present, BMI in boys 18-22 years old is at the level of normative values characteristic of the period of adolescence; does not depend on the region of residence; does not differ significantly from the data of other researchers. Tobacco smoking does not have a significant effect on BMI, but does significantly increase the incidence of dental caries

Keywords: *young men, university students, body mass index, tobacco smoking, dental caries.*

Relevance. For young men who have become university students, the start of their studies, especially those who have moved to another city, is often accompanied by a stress-induced state. Changes in the usual living environment and way of life, climate, diet and water composition, daily routine, increased mental stress can cause stress, often leading to changes in body weight. The listed facts have a significant impact on the youthful body in general and on the maxillofacial area in particular. Unfortunately, it should be recognized that there is a direct dependence of the increase in the prevalence of dental caries on the nature and diet, hygienic culture, level of education, medical care, and the quality of drinking water. Thus, in particular, according to WHO, almost every tenth inhabitant of the planet suffers from the consumption of poor-quality drinking water every year. The mineral composition of drinking water plays a role in the occurrence of dental caries and periodontal disease.

The state of dental health among students is of particular interest, because maintaining health at a young age determines its condition in subsequent age periods.

Despite the progress achieved in the treatment of oral diseases, one of the most common is dental caries, diagnosed in 95-97% of the population in various countries of the world [11, 12, 13]. An analysis of the literature available to us showed the negative impact of tobacco smoking on the function of the respiratory system, mental health, quality of life, pregnancy, intrauterine development of the fetus, sports, and mortality. The study of the state of the oral cavity in tobacco smokers has not been ignored [1, 6]. Thus, according to WHO, about 100 million people died from smoking in the 20th century. The addiction of young people to nicotine can be explained from the standpoint of the physiological teachings of Academician A.A. Ukhtomsky about the dominant [8, 9]. The fact is that nicotine has a toxic effect on the neurons of brain cells, causing them to become so addictive that it

is difficult or even impossible to get rid of. Therefore, we consider the toxic effects of tobacco on the central nervous system to be a dominant and difficult to control phenomenon that requires detailed understanding from various biochemical and physiological positions. In this article we only indicate possible problematic issues that we plan to solve at various methodological levels. One thing is clear - in drug addiction, the physiological mechanisms of the dominant of Academician A.A. should be considered. Ukhtomsky, without analysis of which it will be impossible to counter the pandemic of nicotine addiction.

Much attention has always been paid to the issues of assessing the morpho-functional state of students living in various regions of the Russian Federation. The state of health and physical development (PD) of secondary school students and students is the key to preserving the labor and defense potential of our country. At the same time, the deteriorating health of the young population of Russia is causing some concern [7, 10], which is often associated with a decrease in the level of physical activity. Therefore, scientific research aimed at developing regional standards for physical development of modern children, adolescents and young people is relevant and in demand. Today it should become a mandatory rule that a physical education teacher at a secondary school and university, when starting classes with schoolchildren or students, must have a clear idea of their health and morphofunctional state. At the same time, the arsenal of his research should include simple methods for assessing health and morphofunctional state, allowing them to be applied in any conditions of the educational or training process.

One of the most important indicators of RF is BMI [2, 3, 4, 5], which has not been sufficiently studied in modern adolescent students of specialized universities in the Russian Federation with dental caries.

Object of study: Russian university students during adolescence with dental caries.

Subject of research: body length and weight to calculate body mass index.

Research hypothesis: firstly, it is suggested that due to the increase in the passport age, the basic indicators of PD, which are length and body weight, for the period from 2019 to the present, among male university students with dental caries do not undergo significant changes. Secondly, for a given period of time, among smoking and non-smoking young men suffering from dental caries, living in Western Siberia, BMI as an indicator characterizing the risk factor did not have any significant differences. Thirdly, the BMI of young men who became students of Tyumen universities does not differ significantly from the BMI of young men living in different regions of the Russian Federation.

Goal: from 2019 to the present, to monitor the values of body mass index among smoking and non-smoking young men with dental caries, university students in Western Siberia.

Material and methods. The study was carried out at the Astra-Med medical center in Tyumen, at the Institute of Physical Culture of Tyumen State University, at Tyumen State Medical University and Irkutsk State University for the period from 2019 to the present. During this period of time, 121 young men aged 18 to 22 years with dental caries were examined, including 76 (62.8%) smoking and 45 (37.2%) non-smoking young men (Fig. 1).

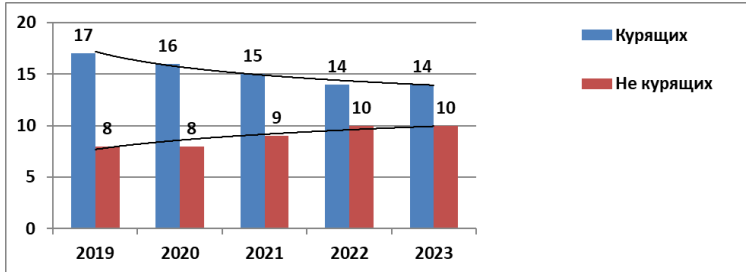


Figure 1. The number of smoking and non-smoking young men enrolled in universities.

In accordance with the recommendations of the World Health Organization, we considered students who smoked more than 5 cigarettes per day to be smokers. Of these, 34 (44.8%) people smoked tobacco for 4 years, 21 (27.6%) for 3 years, 16 (21%) for two years, and 5 (6.6%) only for a year. There were 58 (47.9%) people from cities, 63 (52.1%) from rural settlements of Western Siberia.

According to ICD-10, various forms of dental caries predominated among the students we examined (K02.1, K02.2, K02.8 and K02.9). In addition, diseases of the pulp and peri-apical tissues, gingivitis, periodontitis and stomatitis were diagnosed. In this report, we consider only BMI values and do not touch upon a detailed description of dental caries in young men.

When assessing the age of young men, the “Scheme of age periodization of human ontogenesis” (Moscow, 1965) was used. To study PD, we have proposed a “Method for assessing the physical development of people” (Certificate of state registration of computer programs No. 2008615639) and Certificate No. 2023623997 of the Russian Federation on state registration of a computer program database “Physical development of children and adolescents of the Russian Federation: regional scales of body weight regression by body length.” Body length was measured by our proposed stadiometer (PD Patent for utility model No. 153076).

BMI was assessed using the formula:

$$\text{BMI} = \frac{\text{Body weight (g)}}{\text{Standing height (cm)}}$$

The research results were processed on a personal computer using the Statistika program. The significance of the differences was assessed using Student's t-test, and the differences were considered significant at $p < 0.05$.

Ethical review. The principles of voluntariness, individual rights and freedoms guaranteed by Articles 21 and 22 of the Constitution of the Russian Federation, as well as Order of the Ministry of Health and Social Development of Russia No. 774n of August 31, 2010 "On the Ethics Council" are observed. The study was conducted in accordance with the ethical standards set out in the World Medical Association Declaration of Helsinki "Ethical Principles for Medical Research Involving Human Subjects", which was adopted at the 59th General Assembly in October 2008. The authors obtained verbal consent from students to conduct the study and publish the data.

Results and discussion. We emphasize that over many years of use in clinical practice, Quetelet's formula has been questioned and is the subject of controversy, especially among nutritionists. Most often, BMI is used to identify obesity and is a measure not of excess body fat, but of excess body weight in relation to a person's height.

The measurement results showed that we did not identify any significant differences ($p > 0.05$) in the values of body length and weight between smoking and non-smoking young men (Table 1).

Table 1.
Physical development of young men who smoke and do not smoke tobacco
($M \pm m$)

Indicators of physical development	Year of examination				
	2019	2020	2021	2022	2023
Smoking					
Body length	176,7±1,9	177,5±1,8	178,2±1,8	178,9±1,9	180,1±2,0
Body mass	70,09±1,71	70,84±1,69	71,62±1,73	72,26±1,71	72,99±1,73
Quetelet index	3967	3991	4019	4039	4053
Non-smokers					
Body length	177,8±1,8	178,9±1,9	179,6±1,9	180,4±1,9	180,8±1,9
Body mass	72,27±1,70	72,93±1,67	73,49±1,69	74,12±1,70	74,64±1,68
Quetelet index	4065	4077	4092	4109	4128

The results of measurements for the study period from 2019 indicate that, firstly, as the passport age of young men increased, body length increased in absolute values. Secondly, a slight increase in body weight was noted, especially in non-smoking young men, although we did not find significant differences ($p > 0.05$).

Thirdly, the length and body weight of young men who did not smoke tobacco were greater in absolute values than those of young men who smoked (Fig. 2).

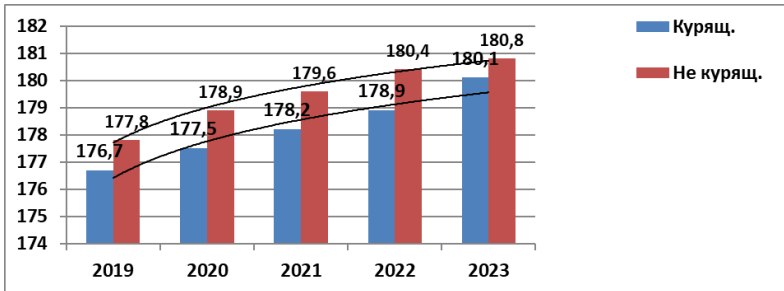


Figure 2. Dynamics of the body length of young men for the period from 2019.

The measurement results showed that over the period from 2019 to the present, the body length of young men smoking tobacco due to an increase in passport age in absolute values increased by 3.4 cm, and for non-smokers by 3 cm, which is not statistically significant ($p > 0.05$). At the same time, one can note the negative impact of tobacco smoking on the difference in body length between smoking and non-smoking young men (Fig. 3).



Figure 3. Differences in body length values between smoking and non-smoking young men for the period from 2019.

From 2019 to the present, body weight among smoking youths has increased in absolute values by 3.07 kg, and among non-smoking youths by 2.90 kg (fig. 4).

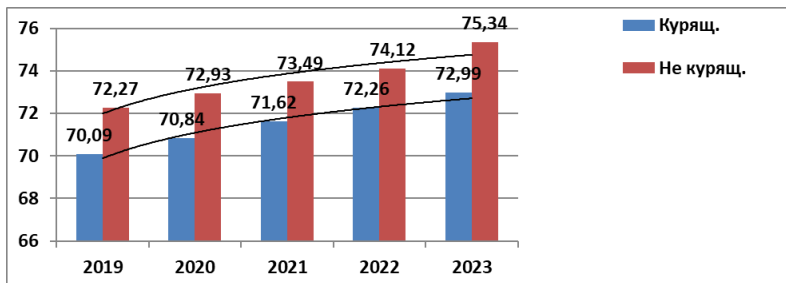


Figure 4. Dynamics of body weight of young men for the period from 2019.

It can be concluded that the body weight of young men who smoked was lower in absolute values than that of young men who did not smoke tobacco (Fig. 5).

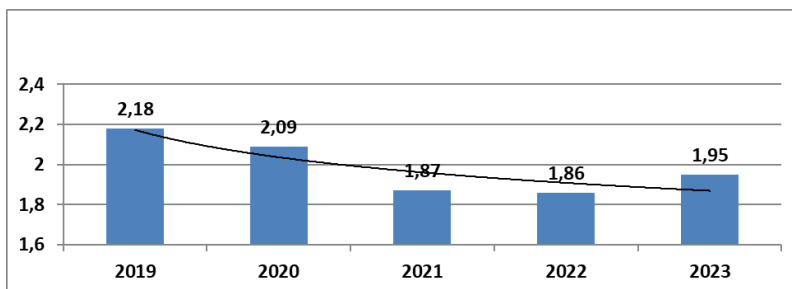


Figure 5. Differences in body weight values between smoking and non-smoking young men for the period from 2019.

We should note that the basic RF indicators, such as body length and weight in the young men we examined, did not differ significantly from the data of other researchers (Table 2).

Table 2. Indicators of physical development of young men

Author	Year of publication	Body length	Body mass	Quetelet index
Gorst N.A., Gorst Z.R.	2005	179,4	68,5	–
Negasheva M.A.	2007	177,99	67,24	–
Pulikov A.S.	2011	172,3	63,96	–
Zaitdinov A.I., Mingazov E.N.	2013	173,82	65,2	–
Nazmutdinova V.I. et al.	2015	178,0	65,5	–
Yasin K.B.	2015	178,0	83,86	–

Bondareva E.A. et al.	2016	178,3	75,0	–
Kharisova E.Z.	2016	175,6	66,7	–
Chichinina S.V.	2016	176,3	70,2	21,3±1,9
Bazarbaeva S.M. et al.	2017	177,5	69,7	22,1±0,2
Belkina A.A.	2017	177,04	73,47	–
Krasilnikova V.A., Aizman R.I.	2017	174,0	66,1	21,7±0,6
Sidorenko A.V.	2018	178,3	72,32	–
Averyanova I.V.	2018	178,8	68,5	–
Zamkova E.V.	2018	177,8	72,6	–
Chinchaeva E.A.	2020	171,6	67,9	22,3±0,4
Borodina G.N. et al.	2021	179,7	74,0	-
Semizorov E.A. et al.	2021	173,11	70,73	-
Makhsudov R.	2021	173,2	60,8	-
Yurtaykina M.N. et al.	2022	178,63	77,49	23,6±0,4
Litvinova N.S. et al.	2023	178,0	61,8	-

In recent years, the normative BMI values are considered to be 375–420 g/cm, which was also the case in our studies (Fig. 6). It can be stated that both smoking and non-smoking young men have no signs indicating excess body weight and obesity.

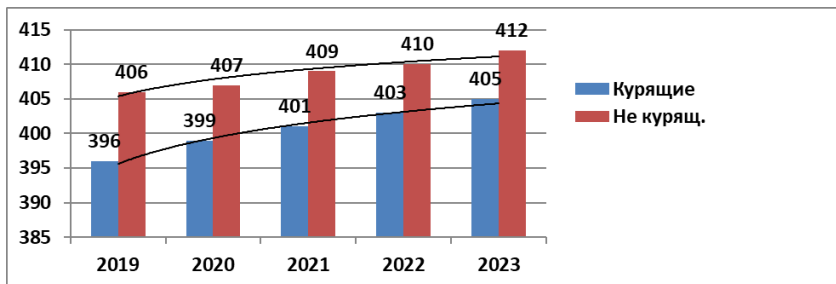


Figure 6. Dynamics of body mass index values in smoking and non-smoking young men for the period from 2019.

Despite the fact that all the young men, after visiting the dentist, monitored oral hygiene, we nevertheless diagnosed fresh foci of dental caries in 11 (14.47%) smoking and 3 (6.66%) non-smoking young men .

Based on the study, we can, firstly, conclude that the PD indicators of tobacco smoking and non-smoking young men with dental caries confirm our hypothesis that they are at the level of normative values for a given age period of human ontogenesis. Secondly, BMI, regardless of whether the young man smokes or not,

as an indicator of PD, does not differ from the data of other researchers. Thirdly, young men aged 18-22 with dental caries living in Western Siberia do not exceed the normative values of body weight and do not show signs of obesity. However, the age-related values of body mass and length in young men who do not smoke tobacco are greater in absolute values, indicating a good level of physical development. It is alarming that, despite constant oral hygiene, young men who smoked tobacco were more likely to experience dental caries.

We believe that it is difficult to judge from just one study of BMI the PD of young men and the impact of dental caries on it, therefore, in the process of studying at a university, we will again assess BMI taking into account the severity of the clinical course of dental caries.

The authors declare that there is no conflict of interest in the presented article.

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C反应蛋白对肿瘤血液病患者败血症的诊断潜力
**DIAGNOSTIC POTENTIAL OF C-REACTIVE PROTEIN FOR
SEPSIS IN ONCOHEMATOLOGICAL PATIENTS**

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抽象的。目的：分析肿瘤血液病患者脓毒症中 C 反应蛋白 (CRP) 的动态变化、诊断和预后意义。材料和方法。对 30 例淋巴增殖性疾病 (骨髓瘤、淋巴瘤) 患者的 CRP 水平进行了两种设计的比较分析：第一组，接受细胞抑制剂治疗且有和没有脓毒症并发症的患者分别为第一组和第三组；经过一个疗程的细胞抑制剂治疗后进行自体造血干细胞移植的患者，同时伴有和不伴有脓毒症并发症的患者——分别为第二观察组和第四观察组；在第二个设计中，所有患有脓毒症并发症的患者都被纳入第一组 ($n = 15$)，没有并发症的患者被纳入第二组 ($n = 15$)。使用 StatTech v.4.0.5 程序进行统计分析。(Stattech LLC, 俄罗斯)。使用夏皮罗-威尔克检验自动检查分布类型后，使用中位数、第一和第三四分位数描述非参数定量指标，使用平均值和标准差描述参数定量指标；两组的比较分别使用 Mann-Whitney U 检验或 Student's t 检验进行， $p < 0.05$ 。为了评估 CRP 在预测特定结果方面的诊断价值，使用 ROC 曲线 (AUC) 分析方法。结果。与相应的无脓毒症对照组相比，脓毒症组的 CRP 水平存在统计学显著差异 ($p_1 - 3 < 0.001$, $p_2 - 4 < 0.001$)；CRP 水平取决于两种研究设计中的结果 (康复/死亡) ($p < 0.05$)；比较脓毒症组之间的 CRP 动力学。当评估 CRP 的诊断意义时， $AUC = 0.862 \pm 0.029$, 95% CI: 0.806 - 0.918, 该模型具有统计显著性 ($p < 0.001$)。当 CRP ≥ 18.3 mg/l 时可预测败血症。该模型的敏感性 (Se) 和特异性 (Sp) 分别为 85.7% 和 69.7%。当预测 10 天死亡率时， $AUC = 0.756 \pm 0.069$, 95% CI: 0.621 - 0.892, 该模型具有统计显著性 ($p < 0.001$)。CRP 临界点阈值为 112.8 mg/l；Se 和 Sp 模型分别为 57.9% 和 89.2%。作为一种广泛使用的标志物，CRP 在脓毒症的复杂诊断中具有好的诊断价值，特别是对于血液肿瘤患者。

关键词：脓毒症、肿瘤血液学、C 反应蛋白、动力学、敏感性、特异性。

Abstract. *Objective: analysis of the dynamics, diagnostic and prognostic significance of C-reactive protein (CRP) in sepsis in oncohematological patients.*

Materials and methods. A comparative analysis of the level of CRP was carried out in 30 patients with lymphoproliferative diseases (myeloma, lymphomas) in two designs: in the first, patients receiving cytostatic therapy with and without complications of sepsis comprised the first and third groups, respectively; patients with autologous transplantation of hematopoietic stem cells after a course of cytostatic therapy, also with and without complications of sepsis - the second and 4th observation groups, respectively; in the second design, all patients with complications of sepsis were included in the first ($n = 15$), without complications - to the second group ($n=15$). Statistical analysis was carried out using the StatTech v. 4.0.5 program. (Stattech LLC, Russia). After automatically checking the type of distribution using the Shapiro-Wilk test, nonparametric quantitative indicators were described using the median, first and third quartiles, parametric ones - using the average and standard deviation; comparison of two groups was performed respectively using the Mann-Whitney U-test or Student's t-test at $p < 0.05$. To assess the diagnostic value of CRP in predicting a specific outcome, the ROC curve (AUC) analysis method was used. Results. Statistically significant differences were revealed: in the level of CRP in both groups with sepsis when compared with the corresponding comparison groups without sepsis ($p_{1,3} < 0.001$, $p_{2,4} < 0.001$); in the level of CRP depending on the outcome (recovery/death) in both study designs ($p < 0.05$); in the kinetics of CRP when comparing groups with sepsis with each other. When assessing the diagnostic significance of CRP, $AUC = 0.862 \pm 0.029$ with 95% CI: 0.806 – 0.918, the model is statistically significant ($p < 0.001$). Sepsis is predicted when $CRP \geq 18.3$ mg/l. The sensitivity (Se) and specificity (Sp) of the model are 85.7 and 69.7%, respectively. When predicting 10-day mortality, $AUC = 0.756 \pm 0.069$ with 95% CI: 0.621 – 0.892, the model is statistically significant ($p < 0.001$). The threshold value of CRP at the cut-off point is 112.8 mg/l; Se and Sp models are 57.9 and 89.2%, respectively. As a widely available marker, CRP has good diagnostic value in the complex diagnosis of sepsis, in particular in hematological oncology patients.

Keywords: sepsis, oncohematology, C-reactive protein, dynamics, sensitivity, specificity.

Introduction. Sepsis is the leading cause of intensive care unit admission and carries a high risk of death [1]. The diagnosis of infection in patients with suspected sepsis is often difficult to establish with a sufficient degree of certainty. Diagnosis of infection still relies on a combination of systemic manifestations, symptoms of organ dysfunction, and microbiological documentation [2].

Biomarkers can provide additional information about systemic manifestations of infection (these are so-called host response biomarkers, which include C-reactive protein (CRP) and procalcitonin (PCT)), the development of organ dysfunc-

tion (for example, biomarkers of kidney damage) and microbiological documentation (pathogen-specific biomarkers). In this case, the kinetics of the marker is more informative than its quantitative value [2].

In this aspect, CRP is an accessible clinical marker characterized by a wide range of pathophysiological effects. Discovered in 1930, CRP is a nonspecific acute phase protein whose levels can increase 10,000-fold during the acute response to severe infection or severe tissue injury. By activating cytotoxic cascades, CRP is involved in the process of removing microorganisms and necrotic tissue. In everyday clinical practice, the CRP level is a diagnostic tool for infection, a marker of disease severity and also allows assessing the response to antibiotic therapy [1].

The subtlety of the response of the CRP level (deviation in the CRP level by 0.05 µg/ml already has clinical significance) and the need to take into account its slightest deviations in the diagnosis of the infectious process and the development of inflammation are confirmed by data on the correlation of the level of bacterial lipopolysaccharides (LPS) and CRP. The minimum detectable concentration of bacterial LPS in the blood of patients is 100 pg/ml, the corresponding threshold value of CRP is 10 µg/ml, that is, the difference between the concentrations of these two markers in a clinical analysis is more than three orders of magnitude, which makes their detection in one sample very difficult, but it is the simultaneous detection of several markers of different orders that can be of great importance for the diagnosis and classification of sepsis [3].

Aim of the work is the analysis of the dynamics, diagnostic and prognostic significance of C-reactive protein for sepsis in oncohematological patients.

Materials and methods. A comparative analysis of the data of clinical examination and observation of 30 patients (17 men and 13 women aged 49 to 68 years) with lymphoproliferative diseases - lymphomas (10) and multiple myeloma (20), who were treated in the hematology department and department of anesthesiology and resuscitation of the Surgut Regional Clinical Hospital in 2021-2023. A comparative analysis of the level of CRP was carried in two designs: in the first, patients receiving cytostatic therapy with and without complications of sepsis comprised the first and third groups, respectively; patients with autologous transplantation of hematopoietic stem cells after a course of cytostatic therapy, also with and without complications of sepsis - the second and 4th observation groups, respectively; in the second design, all patients with complications of sepsis were included in the first (n = 15), without complications - to the second group (n=15).

The study groups were comparable in age of patients. When the frequency of concomitant pathologies, in particular diseases of the cardiovascular system, was comparable, the groups with sepsis were distinguished by more pronounced stages of the disease. Thus, only these groups included patients with chronic heart failure. Also, only patients in these groups had diabetes mellitus (one case per group).

Almost all patients had the coexistence of a number of complications, the similarity of which was determined by the commonality of the underlying disease, cytostatic and antibacterial therapy. Among patients with sepsis, positive blood cultures were obtained in 11 (73.33%) cases - in three cases of the first group and eight cases of the 2nd group. The structure of the microbial flora was dominated by (7) *Staphylococcus epidermidis*. The development of septic shock occurred in three patients of the first and one of the second group, the development of organ dysfunction (including patients with septic shock) - in 5 people of the first and three patients of the second group, among these 8 patients in 4 cases (two in each of these groups) there was death.

All patients underwent clinical and biochemical blood tests, as well as all necessary instrumental studies (ECG, ultrasound, X-ray methods, etc.). The present study analyzed CRP values in patients of the study groups upon admission; on the day of his first promotion, which in the first group, in fact, coincides with the day of the diagnosis of sepsis, and in the second group was the day of auto-HSCT; as well as CRP levels on the next day and on the subsequent 3rd, 5th, 7th, 9th days of sepsis in the first two groups and on the same days after the first promotion in the comparison groups.

Statistical analysis was carried out using the StatTech v. 4.0.5 program (developer - Stattech LLC, Russia). After automatically checking the type of distribution using the Shapiro-Wilk test, nonparametric quantitative indicators were described using the median (Me), the first (Q_1) and the third (Q_3) quartiles, parametric indicators were described using the mean (M) and standard deviation (SD); comparisons between two groups were performed using the nonparametric Mann-Whitney U test or Student's t-test/Welch's t-test, respectively. The critical level of significance when testing statistical hypotheses was taken equal to 0.05. To assess the diagnostic significance of quantitative characteristics in predicting a specific outcome, the ROC curve (AUC) analysis method was used. The separating value of the quantitative characteristic at the cut-off point was determined by the highest value of the Youden index.

Results and discussion. When assessing the level of CRP in the groups with sepsis and the corresponding comparison groups, statistically significant differences were revealed in both study designs (Table 1).

Table 1.

Comparative characteristics of the level of C-reactive protein in the presence and absence of sepsis complications (Me (Q_{25} ; Q_{75}))

Design 1					
Marker	Group 1 (CST, sepsis+) n=5	Group 2 (CST+auto- HSCT, sepsis+), n=10	Group 3 (CST, sepsis-) n=3	Group 4 (CST+auto- HSCT, sepsis-) n=12	p
CRP	77,70 (28,1 – 107,8)	65,10 (23,85 – 101,80)	8,1 (3,93; 27,02)	9,3 (2,55; 23,95)	$p_{1-3} < 0,001$ $p_{2,4} < 0,001$
Design 2					
	Group 1 (sepsis+) n=15		Group 2 (sepsis -) n=15		
CRP	71,70 (23,93 – 104,20)		8,80 (2,80; 24,00)		$p < 0,001$

CRP levels were also statistically significantly different in patients who died compared with those who recovered in both study designs. So, in the first design within the first group during recovery, the values of CRP - $Me_{rec} = 53.45$; $Q_{25} = 23.23$; $Q_{75} = 85.65$, with deaths - $Me_{let} = 112.80$; $Q_{25} = 86.45$; $Q_{75} = 187.50$, $p = 0.005$, within the second group during recovery - $Me_{rec} = 56.40$; $Q_{25} = 23.85$; $Q_{75} = 96.00$, in cases with a fatal outcome - $Me_{let} = 214.05$; $Q_{25} = 42.03$; $Q_{75} = 350.45$, $p = 0.028$. In the second design, the median values of CRP in the first group (sepsis+) were - $Me_{rec} = 56.00$; $Q_{25} = 23.50$; $Q_{75} = 95.60$ and $Me_{let} = 122.00$; $Q_{25} = 81.50$; $Q_{75} = 277.50$, $p < 0.001$.

Thus, the level of CRP in sepsis is statistically significantly higher than in patients without sepsis.

When comparing groups with sepsis, the median level of CRP did not differ ($p = 0.660$). At the same time, in both groups with sepsis (the first study design), the dynamics of the CRP level are different (Table 2), which, theoretically, is determined by many factors (gender, the nature of concomitant pathology and etc.) and confirms the idea that that the clinical phenotype of the disease and its outcome depend, first of all, on the characteristics of the response of the macroorganism, and, probably, the characteristics of the pathogen, in particular, its virulence factors [4].

Table 2.

Dynamics of CRP values in groups with sepsis by analyzed days (Me (Q_{25} ; Q_{75}))

Observation days	Group 1 (CST, sepsis+) n=5	Group 2 (CST+auto-HSCT, sepsis+) n=10	p
On admission	27,90 (25,60 – 38,80)	2,10 (1,85 – 2,98)	0,002

The first promotion of the CRP level	M ± SD =85,80 ± 15,97 95% CI= 65,97 – 105,63	M ± SD =15,07 ± 8,41 95% CI = 9,05 – 21,09	< 0,001*
Second day of sepsis	160,74 ± 86,47 95% CI =53,37 – 268,11	85,16 ± 67,94 95% CI =32,93 – 137,38	0,094*
The third day of sepsis	102,40 (85,00 – 107,80)	82,15 (55,70 – 108,30)	0,540
Fifth day of sepsis	38,75 (20,80 – 60,22)	87,35 (65,22 – 96,20)	0,034
The seventh day of sepsis	M ± SD =21,10 ± 8,32 95% CI = 0,43 – 41,77	M ± SD =98,28 ± 73,47 95% CI =45,72 – 150,84	0,009 #
The ninth day of sepsis	14,40 (13,70 – 29,75)	61,20 (21,80 – 152,93)	0,310

Note * - method used: Student's t-test, # - method used: Welch's t-test.

Upon admission to the hematology department (Table 2), in all patients of group 1 (which subsequently developed sepsis), the level of CRP was already significantly increased (from 8.4 to 77.7 µg/ml). Such high values of CRP already indicate a high activity of the inflammatory process (the synthesis of CRP is initiated by an increase in the concentration in the blood mainly of IL-6, IL-1, TNF-α), probably due to the nature of the concomitant pathology (diseases of cardiovascular continuum), associated with subclinically ongoing chronic inflammation, the marker of which may be an increase in the level of CRP [5], as well as a wide range of complications of the underlying disease and therapy. The first change in CRP (2-9 times) in patients of the first group occurs in the interval from the third to the tenth day of hospitalization, coincides with an increase in temperature, negative dynamics in the clinical picture and is associated with a sharp increase in a number of biomarkers (AST, ALT, LDH, creatinine, urea), reflecting an increase in the activity of inflammation, cellular damage and manifestations of organ dysfunction (symptoms of organ dysfunction in all patients of group 1, in two cases – septic shock). An increase in the level of CRP is associated with an increase in the level of PCT in the same patients, which only in one case remains within the normal range. During this period, blood is taken from patients for bacteriological examination (in three cases a positive result was obtained) and a diagnosis of sepsis is made. During the next two determinations of the CRP level, probably in response to the prescribed/changed antibacterial therapy, three patients showed a (3-6 times) decrease in the CRP level; in cases with subsequent death, practically no decrease was observed (a decrease of 1.2 and 1.3 times).

At hospitalization in patients of group 2, an increase in the level of CRP occurred only in two cases (up to 6.2; 7.5 µg/ml) with subsequent normalization on the day of auto-HSCT, and, on the contrary, in three cases there was an increase on this day (7.1; 11.8; 9.7). The difference in the initial level of CRP in patients of the first and second groups (first design) can be associated with the fact that the absence of concomitant inflammation is one of the requirements for auto-HSCT,

hence the selection and preparation of patients for transplantation. Subsequently, similar trends in the dynamics of CRP levels are observed, but in the second group without such a pronounced downward trend as in the first. At the same time, mortality in the first ten days of sepsis in the first group is 40%, in the second – 2 times less (20%).

The observed dynamics of CRP once again shows that it is the individual assessment of changes in marker levels in combination with the clinical picture of the disease that is important.

The peculiarities of the dynamics of CRP and the course of sepsis in patients of the second group, to a certain extent, can be explained not only by the initially normal level of CRP, but can also be associated with the effects of CCT (myelosuppression) and transplanted CD34+ hematopoietic stem cells. A number of studies have shown that hematopoietic stem cells (CD34+), used in therapy for patients undergoing radiation or chemotherapy, have a pronounced regenerative potential not only in relation to the hematopoietic system. Animal models of response to ischemia have demonstrated the pronounced therapeutic efficacy of CD34+ hematopoietic stem cells associated with angiogenesis. The potential role of CD34+ cells in the treatment of both myocardial and peripheral ischemia is currently underway. CD34+ cells have been shown to be safe and well tolerated in models of acute myocardial infarction, heart failure, angina, and coronary microvascular disease [6].

During cardiac remodeling in various pathological processes, CD34+ mainly determine the recruitment of mesenchymal, endothelial cells and monocytes/macrophages [7], that is, they can influence various cell lines, which does not exclude their positive effect in the group of oncohematological patients with sepsis we observed.

AUC for predicting the complication of sepsis by CRP level when comparing groups 1 and 2 (second design) = 0.862 ± 0.029 with 95% CI: 0.806 – 0.918. The resulting model was statistically significant ($p < 0.001$). The AUC score can vary from 0 to 1, with higher values indicating better results.

The threshold value of CRP at the cut-off point, which corresponded to the highest value of the Youden index was 18.30 mg /l, sepsis is predicted when the CRP value is higher than this value or equal to it. The sensitivity and specificity of the model were 85.7% and 69.7%, respectively.

It is interesting that when predicting the complication of sepsis in the first design, when comparing the first and third groups, as well as the second and fourth, similar results were obtained: in the first case, AUC = 0.849 ± 0.061 with 95% CI: 0.729 – 0.968, in the second - AUC = 0.859 ± 0.034 with 95% CI: 0.792 – 0.926, in both cases the resulting models are statistically significant ($p < 0.001$). When comparing the first and third groups, sepsis is predicted when the CRP value is

equal to or higher than 23.20 mg/l, the sensitivity and specificity of the model are 84.0% and 71.4%, respectively; when comparing the second and fourth groups, sepsis is predicted when CRP value equal to or higher - 18,300 mg/l., sensitivity and specificity of the model, respectively - 86.4% and 69.3%. The assessment of the sensitivity and specificity of CRP as a marker of bacterial infection, according to other authors, ranges from 68 to 92% and 40 to 67%, respectively [8].

Thus, the accuracy of CRP in diagnosing sepsis, in fact, in the three models in our study is even slightly higher than in the corresponding works of other authors. In particular, in a meta-analysis that included 9 studies and 1368 patients, it was shown that CRP has a moderate accuracy in diagnosing sepsis - $AUC = 0.73$, while the diagnostic accuracy of PCT was higher - $AUC = 0.85$ [1], in our work in all three measurements $AUC > 0.8$.

AUC for predicting death in sepsis in the second study design = 0.756 ± 0.069 with 95% CI: 0.621 – 0.892, the resulting model was statistically significant ($p < 0.001$). The threshold value of CRP for predicting death in sepsis is equal to or higher than 112.800 mg/l, the sensitivity and specificity of the model are 57.9% and 89.2%, respectively. In general, it is important to remember that a diagnostic test (value) with high sensitivity is useful for excluding a disease, while a test with high specificity is valuable for confirming the presence of a disease. In a number of studies, the AUC for predicting mortality was more than 0.8 only for proadrenomedullin, while high specificity and sensitivity were noted - 92% and 75%, respectively [9].

In general, patients with sepsis represent a very heterogeneous population and the results of the study can be influenced by a huge number of factors - age, organ dysfunction, type of infection, concomitant diseases. In recent works, CRP and PCT are considered as the most widely used and studied markers [9].

CRP and PCT are more useful in excluding sepsis than diagnosing it, and both markers are useful in assessing the individual patient's response to antibiotic therapy, in particular, the presence/absence of changes in CRP levels within 48 hours after the start of antibiotic therapy can help in assessing answer to it [9].

Conclusion. Thus, the level of CRP in oncohematological patients is statistically significantly different when complicated by sepsis and in its absence, and also differs among patients with sepsis in whom the process ended in cure or death. Differences in the kinetics of CRP in groups with sepsis indicate its individual nature - depending on the initial level of CRP, the nature of the underlying disease, concomitant diseases and complications, as well as the therapy performed, which is reflected in the example of the group with auto-HSCT. Other authors also note that the dynamics of biomarkers is more valuable than their individual values [2].

As a widely available marker, CRP has good diagnostic value in the complex diagnosis of sepsis, in particular in hematological oncology patients.

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应用“拆包”物质概念的结果及其与物质内能的联系
**RESULTS OF APPLYING THE CONCEPT OF “UNPACKING” A
SUBSTANCE AND ITS CONNECTION WITH THE INTERNAL
ENERGY OF A SUBSTANCE**

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抽象的。考虑到物质中分子（原子）的空间排列，概述了物质内能概念的发展。由于应用了“拆包”这一统一概念，以前已知的孤立物理概念如：表面张力、内能、焓、熔点、沸点、临界温度等都从统一的角度得到了解释。看法。因此，有可能将七种物理现象结合成一个称为物质“拆包”的概念。获得了这些物理现象中每一个的关系的数学公式。这些公式是根据物理参考书中物质的物理值表进行检查的。这些公式是在已发表的作品中指定的某些假设下获得的。

关键词：物理、能量、内能、焓、理论、公式、拆包、物质、温度、熔化、沸腾、蒸发、临界温度、表面张力。

***Abstract.** The development of the concept of internal energy of a substance is outlined, taking into account the spatial arrangement of molecules (atoms) in a substance. As a result of the application of this unified concept of “unpacking”, the physical meaning of previously known isolated physical concepts such as: surface tension, internal energy, enthalpy, melting point, boiling point, critical temperature was explained from a unified point of view. Thus, it was possible to combine seven physical phenomena into a single concept called the “unpacking” of matter. Mathematical formulas for the relationship for each of these physical phenomena are obtained. The formulas are checked against tables of physical values of substances from physics reference books. The formulas are obtained under certain assumptions specified in published works.*

***Keywords:** physics, energy, internal energy, enthalpy, theory, formula, unpacking, substance, temperature, melting, boiling, evaporation, critical temperature, surface tension.*

In 1983, the concept and physical model of “unpacking” of matter was proposed [1] to explain the unity of the physical nature of the internal energy of matter with the concept of surface tension. In addition to general reasoning, a formula

was proposed for the relationship of such physical concepts as: internal energy, enthalpy and surface tension. The formula was tested against reference data for 64 substances in the temperature range from $-253\text{ }^{\circ}\text{C}$ to $200\text{ degrees }^{\circ}\text{C}$.

Consistency of the physical model of “unpacking” of matter

Currently, a generalized analysis of the main provisions of this concept has been carried out. The main provisions of this theory are consistent with the views and publications of a number of authors:

1. Victor Frederik Weisskopf, a member of the National Academy of Sciences in the USA and a foreign member of the Academy of Sciences of the USSR, was particularly interested in the issue of surface tension and internal energy of substances.
2. Loránd Eötvös (Hungarian: Vásárosnaményi báró Eötvös Loránd Ágoston, or simply Eötvös Loránd), whose name was given to the University of Budapest, conducted research in molecular physics. In 1886, Eötvös established an empirical relationship between molecular surface energy (surface tension force) and temperature (Eötvös law).
3. Frank Wilczek, an American theoretical physicist and Nobel laureate in 2004, a member of the National Academy of Sciences in the USA and a foreign member of the Chinese Academy of Sciences, is particularly interested in the energy of substances and its importance for substance properties.
4. Jozsef Garai, an academic researcher from Eötvös Loránd University in Hungary, focuses on surface tension and the mathematical formula for the spatial arrangement of elementary particles in atoms within the periodic table of elements. He linked the properties of elements in the periodic table to the three-dimensional geometric arrangement of nucleons in an atom and the importance of representing substances as a lattice model.
5. Thomas Trouton’s rule, named after Frederic Thomas Trouton, focused on evaporation. He derived an empirical relationship - Thomas Trouton’s rule - which defines the molar entropy of vaporization of substances at normal boiling temperature as a constant equal to Trouton’s constant.
6. Igor Vasilyevich Gavrilin, a professor at Vladimir State University, worked in the field of metal and alloy crystallization. He particularly studied the relationship between the melting temperature of metals and the enthalpy of fusion of substances.
7. René Descartes, a French philosopher, mathematician, and natural scientist, was particularly involved in developing a three-dimensional Cartesian coordinate system and analytical geometry.

Thus, the system of views of these authors of scientific work made it possible to combine and mutually complement knowledge and theoretically explain experi-

mental dependencies based on the spatial model of the arrangement of molecules and atoms of a substance and connect the spatial arrangement with the physical concept of energy of a substance. Indicate the importance of the concept of energy for physical processes in matter.

This system of views of the above authors does not contradict, but rather confirms the concept of “unpacking” a substance [1], proposed in 1983. Its further development and proposed formulas and practical conclusions are described in the main works [12-20]. To confirm the proposed theoretical formulas derived from the concept of “unpacking” a substance, data was taken from reference books on the physical and chemical properties of complex chemical substances, as well as data on physical properties for simple substances from the periodic table. In addition, the attached theoretical formulas were compared with known and generally accepted empirical dependencies.

Physical phenomena and patterns explained from a unified concept of “unpacking” matter

Now we list the theoretical explanations of physical phenomena from the proposed model of “unpacking” of matter, bringing these explanations to calculation formulas. The results of these formulas were verified against data from reference books for substances, as well as against empirical dependencies of other authors. This “unpacking” model allowed:

1) Derive a theoretical formula for the relationship between internal energy and surface tension [1]. The formula was checked against data from reference books for 64 substances in the temperature range from -253°C to 200°C .

$$\sigma = 1/6 \cdot \Delta U \cdot (M^{1/3} \cdot \rho^{2/3}) / (N^{1/3}), \quad (1)$$

where σ is the surface tension coefficient, J/m²; ΔU - change in internal energy, J/kg; M - molecular weight, kg/mol; ρ - liquid density, kg/m³; N is Avagadro’s number, mol⁻¹.

In 1985, a similar view on the physical nature of surface tension, as part of the internal energy, when solving another physical problem, was published by academician W. Weiskopf in the USA [2, 3]. The model was called the “salami method”. In this interpretation, the breaking of molecules was compared with the cutting of molecules from each other in mutually perpendicular directions X, Y, Z. However, the calculation formula was not given in these articles.

2) Present an expanded scientific presentation with consequences in 2010-2011 [12, 13]. The consequences of the concept explain and allow one to calculate the quantitative ratio of specific heat capacities for one-, two- and triatomic gases. At the same time, the influence of the spatial arrangement of atoms in a molecule on the value of the heat capacity of the molecule was theoretically deduced.

3) Obtain a theoretical justification for the dependence of surface tension on temperature (in 2011-2012) [14]. The derived theoretical formula is consistent

with the well-known empirical relationship – Loránd Eötvös rule [4]. The use of the “unpacking” model (as opposed to the empirical dependence) made it possible to: formulate assumptions and areas of application of the Eötvös empirical formula, theoretically obtain the value of the empirical proportionality coefficient for Loránd Eötvös’ rule (formula) and determine its physical meaning.

$$\sigma = (\rho^{2/3} \cdot R_u \cdot (T_c - T)) / (M^{2/3} \cdot N^{1/3}), \quad (2)$$

where σ is the surface tension coefficient, J/m²;

ρ - liquid density, kg/m³; R_u - universal gas constant, J/(mol · K°); T_c - critical temperature, degrees Kelvin; T - current temperature of the liquid, degrees Kelvin; M - molecular weight, kg/mol; N is Avagadro’s number, mol⁻¹.

In addition, give another definition of the physical concept of pressure as energy acting on the volume of a (monomolecular) surface layer.

4) Obtain a theoretical justification for the relationship between melting points, boiling points and critical temperatures (2016) [15-17]. To confirm this relationship, data from reference books were used for 85 substances ranging in temperature from 13 to 855 degrees Kelvin. Further, in work [18], the data from reference books for 98 elements of the periodic table of D.I. Mendeleev and proved the proposed theoretical relationship for melting, boiling and critical temperatures. Depending on the accepted initial assumptions, theoretical ranges of boiling temperature changes were determined. For such a model, the melting temperature was taken to be 1/3, and the boiling temperature for the case of intense boiling of the substance was equal to 2/3 of the critical temperature.

$$T_m = 1/3 \cdot T_c \quad (3)$$

$$T_b = 2/3 \cdot T_c \quad (4)$$

where T_c - critical temperature (critical point), degrees Kelvin; T_m - melting point, degrees Kelvin; T_b - boiling point, degrees Kelvin.

Analysis of reference data confirmed the proportions in the relationship between melting, boiling and critical temperatures for most substances, such as

$$T_m = 1/2 \quad T_b = 1/3 \quad T_c \quad (5)$$

5) Order the processes of melting, boiling, evaporation and the phenomenon of surface tension according to the criterion of changes in internal energy in conjunction with the spatial representation of physical processes (2021) [19]. That is, to present a unified physical explanation of these processes in matter based on the molecular-energy concept of “unpacking” the substance and give quantitative formulas.

6) Based on the concept of “unpacking”, an empirical relationship was theoretically derived [9] – Frederick Trouton’s rule, which defines the molar entropy of evaporation of substances at normal boiling point as a constant value equal to Trouton’s constant. Depending on the initial assumptions when deriving this dependence, possible ranges of changes in this empirical constant were determined in the range from 10· R_u to 13· R_u .

7) It was possible to deduce theoretically the relationship between the latent heat of fusion and the internal energy of a substance (2022) [20]. And based on the analysis of reference data for simple substances of the periodic table of Mendeleev, confirm this relationship.

An estimation formula for the latent heat of fusion of a substance was obtained [17] in the form:

$$\Delta H_{Mm} \approx \Delta U_{Mm} = R_u \cdot T_m \quad (6)$$

where ΔH_{Mm} - molar enthalpy, J/mol,

which is related to enthalpy of fusion (enthalpy of fusion - ΔH_m , J/kg),

$$\Delta H_{Mm} = \Delta H_m \cdot M \quad (7)$$

where M is molecular weight, kg/mol;

Up to an experimental correction constant, these dependences (6) and (7) are consistent with the result published Gavrilin [9].

8) Based on the processing of reference data of physical properties for simple substances of the periodic table, it was possible to identify not only the relationship between the melting, boiling, and critical temperatures according to formulas (3-5), but also to show on the graph the same “peaks” of deviations of the calculated errors of the average theoretical value from the reference values data for individual substances (2022) [20, 21]. Analysis of the location of these “peaks” of deviations allows us to conclude that for evaluation calculations, not just one formula for the relationship between the enthalpy of melting and the melting temperature [9], but three [21] evaluation formulas for the relationship between the molar enthalpy of melting and the melting, boiling and critical temperatures are applicable. Namely:

$$\Delta H_{Mm} = 1/3 \cdot (R_u \cdot T_c) \quad (8)$$

$$\Delta H_{Mm} = 1/2 \cdot (R_u \cdot T_b) \quad (9)$$

$$\Delta H_{Mm} = 1 \cdot (R_u \cdot T_m) \quad (10)$$

Basic assumptions made in deriving theoretical formulas

The validity of the Mendeleev-Clapeyron law. Liquid molecules were represented as spherical bodies. Physical processes were considered in the region of low pressures and temperatures other than critical ones. Formulas were derived for one-component systems. Therefore, the formulas obtained from this molecular energy model of unpacking matter are of an evaluative nature.

Main results

Despite the evaluative nature of this spatial model, from the “unpacking” hypothesis it was possible to solve a number of physical problems [21] with bringing the results to calculation formulas and to explain a number of physical processes from a unified point of view, to explain known empirical dependencies. Namely:

- the processes of melting, boiling, evaporation are systematized depending on the internal energy from a single concept, taking into account the spatial arrangement of the substance;

- calculated dependences of the surface tension coefficient on internal energy and enthalpy were obtained;
- a theoretical formula was obtained and the dependence of the change in the surface tension coefficient on temperature was explained, the empirical coefficient of proportionality in the Lorand Eötvös rule (formula) was theoretically determined, and assumptions for the validity of this formula were indicated;
- theoretically justified and obtained the dependence for the empirical rule of Thomas Troughton;
- the relationship between melting points, boiling points and critical temperatures was theoretically found;
- three evaluation formulas for the relationship between the enthalpies of melting and these three temperatures were obtained.

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VITA LINE LLC 组织内采购流程的质量管理
**QUALITY MANAGEMENT OF THE PROCUREMENT PROCESS IN
THE ORGANIZATION LLC VITA LINE LLC**

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抽象的。采购领域的有效管理对于组织的成功起着关键作用,使其能够以最少的时间和财务成本实现最大的利润。本出版物讨论了 Vita Line LLC 组织中采购流程的质量管理。

关键词: 流程、采购、采购程序、供应、质量。

Abstract. *Effective management in the field of procurement plays a key role in the success of an organization, allowing it to achieve maximum profits with minimal time and financial costs. This publication discusses the quality management of the procurement process in the organization Vita Line LLC.*

Keywords: *process, procurement, purchasing procedure, supplies, quality.*

The organization Vita Line LLC is a pharmacy chain founded on February 17, 1993 in the city of Samara.

The main activity is the sale of medicines, medical products, medical and cosmetic products, sanitary and hygiene products through pharmacies located in various regions of our country.

Purchasing management is a process that is aimed at ensuring the supply of goods and materials (inventory) at minimum prices without compromising quality [1].

The procurement process in the organization Vita Line LLC is regulated.

The goals of the process are [2]:

- Ensuring timely continuous replenishment of warehouse stocks within limits;

- Improving the quality and stability of resources through the development of alternative sources of supply;
- Reducing the company’s procurement costs through mutually beneficial relationships with suppliers [2].

The formation of market relations dictates new conditions for its organization. Factors such as inflation, payment problems and other crisis situations force the company to reconsider its supply strategy and look for more reliable suppliers who will offer quality goods at competitive prices. Consequently, for an organization, any methods of optimizing procurement - from concluding transactions to storing goods - are becoming increasingly important for the successful operation of the enterprise.

The procurement process at Vita Line LLC includes a number of sequential stages that ensure effective procurement management [3]:

1. Mechanism for creating demand for inventory items:
 - Formation of an application for the purchase of goods and materials
 - Approaching warehouse stocks to the reorder point (set limit)
2. Carrying out the procurement procedure:
 - Supplier search
 - Checking the counterparty for reliability and preparing ST (comparison table)
3. Coordination of bidding results
4. Conclusion of an agreement for the supply of goods and materials
5. Ensuring the supply of goods and materials
6. Control and execution of contractual obligations [3].

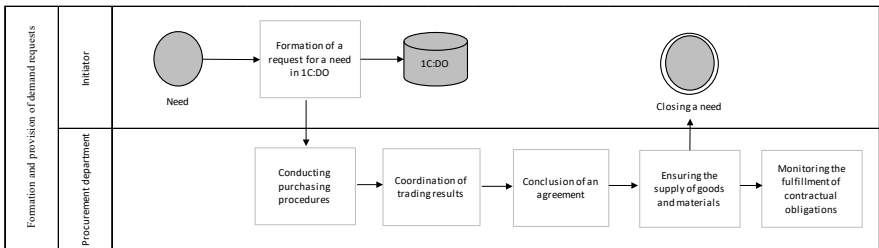


Figure 1. Formation and provision of a request for the need for goods and materials

When creating an application for the need for 1C:DO, you must attach a technical specification for the purchase of inventory and materials.

Table 1

Terms of reference for the purchase of goods and materials

Compiled by (Position, Full Name):		Date of preparation:
No.	Sections	Description of characteristics and requirements
1.	Name of product	
2.	Quantity, unit of measurement of goods	
3.	Product Specifications	
4.	Delivery times (start, end, frequency)	
5.	Place of delivery of goods (actual address)	
6.	Requirements for product quality and safety	
7.	Functional characteristics	
8.	Estimated cost (including VAT)	
9.	Additional terms	
10.	Item of expenses of the Central Federal District	
11.	Name of the legal entity	
12.	Name of the department of the Central Federal District	
13.	Identification Single purchase or not	

Procurement monitoring is a system of surveillance in the field of procurement, carried out on a continuous basis by collecting, analyzing, systematizing and evaluating information about the procurement process, including the execution of procurement plans and schedules [4].

Procurement monitoring should be carried out at all levels of the organization:

- Employees responsible for procurement;
- Heade purchasing department;
- Managementm of the enterprise (with its own resources and resources of other departments).

The effectiveness of procurement logistics depends entirely on the effectiveness of logistics. At the logistics stage, performance assessment includes several interrelated indicators that quantitatively reflect the performance of all departments of the procurement system relative to the costs or resources of their production potential [5].

When analyzing the effectiveness of logistics, the most common indicators are:

- order fulfillment time;
- cost of goods;
- reliability of the supplier.

Assessing the efficiency of using warehouse space is a separate criterion for the effectiveness of procurement activities.

It is important that in accordance with GOST R ISO 9001-2015 “Quality management systems. Requirements”, the organization must ensure that purchased products comply with established procurement requirements [6].

This article discusses the quality management of the procurement process in the organization Vita Line LLC.

A properly organized procurement process ensures continuous monitoring of the company’s needs, which avoids overstocking of warehouses and shortages of goods, as well as unnecessary costs for services.

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从质量较差的文档图像中恢复打印的西里尔文字
**RECOVERING PRINTED CYRILLIC TEXT FROM POOR
QUALITY DOCUMENT IMAGES**

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抽象的。该论文描述了一种信息系统，旨在恢复质量较差的文档图像上的西里尔文字。所开发的信息系统实现了初步的图像处理，以识别数字和西里尔字母，从中形成文本片段并以不同程度的精度恢复它。信息系统主要阶段的实现是使用深度学习神经网络模型进行的。

关键词和短语：文本恢复、DNN、CNN、CRNN、seq2seq 转换器、BLEU、ROUGE-L、Keras、Python。

Abstract. *The paper describes an information system designed to restore Cyrillic text on images of poor quality documents. The developed information system implements preliminary image processing in order to identify numbers and Cyrillic letters, form text fragments from them and restore it with varying degrees of accuracy. The implementation of the main stages of the information system is carried out using deep learning neural network models.*

Keywords and phrases: *text recovering, DNN, CNN, CRNN, seq2seq transformer, BLEU, ROUGE-L, Keras, Python.*

In the modern world, a huge amount of information is available in the form of images of scanned or photographed documents. Images may be of low quality, which makes the task of recovering the text they contain urgent. This problem can be solved using various approaches. The main ones are the following.

1. Use of image processing techniques such as filters, morphological operations, image enhancement algorithms such as noise reduction or contrast enhancement techniques. These methods are appropriate for simple image damage, but they may not be effective enough to restore text in images with severe distortion or noise.
2. Using traditional machine learning. These include support vector machines, random forests, various clustering methods and others. These methods can be effective if there are enough good features, but they may not be flexible enough to handle different types and qualities of images.

- Using deep learning neural networks (DNN). Neural networks, especially convolutional neural networks (CNN) and convolutional recurrent neural networks (CRNN), have proven to be powerful tools for image processing and computer vision problems. Another class of DNN models capable of quite effectively restoring text in images is seq2seq generative transformers, capable of converting data sequences from one form to another.

Of all the listed approaches, the most appropriate is the use of DNN, since they are characterized by the ability to study complex dependencies in data and identify patterns that are inaccessible to classical methods of image processing or machine learning. DNNs can automatically extract features from data, providing better performance and generalization ability across a variety of types of distortion and noise in images.

Using a CNN to extract letters and numbers from an image may represent the first stage of text recovery. This is typically achieved by training a CNN on a large set of labeled data containing character images and their corresponding labels. After extracting individual characters in an image, the CRNN model can be used to combine these characters into text fragments. CRNN combines convolutional layers for extracting features from images and recurrent layers (usually LSTM or GRU) for modeling data sequences. This allows CRNN to adapt to different styles and sizes of text in an image, as well as consider the context of characters when recognizing them. Finally, seq2seq transformers can be used to completely recover text from an image. These models, based on attention mechanisms, are capable of processing sequences of variable length and capturing the context of information. As a result of training on text pairs, seq2seq transformers are able to restore damaged text as a result of its comparison with a sample. Thus, the combination of CNN models for character extraction, CRNN for combining characters into text fragments, and seq2seq transformers for complete text recovery is a comprehensive approach that can effectively work with text images of varying quality and style.

The main stages of restoring damaged text in the developed information system are shown in Fig. 1.

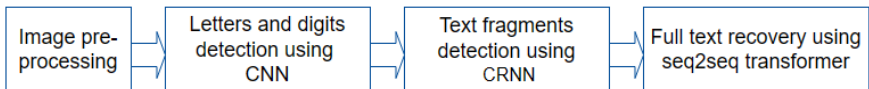


Figure 1. The main stages of text recovery implemented in the information system

The image pre-processing stage consists of removing all unnecessary elements and obtaining the cleanest and most contrasting image possible, allowing

you to detect the contours of all text elements for their subsequent classification using CNN. One of the ways to increase image contrast is described in [1]. It consists of converting an image to grayscale and then applying a Gaussian blur and a threshold function to the resulting image. Extra lines (mainly horizontal and vertical) are removed after searching for the corresponding structural elements of the image and subsequent application of morphological operations with detection kernels of the corresponding types of lines. An image processed in this way makes it possible to obtain, with varying degrees of accuracy, the contours of all text elements for their subsequent classification using CNN.

Detection of Cyrillic letters and digits is carried out using CNN. Python language and Keras deep learning library were used to create the CNN model [2, 3]. As a result of experimental studies, the following CNN structure was chosen – convolutional layers (Conv2D [3]), pooling layers (MaxPooling2D [3]), linearizing layers (Flatten [3]) and fully connected layers (Dense [3]). To train the CNN model and study its operation, our own data set was generated. The number of image in this data set was chosen to be 42 – 10 classes for numbers from 0 to 9, 30 classes for letters of the Cyrillic alphabet, with the exception of the compound letters «ё», «й», «ы» and 2 classes for basic punctuation marks «.» и «,». For each class of digital images, dozens of images were generated to train, validate the process, and test its results. In addition, the presence of the image package generator in the Keras library allows you to obtain various variations of images using compression, stretching, tilting, etc. transformations.

Detection of text fragments is carried out using CRNN. Python language and Keras deep learning library were used to create the CRNN model [4]. This model is more complex than the CNN model and consists of the following main layers – convolutional layers (Conv2D), pooling layers (MaxPooling2D), normalization layers (BatchNormalization [3]), fully connected layers (Dense), regularization layers (Dropout [3]) and Lambda layer. The Lambda layer allows you to define your own lambda function for custom data transformations, such as changing its dimensionality. In the generated model, it is used in conjunction with ground-truth labels used for recognition tasks of continuous sequences. During the training phase, these labels are matched and compared with the ground truth labels, resulting in an error that is used to optimize the model. To train the CRNN model and study its operation, our own data set was generated. The data set represents images of several consecutive words of sentences from their given and limited set. Simultaneously with the formation of images, their CTC marks were also formed.

The final text recovery is implemented using the seq2seq transformer. The main layers of this model are the layers of positional embeddings and the layers of the encoder and decoder [3]. The positional embedding layer adds information about the word's position in the sequence. This allows the model to consider the

order of words in the input and output sequences. The transformer encoder layers implement the attention mechanism and contain fully connected layers. Due to this, they allow you to model dependencies in sequences extract features from input data and represent them in an optimal internal representation for more complex calculations and natural language processing tasks. Transformer decoder layers consist of several transformer decoder layers, which also include an attention mechanism and fully connected layers. The decoder generates an output sequence based on contextual representations of the encoder. The output layer transforms the predicted token representations into a probability distribution over all possible tokens. To train the seq2seq model and subsequently study their work, we generated our own data set, which consists of many pairs of the form:

the beginning or part of the text [*start*]full text[*end*].

When using seq2seq transformers in the task of recovering incomplete text, the Bilingual Evaluation Understudy (BLEU) and Recall-Oriented Understudy for Gisting Evaluation (ROUGE-L) metrics, which are usually used in machine learning tasks, are often used to assess the accuracy of the model translation and text analysis [3].

1. BLEU measures the similarity between generated text and reference text by evaluating n-gram matches. It considers not only exact word matches, but also matches of word sequences. Advantages: BLEU is easy to calculate and interpret. It allows you to quickly assess the quality of text generation by the model. Disadvantages: BLEU does not always correlate with human assessments of translation quality and may give an incorrect assessment when the model generates different but semantically similar text versions.
2. ROUGE-L measures the similarity between generated and reference text using Longest Common Subsequence. It evaluates the accuracy of generation by matching sequences of words and their order. Advantages: ROUGE-L considers word order, which makes it more informative for text generation tasks where not only the choice of words, but also their sequence is important. Disadvantages: ROUGE-L may not consider semantic similarity between sentences and does not always correspond to human assessment of the quality of text generation.

The values of the BLEU and ROUGE-L metrics for the seq2seq transformer used in the information system are 0.5-0.6, which corresponds to high quality text recovery.

The advantage of the approach to recovering incomplete text proposed in this work is the simplicity of the neural network models used in it and the features of generating a data set for their training and validation. The disadvantage is the impossibility of recovering a text from the totality of its arbitrary (inconsistent)

words without significantly complicating the model, which involves analyzing the context of the sentence. The developed information system is intended for use in the «Roskadstr» PLC for the purpose of converting scanned documents into their text counterparts.

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任务调度程序开发和测试
TASK SCHEDULER DEVELOPMENT AND TESTING

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注解。 本文介绍了任务调度程序软件实现的测试结果，该任务调度程序提供多个进程的实时受控执行，并支持并行和异步任务执行。

关键词：软件、测试、可靠性、控制系统、编程。

Annotation. *The article presents the results of testing the software implementation of the task scheduler, which provides controlled execution of several processes in real time and supports parallel and asynchronous task execution.*

Keywords: *software, testing, reliability, control system, programming.*

Task Scheduler is a software that has become an important management tool [1]. The program is an implementation of a task scheduler that provides controlled execution of several processes in real time and supports parallel and asynchronous task execution. The scheduler organizes the sequence of tasks of two types: basic and advanced. The main tasks free up the processor when completing or switching to a higher priority task.

Extended tasks have an additional waiting state, which allows you to free up the processor without completing the task. The proposed task scheduler was implemented in the Go programming language, task blocks, workers and a task generator were implemented for testing. As a result, the program architecture was designed, taking into account the requirements for the availability of a module/service for generating tasks. A task scheduler program has been implemented that allows you to perform: support for basic and advanced tasks; implementation of task states (running, ready, waiting, suspended) and transitions between them; a priority-based task switching mechanism; processing processor release when completing a task or switching to a higher priority task.

There can be two types of tasks in the system: basic, which free up the processor if the task is completed or a priority switch has occurred, and advanced, which may be in a waiting state. The standby state allows the processor to be released and reassigned to a lower priority task without having to terminate the extended task. Advanced tasks have four states:

- running - task completion. Only one task can be in this state at any given time;
- ready - the task has completed its completion. The scheduler decides which finished task will be completed next;
- waiting - the task is waiting for another event to be executed;
- suspended -the task is in limbo and can be activated. The possible states and transitions of the extended task are shown in Figure 1.

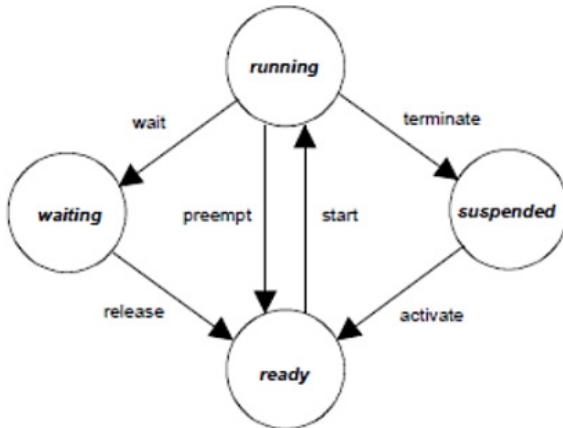


Figure 1. Extended transition model

Completing a task is only possible if it completes itself. This limitation reduces the complexity of the operating system. There is no direct transition from the suspended state to the waiting state. The state model of the basic tasks is almost identical to the state model of the extended tasks.

The only difference is that the main tasks do not have a waiting state:

- running - completing the task. Only one task can be in this state at any given time;
- ready - the task has completed its completion.

The scheduler decides which finished task will be completed next; suspended -the task is in limbo and can be activated.

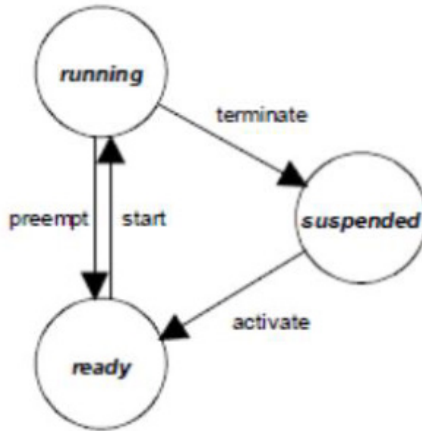


Figure 2. Model of state transitions of the basic task

A scheduler is a resource that is captured and released by tasks. In this way, the task can reserve the scheduler to avoid switching the task until it is released.

The scheduler selects tasks to perform from the list of tasks that are in the ready state based on their priority. There are 4 priority levels 0-3 in total, where 0 is the lowest priority of the task.

The tasks are selected according to the FIFO algorithm, first the first (oldest) task from the list of tasks with the same priority is performed. A task that is transitioning from the waiting state is considered as the last (newest) task in the ready queue. The scheduler has a limit on the number of tasks that can be in the ready state.

After Activate, the task launches a worker inside itself, with which it interacts during the transition between states and exchanges signals about the status of Wait or the transition to terminate. The worker emulates the operation of the processor by simply increasing the counter. When the counter value reaches a certain maximum value, the worker stops and sends a message through the channel that the task is completed.

The code provides functionality for generating tasks of different types (basic and advanced) using the corresponding worker constructor functions. The task generator can be used to create a set of tasks with preset parameters such as waiting time, maximum number of iterations, and number of iterations before waiting for extended tasks.

To ensure the correctness and reliability of the task scheduler, tests were developed and conducted. The testing covered various aspects of scheduler functionality, including initialization, adding tasks, starting the scheduler, processing

tasks with different priorities and states, as well as interaction between scheduler components.

As a result of the conducted testing, the coverage of the scheduler code at the level of 100 percent and all modules at 89.175% was achieved. This means that the vast majority of the code lines and various scheduler scenarios have been checked and tested. A high percentage of test coverage indicates the reliability and stability of the developed task scheduler. The tests included both unit tests, which check individual components and methods of the scheduler, and integration tests, which check the interaction between components and the overall functionality of the scheduler. The test results confirmed the correct operation of the scheduler in various scenarios and with different input data. In the future, it is possible to consider conducting testing using artificial intelligence [2], as well as designing tests using decision tables [3].

The Task Scheduler demonstrates the use of Go language features, such as goroutines, channels, mutexes, and context, to organize asynchronous task execution and manage their lifecycle. The scheduler ensures efficient allocation of tasks based on their priorities and states, which allows you to optimize the use of computing resources.

The developed and tested task scheduler is able to effectively manage the execution of tasks with different priorities in real time. It can be used in a variety of applications that require task planning and management.

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与维德曼-弗朗茨定律的偏差
DEVIATIONS FROM THE WIEDMAN-FRANZ LAW

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抽象的。 本文从固体(包括金属)结构的角​​度研究了与维德曼-弗朗茨定律的偏差。 $R(I)$ 层中的尺寸效应由系统中的整个原子集合(集合过程)决定。 这种尺寸效应仅在纳米颗粒和纳米结构中观察到。 $R(II)$ 层(我们称之为介观结构)延伸到大约 $h \approx 9 R(I)$, 即体相开始的地方。 介观结构和纳米结构与体相之间的区别在于, 仅在​​这些系统中观察到闪烁噪声。 结果表明, 考虑到塔曼表面态, 纳米层 $R(I)$ 中的洛伦兹数逐步减小。

关键词: 维德曼-弗朗兹定律、表面层、金属、尺寸效应、纳米结构、洛伦兹数。

Abstract. *This article examines the deviation from the Wiedemann-Franz law from the point of view of the structure of solids, including metals. Size effects in the $R(I)$ layer are determined by the entire collective of atoms in the system (collective processes). Such size effects are observed only in nanoparticles and nanostructures. The $R(II)$ layer, which we will call the mesostructure, extends to approximately $h \approx 9 R(I)$, where the bulk phase begins. The difference between mesostructures and nanostructures and the bulk phase is that flicker noise is observed only in these systems. It is shown that the Lorentz number in the nanolayer $R(I)$ decreases in a stepwise manner, taking into account Tamman surface states.*

Keywords: *Wiedemann-Franz law, surface layer, metal, size effect, nanostructure, Lorentz number.*

The Wiedemann-Franz law (WF) was established empirically in 1853 and connects three parameters of the metal - electrical conductivity σ and thermal diffusivity λ with temperature T and looks like this [1]:

$$\frac{\lambda}{\sigma \cdot T} = L_0, \tag{1}$$

where $L_0 - 2.21 \cdot 10^{-8} \text{ W Ohm/K}^2$ – Lorentz number.

For some metals, the Lorentz number is shown in Table 1 [1]. Violation of the WF law has been considered in numerous works and this continues to this day. We will mention only a few of them. In [2], the violation of the WF law is associated with the topological nature of the wave function responsible for the transport of electrons in the metal. The antiferromagnet Mn_3Ge is considered as an example. It is shown that in a wide temperature range ($0.5 \text{ K} < T < 100 \text{ K}$) the Lorentz number $L_0 = \text{const}$, and the violation of the WF law begins at $T > 100 \text{ K}$. It is believed that at high temperatures there is competition between temperature and the Berry curvature distribution. The Berry curvature of electrons leads to the anomalous Hall effect, the anomalous Nernst effect and the anomalous Righi-Leduc effect.

Table 1.
Lorentz number of metals.

Metal	Symbol	$L_0 \cdot 10^8, \text{ W Ohm/K}^2$	Metal	Symbol	$L_0 \cdot 10^8, \text{ W Ohm/K}^2$
Aluminum	Al	2,1	Sodium	Na	2,1
Tungsten	W	3,7	Nickel	Ni	1,5
Iron	Fe	2,9	Tin	Sn	2,5
Gold	Au	2,4	Platinum	Pt	2,6
Iridium	Ir	2,5	Silver	Ag	2,3
Cadmium	Cd	2,5	Lead	Pb	2,5
Copper	Cu	2,2	Zinc	Zn	2,4

In [3], the violation of the WF law is associated with the process of specular-diffuse reflection of electrons from the surfaces of the layer. It is based on the Boltzmann kinetic equation, which is a common technique.

In this work, we will consider the WF law from the point of view of the structure of a solid body, including metals. We will take our work [4] as a basis, where an empirical equation was proposed for the thickness of the surface layer $R(I)$ of a solid:

$$R(I) = \beta \cdot 0.17 \cdot 10^{-9} \nu \text{ (m)}, \tag{2}$$

where $\beta =$ where coefficient $\beta = 1 \text{ (kg/m}^3 \text{) at.}\% \cdot \text{m}$.

Equation (2) shows that the thickness of the surface layer of an atomically smooth crystal (without taking into account surface roughness) $R(I)$ is determined by one fundamental parameter - the atomic volume of the element ($\nu = M/\rho, M$

is the molar mass, ρ is the density of the element), which periodically changes in accordance with the table D.I. Mendeleev. This model is shown schematically in Fig. 15].

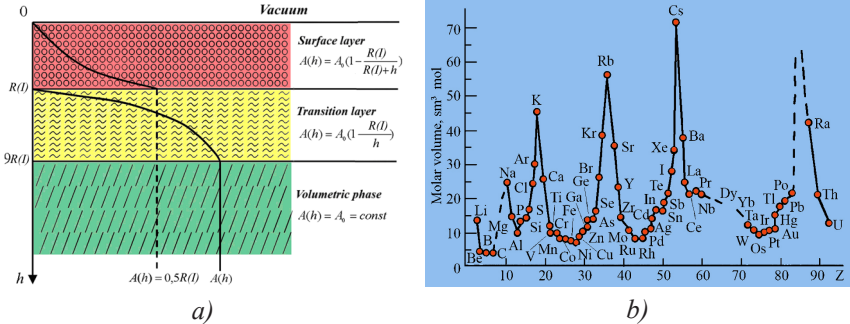


Figure 1. Schematic representation of the surface layer (a), periodic change in the atomic volume of elements (b).

Size effects in the R(I) layer are determined by the entire collective of atoms in the system (collective processes). Such size effects are observed only in nanoparticles and nanostructures [6]. They can be observed experimentally on very pure single crystals with grazing incidence of X-ray radiation, when the angle of incidence is equal to or less than the critical angle of total internal reflection [7]. It is shown in [8] that when the surface layer size is less than 6-8 layers, the energy of quantum states changes in a stepwise manner. Moreover, each step is assigned corresponding quantum states. Thus, the R(I) layer is not only a nanostructure, but also a quantum structure at any temperature. The thickness of the surface layer of some metals is shown in Table 2.

Table 2.
Thickness of the surface layer of pure metals (M)

M	R(I), nm	M	R(I), nm	M	R(I), nm	M	R(I), nm	M	R(I), nm
Li	2.2 (6)	Sr	5.9 (10)	Sn	2.8 (5)	Cd	3.4 (11)	Fe	1.2 (4)
Na	4.5 (11)	Ba	6.6 (13)	Pb	3.1(6)	Hg	1.8 (5)	Co	1.1 (4)
K	7.7 (15)	Al	1.6 (4)	Ce	2.8 (5)	Cr	1.2 (4)	Ni	1.1 (3)
Rb	10 (18)	Ga	2.0 (4)	Te	3.5 (8)	Mo	1.8 (5)	Ce	3.6 (7)
Cs	12 (20)	In	2.7 (8)	Cu	1.2 (3)	W	1.6 (5)	Pr	3.5 (10)
Be	0.8 (3)	Tl	2.9 (8)	Ag	1.7 (4)	Mn	1.1 (2)	Nd	3.4 (9)
Mg	2.4 (7)	Si	2.0 (4)	Au	1.7 (4)	Tc	1.4 (5)	Sm	3.4 (9)
Ca	4.4 (8)	Ge	2.4 ((4)	Zn	1.6 (6)	Re	1.5 (5)	Eu	5.0 (11)

In Table 2, the number of layers in the surface layer is indicated in parentheses: $n = R(I)/a$ (a is the crystal lattice constant). In the nanostructured $R(I)$ layer with pure metal atoms, reconstruction or relaxation occurs, associated with the restructuring of the surface [7]. The $R(I)$ layer is a disordered nanostructure, where significant internal stresses arise, leading to the appearance of dislocations and nanocracks [9]. The surface layer $R(I)$ is a synergetic system, the fundamental properties of which are subject to self-regulation and self-organization. At $h = R(I)$, a phase transition of the second order occurs (according to Ehrenfest), where a jump in heat capacity occurs (Fig. 1a).

The $R(II)$ layer, which we will call the mesostructure, extends to approximately $h \approx 9 R(I)$, where the bulk phase begins. From this size ($< 9 R(I)$) size effects of another type begin. The difference between mesostructures and nanostructures and the bulk phase is that only in these systems flicker noise with a spectrum of the $1/f^b$ type is observed [10]. The $R(II)$ layer is a nanomaterial. Nanomaterials are commonly understood as materials whose main structural elements do not exceed the nanotechnological limit of ~ 100 nm, at least in one direction [11]. A number of researchers express the opinion that the upper limit (maximum size of elements) for nanostructures should be associated with a certain critical characteristic parameter: the free path of carriers in transport phenomena, the dimensions of domains/domain walls, the diameter of the Frank-Reed loop for dislocation glide, etc. [12]. This means that in the $R(II)$ layer there must be many dimensional effects associated with temperature (Fig. 2a), magnetism (Fig. 2b), optics (Fig. 2c) and other physical properties. From Fig. 1 and the following formula [5]:

$$A(h)/A_0 = 1 - R(I)/h, \quad h \gg R(I), \tag{3}$$

$$A(h)/A_0 = 1 - R(I)/R(I) + h, \quad 0 \leq h \leq R(I),$$

where $A(h)$ is a physical property of the nano- and mesolayer with coordinate h ; A_0 is a physical property of a bulk sample (bulk phase) (Fig. 1 a).

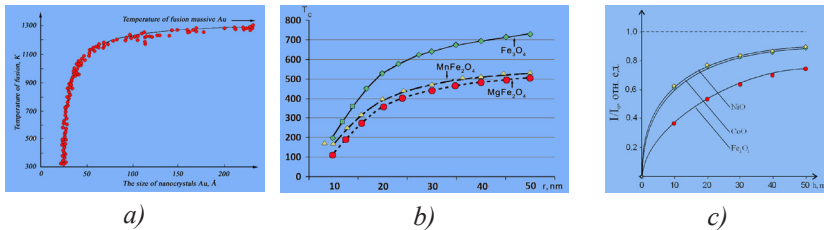


Figure 2. Size dependence of Au temperature (a) [13], Curie temperature T_C [14] (b), luminescence of oxides [15] (c).

If we take the metal parameter: σ , λ and T included in equation (1) as the physical property $A(h)$, then at $1 - R(I)/R(I) + h \approx \exp[-(R(I)/R(I) + h)]$ will be in the nanolayer $L(h) = L_0/\exp[-(R(I)/R(I) + h)]$. After this, the Lorentz number, that is, at $h =$

0 and at $h = R(I)$ will be equal to: $L(h=0) = L_0/e$; $L[h = R(I)] = L_0/e^{0.5}$. The Lorentz number decreases on the metal surface by 2.72 times, and at the boundary of the $R(I)$ layer by 1.65 times. All this is shown in Fig. 3 a. In Table 1, the Lorentz number must be divided into the corresponding values. In the mesolayer, the Lorentz number will depend on formula 1 in equation (3), with $1-R(I) \approx \exp(-R(I)/h)$. Then $L[R(I)/9R(I)] = L_0 (1/e^{0.9}) \approx L_0$ and the Lorentz number will look like in Fig. 3 b.

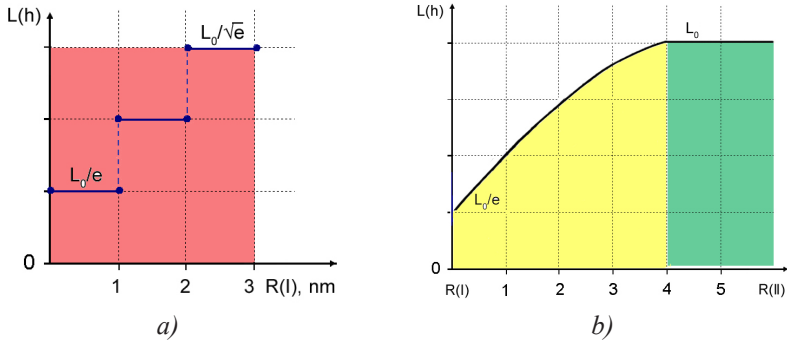


Figure 3. Dependence of the Lorentz number in the nanolayer (a) and in the mesolayer (b).

Figure 3a shows that the Lorentz number in the nanolayer $R(I)$ decreases in a step-wise manner, according to work [8] taking into account the surface states of I.E. Tamm [16]. A decrease in the Lorentz number is favorable for thermoelectric applications of these materials [17]. A decrease in the Lorentz number $L_0 \sim 1/R(I)$ is observed in electrically conducting quasi-one-dimensional nanostructured organic crystals considered in [17]. From equation (2) it follows that the size of the layer $R(I)$ is proportional to the molar mass M , which is significant for electrically conductive organic crystals, as evidenced by the results of [17]. As an example, we will consider the value of the $R(I)$ layer for fullerenes or fullerite crystals (Table 3).

Table 3.
Thickness of the surface layer of fullerenes [18].

Fullerene	M, g/mol	ρ , g/sm ³	R(I), nm
C ₃₆	432, 40	1,810	40,61
C ₆₀	720,66	1,484	85,56
C ₇₀	840,23	1,547	93,39
C ₇₆	912,23	1,582	98,09
C ₈₄	1008,92	1,589	107,93
C ₉₆	1153,06	1,452	135,0

Let us also consider the value of the R(I) layer for coal, which is a carbon base consisting of a polymer with a supramolecular structure (Table 4).

Table 4.
Thickness of the surface layer of coal matter [19].

Coal, brand	M, g/mol	ρ , g/sm ³	R(I), nm
Brown	1575	1,25	214,2
Long flame	1578	1,35	198,7
Gas	1448	1,24	198,5
Fat	1400	1,25	190,4
Coke	1351	1,27	180,8
Sintering	1340	1,29	197,4
Skinny	1332	1,31	172,8
Anthracite	1310	1,47	151,5

A comparison of tables 3 and 4 with table 2 shows that the thickness of the surface layer of fullerenes and carbon is two orders of magnitude greater than pure metals.

The results presented in this article show that the surface layer of a solid, including metal, and its nanostructure and mesostructure play an important role in the technological properties of materials, especially when we move into the field of nanotechnology.

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舞毒蛾 – 蝴蝶在人口稠密地区大量出现的原因

GYPSY MOTH - CAUSES OF THE MASS APPEARANCE OF BUTTERFLIES IN POPULATED AREAS

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抽象的。据描述,吉普赛蛾蝴蝶在莫斯科地区和莫斯科市的几个定居点大规模出现。其出现的规律性表明,其原因是初龄毛毛虫大量涌入聚落,这些毛毛虫在春季爬入树冠后很容易被风传播。

关键词: 舞毒蛾、蝴蝶飞行、大规模繁殖爆发。

Abstract. *The mass appearance of the gypsy moth butterflies has been described in several settlements in the Moscow region and in Moscow city. The regularity of their appearance is shown, indicating that the reason for this is the mass influx of first-instar caterpillars into the settlements, which are easily spread by the wind immediately after their ascent into the crowns of trees in the spring period.*

Keywords: *Gypsy moth, butterfly flight, outbreaks of mass reproduction.*

The gypsy moth is the most common and dangerous defoliating pest in Russia. It inhabits the territory from Kaliningrad to Vladivostok and often experiences large outbreaks of mass reproduction (Benkevich, 1984; Grechkin, 2019; Ilyinsky et al., 1965; Ponomarev et al., 2012; Lyamtsev, 2013, 2018, et al.). In recent years, significant outbreaks of its mass reproduction have occurred in the Republics of Bashkortostan and Tatarstan, as well as in the Moscow, Ryazan, Ulyanovsk, Omsk regions, and others. In 2022, its caterpillars caused severe damage to forests in some areas of the Moscow, Ryazan, Ulyanovsk regions.

The gypsy moth is an ecologically very flexible species. Its caterpillars can feed not only on more than 300 species of deciduous and coniferous trees (Vorontsov, 1982, et al.), but also in different parts of its extensive range, it has adapt-

ed not only to survive but also to mass reproduce in various natural conditions (Gninenko, 1998).

Aware of the threat posed by this pest, foresters have implemented protective measures in several regions. However, the treatments carried out did not stop the outbreak's development. This happened mainly because there are many restrictions on conducting such activities. For example, in the Moscow region, in the territories of Shatura, Lukhovitsy, and Yegoryevsk forestry enterprises, out of the total outbreak area of about 80,000 hectares, treatments were only carried out on 17,100 hectares. As a result, in unprotected forest areas, the caterpillars successfully fed and pupated. Eventually, butterflies emerged from the pupae on time, and as they took flight, they expanded the outbreak areas. In July 2022, butterflies appeared in huge numbers in the populated areas of the Moscow and Ryazan regions and in Moscow city.

Literary sources (Grechkin, 2019) report that such cases of mass appearance of butterflies in populated areas have occurred before. For example, the first documented case occurred in 1892 when a large number of butterflies were observed in Moscow from July 4 to July 8. This was followed by significant devastation caused by the gypsy moth in the Moscow province from 1893 to 1896.

Then, on July 17, 1957, 65 years later, the situation repeated itself (Vorontsov, 1958). During those years, there were so many butterflies in Moscow that egg masses were deposited even on the walls of the Kremlin. In the forests of the region in 1958-1959, there were outbreaks of the pest, and large-scale ground and aerial chemical control measures were implemented against it (Grechkin, 2019).

Another 65 years have passed, and the situation is repeating itself once again. In the eastern and southeastern regions of the province, outbreaks of the gypsy moth are occurring again, and once again, masses of butterflies are appearing in cities. For example, on July 27, 2022, in the city of Kolomna, a mass flight of butterflies was observed; they flew in huge numbers around streetlights, and females laid egg clusters directly on the sidewalks (Fig. 1).



Figure 1. Gypsy moth butterflies and egg clusters on the sidewalk

It was noted that among the insects appearing in populated areas, females significantly predominated (Table 1).

Table 1.
Sex ratio among gypsy moth butterflies in populated areas of the Moscow region in 2022

Urban area	Total number of recorded butterflies	Sex ratio, %	
		♀	♂
Electrostal city			
Central square	151	99.87	0.13
Base of advertising stands near “Plaza” shopping center	199	99.5	0.5
On the foundation of “Plaza” shopping center	366	99.73	0.27
On the sidewalk	175	100.0	0.0
	248	100.0	0.0
Kolomna city, on the sidewalk near the Kremlin	323	100.0	0.0
Serednyakovo village	385	75.58	24.42

It should be noted that outbreaks of gypsy moth populations regularly occurred in other years (Belov, 1998), however, such a large number of butterflies were not observed in populated areas. Entomologists attempted to explain this phenomenon

(Vorontsov, 1958; Ilyinsky, 1969), but there is no sufficiently convincing explanation to date.

Since butterflies are seen in cities, it is reasonable to assume that they have flown here from the surrounding forests. Moreover, for the eastern Siberian populations of this phytophagous insect, long-distance flights are characteristic (Bay-Bienko, 1924; Gninenko, Serdyukov, 2014), and their mass appearance in populated areas is often noted (Fig. 2).



Figure 2. *Gypsy moth butterflies in the Tunka Valley (Buryatia) (www.infol.ru)*

But in the European part of Russia, females lay eggs on the trunks of host trees, and even during outbreaks of mass reproduction, they usually do not fly en masse into populated areas. For example, in the summer of 2021, the gypsy moth caused damage to birch forests in the southeast of the Moscow region, covering an area of about 10.0 thousand hectares. As a result, in the autumn of 2021, the number of egg clusters per tree in some places reached several dozen. However, there were no reports of any noticeable influxes of butterflies even into the closest populated areas to the outbreak.

Up to the present time, it is believed that butterflies appear in populated areas carried by winds from their foci acting in the surrounding forests. We could not find weather archive data for July 1892, but it is known that from June 4 to 8 of that year there was a very high temperature, a record that was surpassed only in 2020. According to meteorological data for July 17, 1957, when butterflies ap-

peared en masse in Moscow, there were no strong winds. There was no precipitation in Moscow from July 8 to 19, and only on the 19th there was 0.71 mm of rain. The temperature background was elevated.

In 2022, for the first time, butterflies were observed in various cities of the Moscow region on July 16-17. However, there were no strong winds recorded on those days. For example, on July 15, the wind speed was 1.8 m/s, on July 16 it was 3.5 m/s, and on July 17 it was 0.8 m/s.

The fact that the wind is not the cause of the mass appearance of butterflies in cities is also confirmed by the circumstance that new butterflies continue to appear over the course of several days. After all, if they were carried by the wind, which blows, let's say, not even for one day, but usually for no more than 2-3 days, then after laying eggs, all butterflies would perish and new ones would not appear. However, in 2022, their first mass appearance in the city of Elektrostal was noted on July 17. They laid a mass of eggs on the facade of a shopping center in the city center, and workers cleaned this facade of egg clusters daily. We surveyed this building on August 6, and the butterflies, as in previous days, were very numerous (see Fig. 3).

So, the butterflies we observed at the beginning of August could not have been carried by the wind (even if there was any) on July 17, when they first appeared in the city of Elektrostal, because those that appeared then had long since laid eggs and died. Therefore, the appearance of butterflies in populated areas is not a one-time event; they appear throughout the entire flight period of the gypsy moth.



Figure 3. Gypsy moth butterflies on August 6, 2022, in Elektrostal city.

Furthermore, as noted earlier, fertilized females predominated in populated areas. Even if we imagine that the wind was the cause of the butterflies' appearance, it would have primarily brought males into the cities. After all, males are significantly more active than females and fly throughout the forest space from the forest floor to the tree canopies. Females, on the other hand, usually stay near the bases of tree trunks immediately after mating, where they lay their egg clusters. Therefore, even strong winds would likely blow away males rather than females.

Females can undertake fairly long flights only if they are attracted to a source of light or warmth before they begin laying eggs. For this reason, in Eastern Siberia and the Altai, they fly to rocky areas of mountains that emit warmth due to daytime heating and are well illuminated by the rays of the setting sun (Fig. 4).



Figure 4. Masses of gypsy moth egg clusters on rocks in the Altai Mountains.

In the situation observed in some populated areas of the Moscow region and several neighboring regions in 2022, butterflies appeared due to the mass migration of first-instar caterpillars, which are easily carried by the wind over long distances. In populated areas, these caterpillars matured and then butterflies appeared here. This explains why the butterflies flew in populated areas for at least two weeks, and it also explains why there were practically no males in places where fertilized females and egg clusters appeared. During this time, males flew to plac-

es where females emerged from pupae, that is, to places where caterpillars were feeding in parks and suburban forests, while females, after mating, were attracted to strong illumination and flew to where it was most intense.

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