



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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These Conference Proceedings combine materials of the conference – research papers and thesis reports of scientific workers. They examines technical and sociological issues of research issues. Some articles deal with theoretical and methodological approaches and principles of research questions of personality professionalization.

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劳动力市场新趋势对俄罗斯安全构成威胁

**NEW TRENDS ON THE LABOR MARKET AS A THREAT TO RUSSIAN
SECURITY**

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大流行对俄罗斯劳动力市场的影响：对受过高等教育的专家的需求减少，对有能力的表演者的需求增加，只有在生产开始阶段才需要创意人才。对创意员工的需求正在下降，将思维专家推向国外市场，并降低了该国劳动力的质量。新冠病毒大流行加剧了现有的青年和老年人就业问题。

关键词：国内劳动力市场，劳动力市场供需，裁员，人口自然下降，劳动年龄人口减少，远程工作。

Annotation. *Impact of the pandemic on the Russian labor market: reduction demand for specialists with higher education, an increase in demand competent performers, creative individuals are in demand only at the stage start of production. The demand for creative employees is declining, pushing thinking specialists to foreign markets and reducing the quality of the labor force in the country. The coronavirus pandemic has exacerbated the existing problem of employment of young people and the elderly age.*

Keywords: *domestic labor market, supply and demand for labor market, downsizing, growing natural population decline, reduction of the working-age population, remote work.*

The coronavirus pandemic had a significant impact on the labor market, exacerbating and accelerating a number of processes¹. Before pandemic began, the domestic labor market was showing stable employment, low unemployment rate and it was being adjusted to changing conditions via wage regulations². With introduction of epidemiological restrictions many industries suffered, a significant part of businesses had to close down, and the rate of unemployed surged.

Russia, like many other countries, went into lockdown in the spring of 2020. By the end of May 2020, 45% of enterprises across the country had already announced staff reduction. The labor markets of Moscow, St. Petersburg, and the Moscow region were hit hardest by the pandemic. In the first wave of the coronavirus, 3.5 million people were laid off, of whom 585,000 were in Moscow³.

Let us briefly review some of the labor market trends that coronavirus pandemic has created or exacerbated, and which, while weakening the country's economy, are affecting its security.

Particularly dangerous is the growing working age population decline. The coronavirus pandemic has intensified it. By the end of 2020, the natural decline in the population was 702 thousand people, and in 2021 it will be 1.04 million people⁴. In previous years, government solved that problem of reducing working population by attracting migrant labor. But with the beginning of the pandemic, restrictions on movement were introduced, which led to a sharp decline in their flow. The situation was particularly severe on the country's construction market. Fifty-five regions declared a shortage of construction workers. In Moscow, shortage in December 2020 amounted to 10 thousand employees⁵. Of the two options for the development of the construction sector: automation and the creation of attractive jobs or the mass importation of cheap migrants⁶, the second option was

1 Read more: Akimova E.N., Shataeva O.V. State and development of the Russian labor market in connection with the coronavirus pandemic // Bulletin of the Moscow State Regional University. Series: Economy. 2021. No. 2.

2 Russian labor market: trends, institutions, structural changes. Report of the Center for Labor Research (CETI) and the Labor Market Research Laboratory (LIRT) of the Higher School of Economics / Ed. V. Gimpelson, R. Kapelyushnikov, S. Roshchin. - M., 2017. - 148 p.

3 Sycheva I. How the pandemic affected the labor market in Russia. Infographics. July 28, 2020 // Pravmir: [website]. URL: <https://www.pravmir.ru/kak-pandemiya-povliyala-na-rynok-truda-v-rossii-infografika/> (date of access: 01/10/2021)

4 The natural population decline in Russia for the year exceeded 1 million people. - 01/28/2022. // RBC (rbk): [website]. URL: https://www.rbc.ru/economics/28/01/2022/61f3bbaa9a794767f04fdaa7?utm_source=yxnews&utm_medium=desktop (date of access: 01/30/2022).

5 Vasiliev M. Guest workers have ceased to be a cheap labor force. - 01/04/2021 // Express newspaper: [website]. URL: <https://www.eg.ru/society/1014814-gastarbaytery-perestali-byt-deshevoy-rabocheysiloy/> (date of access: 01/06/2021); Semenov, V. Putin instructed to simplify the influx of migrant workers to Russian construction sites. - 01/18/2021 // RBC: [website]. URL: https://realty.rbc.ru/news/600549839a79471c4a5ff150?utm_source=yxnews&utm_medium=desktop (Date of access: 01/21/2021).

6 What was the labor market like in 2021 and what awaits us in 2022: results of the year and SuperJob

chosen. In order to solve this problem, it was proposed to simplify the entry of migrant construction workers into Russia. In the created conditions, when the percentage of the unemployed in the country increased by 24.7% in 2020 and by the end of the year amounted to about 4.433 million people⁷, such a policy looks, in our opinion, short-sighted. Unfavorable demographic situation and its change with the help of migrant workers not only significantly worsens the situation in the domestic labor market, it may negatively affect the preservation of the territorial integrity and national identity of the country in the future⁸.

Another problem of the labor market is informal employment. The share of workers employed in unrecorded types of employment ranges from 19.8% to 42.3% - depending on the methods of estimation. Oftentimes they are either self-employed, not registered in the state bodies, or workers who did not formalize their relationship with the employer via employment contract.

The country is in the process of forming a precariat [2; 6; 7], i.e., people with an unstable form of employment. They are not protected by law and therefore very vulnerable. In 2020 alone inspections revealed signs of abuse in 1,700 companies. Informal employment has increased by 1.5 to 2 times⁹ over the past ten years and continues to grow, which contributes to the increase of entrepreneurs' profits, worsens vulnerability of workers in the labor market and poses a threat to the stable socio-economic development of the country¹⁰.

Mass shift to remote work caused by the pandemic accelerated the trend of digitalization of business processes. This allowed entrepreneurs to reduce costs, optimize business and increase profits.

But with the move to telecommuting, employees faced a number of challenges: a lack of hardware, software, skills, and the issue of organizing a workspace in an apartment where a family lives, and several members have to work or study remotely. In addition, as studies have shown, the intensive usage of gadgets has a negative impact on human health,¹¹ reducing quality of the workforce.

forecasts. Superjob.ru Portal Research Center - December 17, 2021 // <https://russia.superjob.ru/research/articles/113231/kakim-by-l-rynok-truda-v-2021-i-cto-nas-zhdet-v-2022/> (Accessed: 12/20/21)

7 Rosstat: the number of unemployed in Russia in 2020 increased by 24.7%. – 01/28/2021. // TASS: [website]. URL: <https://tass.ru/ekonomika/10572707> (date of access: 01/29/21).

8 Time bomb. Migrants create schools in Russia without Russians. // Tsargrad. 01/24/2022. // <https://zen.yandex.ru/media/tsargrad.tv/mina-zamedlennogo-deistviia-migranty-sozdaiut-v-rossii-shkoly-bez-russkih-61ee59b90a981d1c6fef2f8?&> (Date of access: January 25, 2022).

9 Zapesotsky A. The labor market: the growth of problems that no one can keep up with. // Moskovsky Komsomolets - No. 28458 - January 15, 2021.

10 Toshchenko Zh. T. Precariat: from protocol class to new class. Monograph / Zh. T. Toshchenko. Institute of Sociology FNISts RAS, Russian State University for the Humanities. - M.: Nauka, 2018. - 350 p.

11 Studies have shown that the intensive use of gadgets causes back pain, reduced concentration, depression, etc. The study of this problem in children and adolescents revealed that children feel worse, cognitive functions are impaired, and morphofunctional changes occur in the brain. Read more: Vyatleva O. A. The impact of smartphone use on well-being, cognitive functions and morphofunctional

Most of the employees who switched to telecommuting - 60%, perceived it negatively, and only about a third (36%) - positively¹². In Moscow, according to surveys from 50 to 80% of people transferred to work remotely would like to return to the office or at least combine online and offline work¹³.

But according to predictions of analysts of the World Economic Forum, the transition to telecommuting regardless of the wants of employees to 2025 will make 81% of Russian companies¹⁴.

A new trend in the labor market, caused by the coronavirus pandemic, is the growing demand for multifunctional specialists, i.e. "full-cycle" super-specialists who independently plan and perform work from goal setting to the final result, as well as its evaluation¹⁵. This allows the employer to reduce the number of employees, saving on wages, but reduces the number of vacancies in the market and increases the intensity of labor, creating tension in society.

There is another trend on the labor market in 2020. Month after month, the demand for specialists with higher education is dropping, and the level is holding up, mainly due to teachers, doctors, and engineers. Another new trend is closely connected with this process: when before the growing demand for programmers, agronomists, veterinarians was fulfilled by higher school, now specialists of these professions are trained by the system of secondary special education, providing sufficient qualifications level for the current production tasks.¹⁶

state of the central nervous system in children and adolescents (literature review). // Questions of school and university medicine and health. No. 1, 2020. - P.4-11; Plotnikov D. How gadgets affect the human body. - 05/29/2016 // KV.by: [website]. URL: <https://www.kv.by/content/341512-kak-vliyayut-gadzhety-na-organizm-cheloveka> (Date of access: 01/22/2021).

12 VTsIOM: the number of Russians working remotely during the pandemic has increased eightfold. - 05/15/2020 // TASS: [website]. URL: <https://tass.ru/ekonomika/8478435> (date of access: 12/19/2020).

13 Danilova A., Vladimirskaia A. "The wave of unemployment will be in the fall." Recruiter Alena Vladimirskaia talks about how to survive in a crisis. - 05/15/2020 // Pravmir: [website]. URL: <https://www.pravmir.ru/volna-bezrabotitsy-budet-osenyu-rekruter-alena-vladimirskaia-o-tom-kak-vyzhit-v-krizis/> (date of access: 12/20/2020).

14 See: Pereladov A. Whom and what to be? The future of the labor market 2025. WEF-2020 results. Infographics. - 08.11.2020. // Yandex.Zen : [website]. URL: <https://zen.yandex.ru/media/pereladov/kem-i-kakim-byt-budushee-rynka-truda-2025-itogi-wef2020-infografika-5fa159c5f278637dd46b6eeb>. (date of access: 12/19/2020).

15 For more details, see: Storozheva N. What will the labor market be like by the end of 2020. — Clerk. - 21.08.2020. // Clerk: [website]. URL: <https://www.klerk.ru/buh/articles/503427/> (date of access: 01/10/2021).

16 Bartosh I. November 2020. The labor market in Russia. Monthly report on rutrud.com - 12/01/2020. // RuTrud.com: [website]. URL: <https://rutrud.com/november2020/> (date of access: 12/20/2020).

Only 4 out of 10 employers hire job seekers of retirement age on a general basis. Superjob.ru Portal Research Center - August 20, 2021 - // <https://russia.superjob.ru/research/articles/113005/tolko-4-iz-10-rabotodatelej-prinimayut-na-rabotusoiskatelej-pensionnogo-vozrasta-na-obschih-fundation/> (Date of access:

One explanation for this trend is the algorithmization of functions, when production works according to a predetermined algorithm. "As soon as production starts to work steadily, gets into a rhythm, the algorithm is activated. If you change the process, you break the algorithm, which means that it has to be calculated from scratch - this is the most expensive production process."¹⁷ Therefore, competent executives are needed, and creative individuals are in demand only at the production start-up stage. Thus, the demand for creative employees is shrinking, pushing thinking professionals to foreign markets and reducing the quality of the labor force in the country.

The coronavirus pandemic has exacerbated the existing problem of employment for young people and the elderly. Under these conditions, it is very difficult to find a job for young professionals, because they need to be further trained, and employers do not have the resources for this, and mature people, resumes 45-50+, according to recruiting agencies, were not even considered in spring 2020, because, according to many employers, they are often sick, avoid overtime and poorly trained.¹⁸ But in the summer of 2021 the departure of a large part of labor migrants and demographic processes in the country caused the interest of companies in older applicants. Thus, 42% of companies are ready to consider (does not mean hire) candidates of retirement age on a par with younger applicants, but 28% of enterprises and organizations are not willing to do so, and a third can hire a pensioner only as an exception.¹⁹

The situation is aggravated by the fact that about a million and a half graduates of various educational institutions enter the market every year. At the same time, about one million people of preretirement age linger in the labor market due to the pension reform. At the same time, the number of jobs in the country is decreasing due to the development and introduction of new technologies²⁰. And although "the modern information economy constantly creates more jobs than it eliminates"²¹, 12/23/2021).

17 Why in modern Russia there is no need for great specialists - obedient performers are needed. – 08.12.2020. // Yandex.Zen : [website]. URL: <https://zen.yandex.ru/media/iskra22/pochemu-v-sovremennoi-rossii-ne-nujny-klassnye-specialisty-nujny-poslushnye-ispolniteli-5fcf1476a5e6844f497baf85> (date of access: 12/23/2020).

18 Danilova A., Vladimirkaya A. Decree. Op.; Storozheva N. Decree. op.

19 Only 4 out of 10 employers hire job seekers of retirement age on a general basis. Superjob.ru Portal Research Center - August 20, 2021 - // <https://russia.superjob.ru/research/articles/113005/tolko-4-iz-10-rabotodatelej-prinimayut-na-rabotu-soiskatelej-pensionnogo-vozrasta-na-obschih-fundation/> (Date of access: 12/23/2021).

20 Zapesotsky A. Decree. op.

21 Kashepov A.V. Employment of the population in the digital economy. // Modern education: vectors of development. Digitalization of the economy and society: challenges for the education system: materials of the international conference (Moscow, Moscow State Pedagogical University, April 24-25, 2018). Selected articles / ed. ed. MM. Musarsky, E.A. Omelchenko, A.A. Shevtsova. - Moscow: MPGU, 2018. - P.169

the problem is that downsized workers most often cannot take new jobs due to the lack of necessary professional competences.

Determining labor market policy it is also necessary to take into account the following trends: dramatically increased speed of changes, when accumulated experience will no longer help an employee to adapt to them; disappearance of boundaries between separate professions, such as engineer and worker in complex production; intellectualization of professions, where the leading role will be played not by hard professional, but by soft skills - skills²² which are not related to any particular field of activity, but ensure successful participation in the work process and high labor productivity.

The future-oriented labor market strategy should be aimed primarily at young people and include:

- creation of modern mechanisms of early professional orientation;
- development of a coherent system of secondary vocational education;
- reducing the "prestige gap" between higher and secondary vocational education²³.

The trend is as follows: 12 million new jobs will appear in the world by 2025, i.e. their market will increase by 15%. This will happen primarily due to digital professions, automation and digitalization of business processes. At the same time the demand for routine professions will continue to decline.²⁴

The basis for labor market development is a thriving economy. Analysts believe that our country's economic growth rate will be 2.2% annually from 2021 to 2025, and 1.9% from 2026 to 2035. But unfortunately, this growth will mainly be provided by the raw materials sector of the economy. In the field of information technology, our country is 28th in the world.²⁵

22 The traditional worker is already competing in the labor market with robots, programs and bacteria. – 02.11.2015. // ASI team: [website]. URL: <https://asi.ru/news/42308/> (date of access: 01/03/2021.)

23 The traditional worker is already competing in the labor market with robots, programs and bacteria. - 02.11.2015. ASI team: [website]. URL: <https://asi.ru/news/42308/> (date of access: 01/03/2021.).

24 See: Pereladov A. Decree. op.

25 Russia will enter the top 10 leading economies in the world. – 12/28/2020. // Actual comments: [website]. URL: <https://actualcomment.ru/rossiya-voydet-v-top-10-vedushchikh-ekonomik-mira-2012281222.html> (date of access: 01/20/2021).

References

1. Akimova E. N., Shataeva O. V. *Status and development of the Russian labor market in connection with the coronavirus pandemic // Bulletin of the Moscow State Regional University. Series: Economy. 2021. No. 2. - P. 6-17.*
2. Anisimov R.I. *Precarious employment in Russia: experience in determining the main indicators. Sotsiologicheskie issledovaniya. 2019. No. 9. - S. 64-72. DOI: 10.31857/S013216250006652-0.*
3. Vyatleva O.A. *The impact of smartphone use on well-being, cognitive functions and morphofunctional state of the central nervous system in children and adolescents (literature review). // Questions of school and university medicine and health. No. 1, 2020. - P.4-11;*
4. Kashpov A.V. *Employment of the population in the digital economy. // Modern education: vectors of development. Digitalization of the economy and society: challenges for the education system: materials of the international conference (Moscow, Moscow State Pedagogical University, April 24-25, 2018). Selected articles / ed. ed. M.M. Musarsky, E.A. Omelchenko, A.A. Shevtsova. - Moscow: MPGU, 2018. - p. 163-173.*
5. *Russian labor market: trends, institutions, structural changes. Report of the Center for Labor Research (CETI) and the Labor Market Research Laboratory (LIRT) of the Higher School of Economics / Ed. V. Gimpelson, R. Kapelyushnikov, S. Roshchin. - M., 2017. - 148 p.*
6. Toshchenko Zh.T. *Precariat: from protoclass to new class. Monograph / Zh.T. Toshchenko. Institute of Sociology FNISTS RAS, Russian State University for the Humanities. - M. : Nauka, 2018. - 350 p.*
7. Kalleberg A.L. *Precarious Work, Insecure Workers: Employment Relations in Transition // American Sociological Review. 2009 Vol. 74. Feb. R. 1–22.*

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创造上合组织和欧亚经济联盟国家相互结算的新财政贡献：计划、特点和情景

CREATION OF A NEW FINANCIAL CONTRIBUTION OF MUTUAL SETTLEMENTS OF THE SCO AND EAEU COUNTRIES: PLANS, FEATURES AND SCENARIOS

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在文章中，作者建议对过去几十年的历史分析进行历史分析，以捍卫他们的经济利益，金砖国家、上合组织国家和欧亚经济联盟相互结算的新特征，本国货币对外流通的计划核算 贸易活动与西方国家对俄罗斯的制裁压力增加，建立一个单一的一体化领域，在能源资源、基本商品、创新价值链的联合商业项目和支付领域进行不同程度的合作。

关键词：俄罗斯、上合组织、金砖国家、欧亚经济联盟、制裁、危机、金融结构、中国、人民币、卢布、卢比、一带一路。

Abstract. *In the article, the authors propose to conduct a historical analysis of the last decades to defend their economic interests, the emerging features of mutual settlements in the BRICS, the SCO countries and the EAEU, the planned accounting for the circulation of national currencies in foreign trade activities with increased sanctions pressure on Russia from Western states, to build a single integration field various degrees of cooperation in the field of joint business projects and payments for energy resources, essential goods, innovative value chains.*

Keywords: *Russia, SCO, BRICS, EAEU, sanctions, crisis, financial structure, China, yuan, ruble, rupee, OBOR.*

The emerging new world order of mutual settlements, which intensified in its emergence after the Ukrainian events of February 2022, has become the center of concretization of global geo-economic trends in the world of the changing geopolitics of a multipolar and polycentric future.

The special operation conducted by Russia in Ukraine to denazify and demilitarize the Nazi regime faced an unprecedented flurry of all existing restrictions from Western countries: from sectoral, corporate and personal sanctions to retortions and reprisals against the heads of a number of Russian executive, legislative and business structures. This sanctions hysteria and the Warsaw Summit NATO Association on the principles of total Russophobia made the vital interests of Russia dependent on an adequate and timely reaction to create and introduce a system of measures to counter the orgy against the "civilized West", which is ready to punish the Russian state for its unwillingness to focus more on its semi-colonial existence. These conclusions were clearly and uncompromisingly formulated in the introductions of various representatives of the government and business of Russia, summed up by the President of Russia V.V. Putin, as the beginning of the trade of Russian gas for Russian rubles with all unfriendly states and the implementation of a further policy of national revival in the financial sector through the sovereignization of the mechanisms of mutual settlements with the countries of the SCO and the EAEU.

In particular, the relevant proposals have already begun to form at the negotiations of our strategic partners, the Chinese comrades, with representatives of Saudi Aramco, the leading company in Saudi Arabia, in planning to abandon payments for oil in US dollars, which has been basic and unchanged since 1974, and are preparing to switch to the yuan. These agreements have been in preparation for about 6 years and will help strengthen the yuan itself, while not devaluing the Saudi rial itself too much [1].

This step also prompted a more global ideology of the SCO and EAEU countries to create the most common international currency and to develop proposals and mechanisms for updating and personifying interstate settlements within the declared international monetary and financial system [2]. The cost of the new international means of payment being developed will be based on the correlation of the index of the national currencies of the participating countries and the prices of exchange commodities. This decision should be corrected and submitted by the beginning of April 2022 to all member countries of the EAEU and China, as a basic document for further financial integration and reform of the SCO itself, which has been dealing with the issues of Chinese business development in the

post-Soviet space for more than 20 years and the harmonization of various kinds of standards and regulations in countries that have approved and politically and technologically entered into the implementation of the Chinese global initiative "One Belt, One Road".

The decision on a single international currency in the region of Central Asia and in the Eurasian space will be supported by all countries, interested in more nationally oriented breakthroughs, will strengthen the Chinese economy itself, which is "the first in the world to come to a national recovery from post-COVID-19 shocks and pandemic lockdown," as S.Yu. Glazyev, Minister for Integration and Macroeconomics of the EEC, noted.

Moreover, as our strategic partner in BRISK and the SCO, India also plans to simplify and diversify currency risks in international trade with Russia. In this regard, Sino-Indian cooperation will extend not only to the ruble-rupee coverage of the existing trade turnover, but will also be linked to the yuan as the base currency. And such steps will immediately diversify possible problems with dollarization and settlements in euros, directing financial flows in rupees to national Indian producers [3]. At the same time, the mutual opening of accounts to support export-import operations will be carried out in Russian and Indian banks responsible for the financial implementation of transactions on the part of both states. This trend is already unwinding, primarily due to the growing discount on the planned purchase of Russian oil by Indian companies at reduced prices. The same calculations were previously practiced when Russia purchases Indian tea, and today medical and medicinal products, agricultural products, and India itself plans to further build up its defense potential and purchase goods from the military-industrial complex and the space industry of Russia for a more active participation in the industrialization processes of the 6th and 7th scientific and technological order. Another driver of this currency ruble-rupee transition is the sanctions on Russian purchases, when more than half a billion US dollars cannot be transferred from Russia to India. The State Bank of India (SBI) itself, the largest bank in India, is not ready to take risks and be substituted in transactions with Russia because of its global presence and in anticipation of punitive measures in case of non-compliance with sanctions against Russian companies, previously discussed in it, in the pre-sanctions period. At the same time, the sanctions themselves, despite the unprecedented pressure from the UK and the US, on the Indian economy were never imposed on Russian companies and banks.

Building this international configuration and the increasing involvement of the countries of China and India in the development of mechanisms for financial interaction with Russia and the countries of the EAEU, starting from the creation of a credit rating agency independent of the "golden billion" countries based on the Chinese Dagong Global Credit Rating, evaluating the possibilities of various glob-

al projects between states in addition to the big three (Fitch, Moody's and Standard and Poor's) before the adoption of the yuan as a reserve and base currency in the calculations of all BRICS and SCO countries.

Therefore, mass exits from the dollar agreements have already forced IMF officials to predict the upcoming and widespread refusal to use it and are guaranteed to lead to a rollback of countries' positions to rethink the place of this reserve currency in the gold reserves in the central banks of the world, - said on March 22, 2022 Gita Gopinat, Deputy Managing Director of the IMF [4].

South Africa also plans to facilitate Russia's return to the African continent on the eve of the consequences of the post-Ukrainian crisis, which threatens real starvation for 1.3 billion people of the black continent. One of these non-linear responses is being worked out within the framework of the Russian-African cooperation between the "Afrocom" Foundation, which participates in the work of the Coordinating Committee for Economic Cooperation with African Countries. The task of future trade deals is not only to increase barter and foreign trade operations, but also to apply the structural mechanisms of banking and investment interaction that can build new food and cooperative mining international chains focused on Russia's strategic return to the African market. And the issues of food, its delivery for humanitarian purposes and from the standpoint of integration cooperation from the BRICS to the level of Russian personalized involvement with the business structures of South Africa and all pro-Russian countries oriented towards our cooperation, should receive a new meaning in the near future in the form of doctrinal and conceptual strategies, become economically filled in terms of content and implementation within the emerging banking structures of the international and military-political alignment.

At the same time, the growing pressure from unfriendly countries is forcing Russia to pronounce a new agenda for the partial temporary blocking or semi-nationalization of the assets of companies unfriendly to us that maintain negative pressure or seek to chaotically and unjustifiably exit the existing assets of our hydrocarbon and innovative sectors. These actions were initially extremely beneficial for them, as a way to maximize profits and involvement in the process of setting up and strengthening the assets of Russia's national production base. Their activity during the implementation of programs to reduce state participation in the Russian economy for its further effective development and global digital transformation, was also beneficial to all parties for the intensification and productivity growth of Russian industries annually privatized by global TNCs at the level of 10% compared to the previous year, for 6 years, according to the program that was previously adopted under the title "The main activities of the Russian government for 2019- 2024". In the absence of the "black swans" of covid and the Ukrainian crisis, the Federal Property Management Agency would have to prepare for

the implementation of this program about 1,500 companies with various market organizational and legal forms of ownership (PJSC, OJSC, LLC) and have an effect by the end of 2024, reducing assets with state participation by 47%, to 797 companies [5].

Therefore, the political aspect of admission to the Russian market of state privatization of companies in leading sectors, with the exception of the force majeure that happened and the complete nationalization of the assets of all industries, will be able to monitor and audit all potential friends and strategic partners from the BRICS, SCO and EAEU countries, creating a truly national oriented system not only of payments, investments and settlements themselves, but, on a truly market basis, capable of identifying those start-ups and greenfields of our real allies that would help bring Russia to the leading positions of the Industry 4.0 superpower.

The likelihood of such a forecast is not yet high, because the ongoing wave of sanctions and the incomplete provision of financial tasks for trade and commercial operations of the state and corporate sectors require a new paradigm for the entire Russian business, however, the upcoming patriotic consolidation based on the integration diversification of future shocks and risks will allow Russia to set the right accents their national interests and build that polycentric world where all today's partners will receive both reciprocal support and a new geopolitical breath, from geo-economic integration zones to military blocs of national self-sufficiency and industrial prosperity.

References

1. <https://ria.ru/20220315/neft-1778298282.html> (Appeal date: 28.03.2022)
2. <https://ru.sputnik.kz/20220327/> (Appeal date: 28.03.2022)
3. <https://lenta.ru/news/2022/03/14/ruplj/> (Appeal date: 28.03.2022)
4. https://ria.ru/20220322/dollar-1779515743.html?utm_source=ria.24smi.info&utm_medium=referral&utm_campaign=17734&utm_content=4064719 (Appeal date: 28.03.2022)
5. Kochetov A.P. "Transnational Elites in a global world" – M.: "Aspect Press" Publishing House, 2020.- 85 P.

物体安全等级的经济评估
**ECONOMIC ASSESSMENT OF THE LEVEL OF SECURITY OF
OBJECTS**

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提出了具有许多优点的原始方法和工具，并允许 * 分配对计算机网络安全的主要威胁的排序列表，并量化黑客攻击计算机网络保护造成的损害； * 估计在违反计算机网络可操作性的过程的每个操作上的时间、劳动力和财务资源。

关键词：计算机网络，原始方法，工具，安全威胁，破坏量，资源成本

Abstract. *Original methods and tools are proposed that have a number of advantages and allow * to allocate ranked lists of the main threats to the security of computer networks and quantify the amount of damage from hacking the protection of a computer network; *to estimate the time, labor and financial resources spent on each operation of the process that violates the operability of a computer network.*

Keywords: *computer networks, original methods, tools, security threats, the amount of damage, resource costs*

Introduction

We will consider the method of economic assessment of the level of security of objects using the example of protecting computer networks (CN). However, we are convinced that the economic analysis of the security of objects proposed by us is universal and applicable to various objects: market entities, technical, socio-economic and information systems, etc.

With the development of scientific and technological progress, the number of computer networks, the complexity of their structure, and the number of factors affecting the safety of CN operation also increase. At the same time, the cost of resources to ensure the protection of the CN is also growing. As noted in the literature (see, for example, [1]), there is an *almost infinite number of combinations* of software and hardware used in computer networks and their modes of operation, and an equally large number of ways to disrupt the network. And as a result of

such a variety of threats to the security of a computer network, there is no way to ensure the absolute security of a CN. We can talk about providing one or another probability of CN security. Moreover, it is obvious that a higher degree of security will require more resources.

But how in each specific case to estimate the value of these costs? As far as we know, the scientific literature does not describe methods for assessing the amount of possible damage from a CN malfunction, neither methods for estimating the time and financial resources spent on opening a CN protection system, nor algorithms and / or tools for an economically justified choice of a CN protection option are described.

The article, based on the research previously performed by the author, proposes original methods and tools for generating initial information for *economically sound construction of a CN protection system, *selection of a ranked list of the main threats to CN security, *correct quantitative assessment of the amount of damage from the implementation of each of the main threats, *a quantitative assessment of the composition of the operations of the processes of opening the CN protection and the time, labor and financial resources spent on the execution of the operations of the processes that violate the operability of the CN.

Formation of initial information for an economically justified choice of the option of protecting the computer network of an object - an enterprise, a holding, a distribution network, an administrative-territorial entity.

1) Selection of the list of *main security threats* to the analyzed CN. If there is reliable quantitative information about the amount of damage from the implementation of CN security threats, the method [2] can be used to economically justify the selection of a group of main threats. However, as a rule, in a real situation, the number of possible threats is quite large, and statistical data for the reasonable formation and selection of a subset of the main threats are usually not available. Under such conditions, it seems that the only possible solution is to focus on the method of stepwise refinement of the ranking of objects (SRRO), described in [3-6]. The method is based on the *integration* of the Delphi procedure for predicting the future (developed by O. Helmer, N. Dolkey, T.J. Gordon) with the estimate of the median and distance between object orderings proposed by J. Kemeny. The difference of the method lies in the fact that *the Delphi procedure is used *when ranking by experts the characteristics-functions of objects* (and not for predicting the future); *for quantitative analysis of the degree of convergence of expert opinions after each round of surveys, identification of *agreed groups* of experts and *assessment of the feasibility of completing the examination*, the Kemeny distance (a measure of proximity on linear order relations) is used, and the Kemeny median is used as the resulting ranking; *to group the participants of the expert survey, who may have similar views on the options for *ranking the characteristics under*

consideration, threshold values of the Kemeny distance between the answers of the experts are set, based on the *probability of their opinions coinciding*, for example, close to 0.8; 0.9; 0.95; 0.99; *To search in each of the formed groups of experts for a ranking (ordering) of *characteristics agreed* with the members of the group, the *Kemeny median* is calculated.

Among the main advantages of the method, we highlight: *increasing the accuracy of the results of the examination due to the presence of feedback during the implementation of each subsequent round; *no restrictions on the number of participants in the expert survey, **preservation of known advantages* and the Delphic procedure (anonymity and the ability to familiarize yourself with the explanations presented in defense of very different answers), and the *search algorithm for a consistent ordering* of objects - the correct calculation of the median and Kemeny distance; * joint use of both the *Delphic procedure* and the *correct approach* to the ordering of functions *proposed by Kemeny allows: to obtain* a meaningfully acceptable *quantitative criterion* for a reasonable completion of the examination - a certain value of the relative (for example, 5%) change in the total distance of Kemeny is established; *to form* groups of experts, focusing on the selected (depending on the degree of agreement of opinions) threshold values of the Kemeny distance and to investigate the *reasons for the interconnection* of expert estimates; *to find* the *ordering* of characteristics *agreed* with the members of each group of experts by calculating exactly or approximately the Kemeny median.

The method is programmatically implemented in the algorithmic language Python [7].

2) Quantitative assessment of damage from the implementation of each of the main threats. To quantify the damage from the implementation of security threats CN, it is advisable to use a method focused on stepwise refinement of the values of various indicators with an assessment of the distribution characteristics (SRV-ADC). As part of the features of the method [8-10] *integration of the *Delphi procedure*, usually used to predict the future, with expertise aimed at *obtaining the value of the desired indicator*; * providing an opportunity for specialists participating in the examination to consider *objections and proposals* of other members of the expert group in an atmosphere *free from the influence* of the personal qualities of the participants, which contributes to the activation of the intellectual activity of experts. *the ability to quantify the moment (step number) of the completion of the expert survey (by the magnitude of the change in the coefficient of variation). *implementation of *feedback* during the examination process by informing expert experts about the results of the previous step; *use of a program of *successive steps*, each of which implements a full cycle of expertise; *approximation of the estimates of each expert, represented by *three values of the desired indicator* (*minimum, maximum and most probable value*) by a *triangular* distribution, and

represented by two values (*minimum and maximum*) by a uniform distribution; * the use of **simulation modeling** to determine the generalized collective opinion of *n* experts as the average of *n* random variables having a *triangular or uniform* distribution (opinions of *n* members of the expert group); *obtaining estimates of **statistical characteristics** (*mathematical expectation, variance, coefficient of variation, median, kurtosis, asymmetry*) and the **distribution of the values** of the desired indicator (in the form of a table and a histogram); *the ability to *determine* the **probability** that the values of the indicator will not exceed a specific value or fall within a **specified range of values**.

Based on the listed features of the method, its **advantages** naturally arise: *increasing the **accuracy of the examination results** due to: the **presence of feedback** during the implementation of each subsequent round; **providing** the expert with the **opportunity** to indicate three or two values of the desired indicator; **determination**, based on the results of simulation modeling, of the **probability** that the value of the indicator falls within the *specified range of values*. ***reducing the psychological burden** on the expert and the negative impact on the results of the examination of the presence of superiors and/or ambitious personalities, since *anonymity is maintained, and the experts do not communicate with each other and do not know who gave a specific justification in defense of very different indicator values*. ***representation of the total distribution** as the mathematical expectation of the *sum of uniform or triangular distributions* of the estimates of individual experts in the form of histograms and tables, statistical characteristics of the distributions *makes it possible to obtain* the resulting distribution of indicator values *even with a large dispersion of estimates and the condition* that experts indicate two or three values. ***calculation of statistical characteristics of distributions** (*mathematical expectation, variance, coefficient of variation, median, asymmetry, kurtosis*) and tables of distributions provides an *opportunity to estimate the probability* that the values of the desired indicator will fall within the specified range. ***Identification of spontaneous groupings of experts**, whose estimates are close relative to the desired values of the indicator, *makes it possible to investigate the reasons for the formation of such groups*. The formation of expert groups is carried out on the basis of a given threshold value of the probability of a specific range of values of the predicted indicator.

The method is correct, tested many times, confirmed its usefulness in the process of use in various subject areas. *Using the method, it is possible to estimate the amount of damage from CN malfunctions in market entities, including both owners and users of CN.*

3) Quantitative assessment of the composition of operations and the time, labor and financial resources spent on the performance of each operation of processes that disrupt the performance of a computer network. It is possible

to estimate the *time, labor and financial resources spent* on performing each operation of the CN security opening process using the **process-statistical** method of resource cost accounting (PSRA), focused on the integration of visual and simulation models [11-15]. The most important feature associated with the implementation of PSRA is the *extremely low cost* of developing a statistical (simulation) model and obtaining the *laws of cost distribution* for performing various subsets of operations and processes as a whole. This is due to the fact that the simulation model (*computer program*) is almost *instantly generated* from the constructed **visual** model of the business process. At the same time, the software toolkit [16, 17] created for the implementation of PSRA has a minimum total cost of ownership (TCO) and minimal time, labor and financial resources to obtain the *desired user-consumer* result. The possibility of joint use of IDEF0 and IDEF3 models allows you to add additional information about the subject area to the model. The integration of IDEF0-models converter into UML-diagrams with the system of automated synthesis of simulation models SIM-UML [18] provides the possibility of automated construction with minimal effort of simulation models of processes associated with CN disruption, for which visual IDEF0-models are built.

As a result of the application of PSRA and computer programs [16-18], both the *composition of operations and the time, labor and financial resources* spent on each operation of processes that disrupt the computer network will be obtained.

Using the developed computer program [19], it is possible to quickly carry out a comparative analysis of an almost unlimited number of processes for opening the protection CN P_i and operations O_j , correctly and with minimal labor costs to carry out *classification (according to the composition of operations) of the processes for opening the protection CN; * systematization of information about the composition of the operations of processes that violate the performance of CN in various subject areas; *a quantitative estimate of the informational weight of each operation O_j .

Let us now explain why it is necessary to evaluate the resource intensity of processes aimed at disrupting the operability of CN.

Firstly, knowing the resource costs for hacking the CN P_i protection, the amount of damage to users in the event of a CN failure, and the costs of CN owners for its restoration, it is possible to economically justify the amount of investment in CN protection and assess the probability of a real disruption of the CN by attackers.

Secondly, having seen the negligible resource intensity of some operations to break the CN protection, it is possible to **eliminate vulnerabilities in the CN protection system** more reasonably, quickly and, most importantly, with a negligible error probability.

Conclusions. The article for the first time proposes the following to ensure the

security of computer networks:

1. Original methods and tools that have a number of undeniable advantages and allow * to select ranked lists of the main threats to the security of computer networks and quantify the amount of damage from hacking computer network protection; * evaluate the time, labor and financial resources spent on the implementation of each operation of the process that disrupts the computer network.

2. Possibility, using the developed software tools, to evaluate the relationship between the operations of the CN security opening processes, to quickly conduct a comparative analysis of an *almost unlimited number of operations and CN security opening processes*; *perform a *quantitative assessment* of the informational weight of each operation; *detect the presence of different resource intensity in the same operations of processes* that violate the security of the CN.

References

1. Khubaev G.N. *Security of distributed information systems: provision and evaluation*// BULLETIN OF UNIVERSITIES. North Caucasian region. TECHNICAL SCIENCE. Special Issue: Mathematical Modeling and Computer Technologies. – 2002. – P. 11-13.

2. Khubaev G.N. *Ranking objects according to a set of quantitative indicators: a universal algorithm* // RISC: Resources, information, supply, competition.– 2018. – № 1. – P. 213-217.

3. Khubaev Georgy N. *A universal method for optimizing the composition of object characteristics* //Scientific research of the SCO countries: synergy and integration (Beijing, China 9 April 2019). – Beijing, 2019. – P. 11-19.

4. Khubaev G.N. *Methods of forming a coordinated collective choice in the process of examination (on the example of ranking methods for solving complex problems)* // Bulletin of Science and Practice. – 2017. – № 7 (20). – P. 59-77.

5. Khubaev G. *Expert review: method of intuitively agreed choice* // 5th International Conference «Economy modernization: new challenges and innovative practice» (November 12, 2017, Sheffield, UK). – P. 65-80.

6. Khubaev G.N. *The method of intuitively coordinated collective choice of the best solution* // Proceedings of the Russian-Chinese High-Tech Forum (Moscow, November 24-25, 2017)). – M.: NITI MISiS, 2017.

7. Khubaev G.N., Shcherbakova K.N., Petrenko E.A. *The method of step-by-step refinement of the ranking of objects: software implementation, scope* // Bulletin of science and practice. - 2021 - №5 – P. 344-355. - <https://doi.org/10.33619/2414-2948/66/34>

8. Khubaev G.N. *Simulation modeling for obtaining a group expert assessment of the values of various indicators*// *Automation and modern technologies*. – 2011. – №11. – P. 19-23.

9. Khubaev G.N. *Estimation of reserves for reducing the resource intensity of goods and services: methods and tools* // *Applied Informatics*. – 2012. – № 2 (38). – P. 84-90.

10. Khubaev G., Rodina O. *Models, methods and software tools for assessing the total cost of ownership of durable objects (on the example of software systems): Monograph*. – Saarbrücken: LAP LAMBERT Academic Publishing, 2012. – 370 P.

11. Khubaev G.N. *Resource intensity of products and services: a process-statistical approach to evaluation* // *Automation and modern technologies*. – 2009. – №4. – P. 22-29.

12. Khubaev G.N. *Calculation of the cost of products and services: process-statistical cost accounting* // *Management accounting*. – 2009. – №2. – P. 35–46.

13. Khubaev G.N., Shirobokova S.N. *Visual and simulation modeling for express assessment of the resource intensity of technological and managerial processes* // *Global Scientific Potential*. – 2014. – №6. – P. 60-66.

14. Khubaev G.N., Shirobokova S.N. *Toolkit for converting IDEF3 business process models into UML diagrams* // *Global Scientific Potential*. – 2015. – №2. – P. 87- 96.

15. Khubaev G.N., Scherbakov S.M., Shirobokova S.N. *Conversion of IDEF3 models into UML-diagrams for the simulation in the SIM system-UML* // *European Science Review*. – 2015. – № 12. – P. 20-25.

16. *System for automated synthesis of simulation models based on the UML language "SIM-UML"* / Copyright holders: Khubaev G.N., Shcherbakov S.M., Rvantsov Yu.A. // *CeBIT 2015 (Hanover, 2015). Catalog of developments of Russian companies. Ministry of Education and Science of the Russian Federation; SME ITT, 2015.*

17. Khubaev G.N., Shcherbakov S.M. *System for automated synthesis of simulation models based on the language UML 2.0 (SIM-UML 2.0)* // *Certificate of state registration of a computer program. №. 2016661676. M.: Rospatent, 2016.*

18. *Automated converter of IDEF0 models into UML activity diagrams "ToADConverter" ("ToADConverter")* / Copyright holders: Khubaev G.N., Shirobokova S.N., Tkachenko Yu.V., Titarenko E.V. // *CeBIT 2015 (Hanover, 2015). Catalog of developments of Russian companies.– Ministry of Education and Science of the Russian Federation; SME ITT, 2015.*

19. Khubaev G.N., Shcherbakov S.M., Aruchidi N.A., Lubyansky V.K. *Comparative assessment of the composition of operations of business processes (SOSOP)* // *Certificate of state registration of a computer program.– № 2017614714. – M.: Rospatent, 2017.*

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评估企业经济安全的多种方法
VARIOUS METHODS FOR ASSESSING THE ECONOMIC SECURITY
OF ENTERPRISES

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企业的经济安全决定了企业的现状和未来的前景。因此，客观评估提供了有关如何正确评估各种组织的经济安全的全面信息。这个过程本质是什么？经济安全评估的重点是什么？在此过程中考虑了这些问题，同时确定了评估和分析公司经济状况的主要原则和目标。还就形成允许在短时间以最大准确性进行评估的相关方法方法提出了建议。

对于工作数据，使用了许多专家的研究数据，并考虑了一些现有的经济安全评估方法。

由于应根据企业的规模、能力和特点来评估经济安全水平和企业的总体状况，本文提供了几种开展这项工作的方法。分析了现有评估模型的优缺点，考虑了它们的特征，并确定了进一步的观点。

在这种情况下，正确执行的工作可以客观地了解企业的工作如何进行，资源是否分配正确。正确确定经济保护水平可以为企业的进一步改进形成建议，以及实现未来安全维护的最高水平。这项工作的目的是确定评估企业经济状况的合适方法。还列出了进一步使用评估和分析工具的建议清单。

关键词：企业，经济安全，经济安全分析，方法论工具。

Abstract. *The economic security of an enterprise determines both its current state and prospects for the future. Therefore, an objective assessment provides comprehensive information on how exactly the economic security of various organizations is properly assessed. What is the essence of this process? What are the priorities of economic security assessment? These questions are considered in the process, in parallel, the main principles and objectives of the assessment and analysis of the economic condition of the company are defined. Recommendations are also given on the formation of relevant methodological approaches that allow to conduct the assessment in a short time and with the utmost accuracy.*

For the work data from researches of a number of specialists are used, and also some of already existing methodical approaches to the evaluation of economic security are considered.

Since the level of economic security and the general state of the enterprise should be assessed taking into account its scale, capabilities and peculiarities, the article offers several ways to carry out this work. The advantages and disadvantages of the available evaluation models are analyzed, their characteristic features are considered, and further perspectives are identified.

Correctly conducted work in this case allows to get an objective idea of how the work at the enterprise proceeds, whether the resources are allocated correctly. Correct determination of the level of economic protection allows to form recommendations for further improvement of the enterprise, as well as to achieve the maximum level of security maintenance in the future. The aim of the work is to identify suitable methods to assess the economic situation of the enterprise. Also a list of recommendations for further use of assessment and analysis tools is made.

Keywords: *enterprise, economic security, economic security analysis, methodological tools.*

The economic security of the company is determined by the characteristics and indicators through which the efficiency of the enterprise is expressed. At the same time, the characteristics can show the presence or absence of security, and also allow you to determine the level of protection [5].

In the past, the range of evaluative techniques for analyzing economic security was limited. In modern literature, various approaches to this process are covered more often, but a universal solution has not yet been found. Therefore, in order to get a complete picture, the author considers several approaches that have proven themselves in the best way. These include: indicator, narrowly functional, functional and expert. For all approaches, the optimal tools are selected. Also, each individual approach has its own pluses and minuses, and therefore a certain method of work cannot be called ideal or better compared to the others.

The main advantages of the functional approach are its simplicity and flexibility - both single indicators, regardless of the quantity, and complex data can be used for work.

For the indicator approach, individual standards are used, in comparison with which the current level of economic protection of the company is determined. At the same time, the comparison indicators have their maximum values, which are determined using standards or so-called indicators. The discrepancy between real indicators and indicator standards allows you to determine the current economic condition of the company. The main difficulty in using this approach is the existence of links between various indicators. Since some indicators are related

or dependent on each other, the objectivity of such an assessment is reduced, and the results obtained cannot be considered absolutely reliable. To eliminate such difficulties, different methods are used - reducing the number of indicators, considering individual reduced segments of economic protection (tax, budget) [3].

If necessary, the composition of indicators can be changed, but the process of their selection can be complicated by the main conditions for analyzing economic security. All indicators must reliably and accurately reflect the current state of the enterprise, while remaining easy to use and able to warn of the formation of unfavorable conditions. In the training manuals, you can see the general order and scheme of the indicator approach, in which the selected parameters and standards reflect the real state of the company, which can be analyzed and evaluated. In this case, each indicator demonstrates the level or productivity of the enterprise in one of the segments, determining it quantitatively or qualitatively. When constructing a system of general indicators to obtain data on a particular enterprise, specialists usually analyze the state of general indicators - social, production, financial. After receiving the data and processing them, conclusions are drawn regarding the general situation of the enterprise - it can be classified as a norm, a transition to a crisis, a crisis or a critical state.

One of the main drawbacks of the indicator and functional approaches is also considered to be a blurry idea of the subject of analysis - when using these methods, it is difficult to determine whether protection, security, or the object itself is being evaluated.

The expert approach in assessing economic security is rarely used. However, its help is resorted to in cases where an analysis of conditions or factors is required, the evaluation of which is not possible in precise calculations or in a strict form. Also, the expert method is used when there is a lack of evaluation indicators. Often, expert evaluation is implemented in the assessment of various hazards, when it is required to determine the reality of the existing threat and its impact. It should be noted that such areas of assessment are often poorly associated with economic security in general. Therefore, peer review is also used in cases where the following conditions are noted: lack of verified data on the operation of the enterprise, lack of information on the results of activity, or information is provided partially [7].

For a narrowly functional method, data are collected on individual components of economic security.

These components include:

- financial;
- technical and technological;
- intellectual and personnel;
- informational;

- political and legal;
- power and environmental;
- market.

In this case, the number and grouping of components may vary, but the result of the analysis depends on the accuracy of the studies conducted in each individual area.

Therefore, we can conclude that there is no general and universal methodological approach for assessing economic security today. For this reason, the methods listed above alternate, combine, or are used depending on the conditions, the goals of the analysis and the available tools.

On the other hand, another criterion for assessing the economic security of an enterprise is revealed - this is making a profit. This criterion can be considered the main one, since an enterprise that does not receive a profit cannot be called productive, therefore, its economic level is quite low. For this reason, the assessment is carried out by comparing the current net profit of the organization with predetermined standards. A comprehensive analysis is carried out using a method obtained by combining the approaches described above and broken down into several main steps.

The main condition for starting work is the establishment of standards in indicators that demonstrate the maximum value of each indicator. Thus, the economic situation of the company is assessed, measures are taken to improve the level of security. When evaluating the security of a company according to certain criteria, it is worth paying attention to the comprehensive coverage of the enterprise's activities, as well as factors affecting work from the outside [9].

The economic security of an enterprise is the general condition or potential of an enterprise, allowing it to continue to work effectively, taking into account the negative impact of both internal factors and the external environment. Each enterprise has its own security structure, built in accordance with the chosen strategy, providing for reasonable variability depending on the predicted changes.

The system of economic security itself is considered by various experts in sufficient detail, with a detailed display of all segments that can affect the state and economic independence of the company. After analyzing the proposed options for ensuring economic protection, we come to the conclusion that the meaning and content of economic security are still defined only conditionally and in fact do not have a clear interpretation, description or characteristics.

Breaking down the structure of economic security into its component parts, several main elements can be distinguished, which include the following factors: financial, technical or technological, power and personnel, intellectual, legal. At the same time, it should be borne in mind that there is still no general definition of the concept of economic security, so the assessment of this state should be

comprehensive. It includes an analysis of the work of algorithms for maintaining economic security, an assessment of objects and subjects, a study of the company's work, taking into account adverse conditions.

Algorithms that allow creating and maintaining the economic security of the company include: drawing up plans and strategies, regular and timely assessment of the work of the economic security structure, making comments and recommendations on the operation of the entire system and on planned improvements. Also, this category of factors includes the preparation of economic and financial plans, as well as their successful implementation.

It is possible to increase the economic level of an enterprise by restoring the balance in the main functional components of its work. This process can be divided into several stages, interconnected [4].

Recommended methodology for creating and maintaining the structure of economic protection of the enterprise:

1. Identification of the main indicators of the productivity of the enterprise, the study of the scope of its activities and the analysis of the position in the market.
2. Study of all categories of threats to economic stability, collection of data related to potential crises, development of basic principles for working in an unfavorable environment.
3. Testing of available tools that ensure the operation of the enterprise in all segments - information, intellectual, power, personnel, legal.
4. Structuring the company's work, developing recommendations to improve the current system of economic protection and preserve the financial and material base.
5. Managing the work of a formed security system.
6. Evaluation of the productivity of using the developed system that provides economic protection.
7. Correction of errors, improvement of the system of economic stabilization and protection.

Any system of economic protection works in accordance with internal conditions, which include: the correctness of management decisions, the level of sales of supplied goods, the study of shortcomings in the promotion of goods, the preservation or leakage of data.

There are also a number of external threats or factors that affect the economic position of the company - currency volatility, the pace of innovation, events in the global or national economic system, strengthening the position of competitors.

Functional measures should work in a given cycle, since, as part of the operation of the economic protection system, they are periodically checked, and if necessary, measures for improvement are taken. In accordance with the traditional PDCA management cycle, work to maintain the established system can be carried

out in the following order: drawing up, implementing, testing and finalizing the plan. At the same time, the assessment of the achieved level of protection is carried out at each stage of this process.

The following factors are chosen as productivity characteristics of the developed system of economic stabilization and protection:

- economic condition;
- the amount of losses due to the negative impact of internal or external factors;
- time and means for restoration and compensation of damage;
- ways and tools to respond and eliminate negative factors;
- parameters of mutual influence of safety conditions, their significance and priority.

All calculations are followed by the development and application of recommendations for improving the existing system.

If unfavorable conditions affect the operation of the enterprise, the total losses are assessed both in calculable measures and in the non-material area. Intangible losses include a negative impact on reputation, a decrease in competitiveness. For this reason, when assessing damage, the concepts of "moral harm" and "probability of loss" are used [6].

Indicators of economic security of the enterprise can be divided into several categories:

1. The amount of losses, measured by the amount of moral damage.
2. Low level, when the damage is not obvious, or has a weak severity.
3. The average level, at which relatively small costs are required to compensate for damage, but at the same time the company loses its reputation and consumers.
4. High level, which is characterized by impressive costs - the emergence of difficulties in the performance of basic functions, the loss of market positions, high costs to eliminate the consequences.
5. Critical level, which often causes a complete shutdown of the enterprise.

Conclusion

Consideration and analysis of existing methodological approaches to assessing the economic security of enterprises revealed the lack of a universal and general method for solving this issue. For this reason, it is proposed to create a system of characteristics and their maximum indicators necessary to measure the level of economic stability. It was also found that all available safety assessment methods need to be improved or updated.

New methods are proposed for creating a universal system for assessing and analyzing the economic state of an enterprise. The main characteristics that should

be taken into account for assessing economic security are listed. In the final part of the work, the possible consequences of various threats are also considered, which should be taken into account when developing a system of economic security for companies.

References

1. Bezverkhaya E. N. *Economic security of the enterprise: essence and factors*. M.: *Scientific journal*. 2017. № 108.
2. Dmitrieva L. N. *Corporate resources for ensuring the economic security of the enterprise*. 2019. 37 P.
3. Endovitskaya A. V. *Financial sustainability as a factor in the economic security of an enterprise*. M.: *Bulletin of VGUIT*. 2017. № 3 (65).
4. Kalemeneva, E. E. *Mechanisms and tools for creating an effective system of economic security of the enterprise* / E. E. Kalemeneva. — Text: direct // *Young scientist*. — 2020. — № 34 (324). — P. 60-63
5. Kramarenko, A. S. *The concept of ensuring the economic security of the enterprise* / A. S. Kramarenko // *Science of the XXI century*. — 2018. — № 3.
6. Medvedeva E.P. *Organization of integrated risk management in the organization* // *Bulletin of science and education*. 2020. №24-4 (78). P. 23-26.
7. Popov M.V. *Economic security: Textbook* / M.V. Popov, M.A. Katkova, N.V. Manokhin, L. Mamaeva. — M.: *Infra-M*, 2018. — 576 P
8. Rakhmeeva I.I. *Approaches to assessing the economic efficiency of the regulatory decision-making system* // *Statistical analysis of the socio-economic development of the constituent entities of the Russian Federation. Materials of the 6th International Scientific and Practical Conference*. 2019. P. 431-435.
9. Sazhina, S. S., Taralina V. V. *Internal control and economic security of the enterprise* / S. S. Sazhina, V. V. Taralina. // *Young scientist*. — 2018. — № 26. — P. 93–95.
10. *Economic security in modern conditions* / ed. I. B. Romanova. — Ulyanovsk: *UISU*, 2016. — 127 P.
11. *Efficiency and risks of the economy and financial system: criteria, indicators, regulatory mechanisms* [Text]: *internat. sci.- pract. conf.* (Kirov, June 16–17, 2016) / *VyatSU*. — Moscow: [b. e.], 2016. — 419 P.

农（农）场及其成员之间的利益冲突：法律方面

**CONFLICT OF INTERESTS BETWEEN A PEASANT (FARMER) FARM
AND ITS MEMBERS: LEGAL ASPECT**

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目前，“利益”作为一个有助于构建旨在实现人类需求的法律结构的类别，在俄罗斯法律科学中占有特殊的地位。法律学说正试图发展机制来保护它并防止另一个类别的出现——“利益冲突”。除了所指出的问题外，现代法学家研究中的一个特殊位置是与公司关系本质的定义有关的问题。科学家们正试图定义这些关系，以确定他们的参与者的圈子。反过来，在公司协会中，就像在任何其他个人协会中一样，也会出现冲突——“利益冲突”。预防和解决企业组织中的利益冲突问题是本文的主题。作为一个企业组织，将考虑所指出的问题，作者选择了农民（农场）经济。

关键词：兴趣；利益冲突；农（农）企、法人、会员、排除参与者、企业关系；公司冲突。

Abstract. *Currently, "interest" as a category that contributes to the construction of legal structures aimed at realizing human needs, occupies a special place in Russian legal science. The legal doctrine is trying to develop mechanisms to protect it and prevent the emergence of another category - "conflict of interest". Along with the indicated problems, a special place in the studies of modern jurists is occupied by problems related to the definition of the essence of corporate relations. Scientists are trying to define these relationships, to determine the circle of their participants. In turn, in corporate associations, as in any other associations of persons, conflicts arise – "conflicts of interest". The problem of preventing and resolving conflicts of interest in corporate organizations is the subject of this article. As a corporate organization, on the example of which the indicated problems will be considered, the authors have chosen a peasant (farm) economy.*

Keywords: *interest; conflict of interests; peasant (farm) enterprises, corporation, membership, exclusion of a participant, corporate relations; corporate conflict.*

The current stage of Russian legal science is due to the study of categories that contribute to the construction of legal structures aimed at realizing human needs. One of these categories is "interest". The binding nature of this concept affects the formation of more formalized (structured) categories, for example, "conflict of interest" or "balance of interests". As a result, it allows concretizing the role of the concepts of "conflict" and "balance" in the settlement of human relations.

Legal science sees in the concept of "interest" the source of social processes, the driving force of social life, the root source of social relations, the reason that induces people to social organization.

It is necessary to note the difference in the personal interests of representatives of various social groups, differing from each other in their social and material status and, accordingly, their interests. Each social group, having its own interests, has its own ideas about the value or significance of a particular object or social phenomenon.

In jurisprudence, the most stable position is one that is of interest as something derived from a need (lack of something). Interest acts as an incentive for any conscious actions of individuals and legal entities, contains target and volitional elements.

Thus, interests do not exist outside of human behavior, which, according to popular belief, determined by external (everything that surrounds a person - the situation, relationships, behavior of people around, etc. or regulates his behavior - norms, laws, rules, etc.) and internal (needs, motives, goals, intentions, aspirations, interests, values, etc.) factors [1]. Interest, along with need, motive, goal, will, etc., is one of the main elements of the motivational complex of behavior [2, p. 12]. The inclusion of certain elements in this complex, their concepts, relationships remain debatable.

For jurisprudence, interest and will are important elements, in particular, action by one's own will and in one's own interest is the principle of civil law. But, it is clear that the categories of "interest" and "will" were borrowed by law from philosophy and psychology [3].

In turn, with the difference in the interests of citizens included in the association, obstacles are created that do not allow realizing the interests of any one side (incompatibility of the interests of the parties, awareness of this, the desire of each of the parties to realize their goals at the expense of the counterparty), generating instability in social relations, structural formations, statuses of subjects, i.e. there is a conflict of interests.

A conflict of interest may arise both between citizens belonging to the association, and between individual members of the association and the association itself. The presence of a conflict of interest in an association can complicate its activities, and even make the activities of the association impossible, paralyze it.

Conflict of interest risks typically arise at two levels: as an organizational conflict of interest; and as a personal conflict of interest. The main message of these categories is as follows. An organizational conflict of interest arises when, due to other activities or relationships, an organization is not able to provide services impartially, the objectivity of the organization in the performance of its functions is violated or may be violated, or this organization has too great competitive advantages. A personal conflict of interest is a situation where a person's private interests - such as professional connections outside an organization or personal financial assets - come into conflict with the performance of his/her official duties [4].

Based on a combination of criteria, a conflict of interest in the private and public spheres is distinguished. Public interests have the character of a "golden mean", since these are "... the interests of an indefinite circle of persons, ensuring the safety of life and health of citizens, as well as the defense and security of the state, environmental protection" [5].

Private interests, most often, imply ensuring the activities of a specific circle of people (some interested part of society), uniting to achieve a specific goal, for example, doing business; or the activities of a group of individuals aimed at supporting those in need. At the same time, both business and support for those in need can be implemented by one person (person), and this may characterize the presence of an individual interest [6].

Dedov D.I. notes that "in the event of a conflict of interest, damage may be caused to citizens and other persons, their rights and interests may be violated" [7]. Timely identification and resolution of conflicts of interest is essential to ensure effective legal protection. One should agree with the opinion of D.I. Dedov that "the range of interests is so wide that their list can in no case be limited in one special law, therefore it is necessary to concentrate on typical interests." The author refers to typical interests: 1) personal interests of the representative and his affiliates; 2) the interests of the represented; 3) general or public (public) interests; 4) nobody's interests in order to maintain neutrality or independence [7, p. 6].

As you know, "...private interest characterizes the characteristics of a particular person and refers to the private life of each individual" [8, p. 419]. The interest of a person is expressed in the form of decisions made by him. Any action performed using an official or other advantageous position in advance, damaging the interests of another subject, contrary to moral standards (including normatively non-fixed ones), such a situation entails a conflict of interest in advance. But each such action is the result of an expression of an individual interest or a combination of such interests (the interest of a group of persons).

Conflicts of interest are inevitable, constant, since interests are internally contradictory, continuously form contradictions between opposing subjects. A conflict is a form of manifestation of a contradiction, a visible, empirically detectable side

of a conflict of interests. The contradiction does not lie on the surface, it belongs to consciousness, thinking, it will develop into a conflict only at a certain stage of its existence, when significant differences between opposing interests reach a state of aggravation, and then their resolution. This process is endless - in the process of development, some conflicts of interest are overcome, in their place others appear with new contradictions that need to be resolved [9].

Conflicts of interest are twofold. On the one hand, they play a positive role, contribute to the development of freethinking, initiative, creativity of subjects, identifying and solving problems, developing new and effective rules of conduct, increasing mutual respect and trust, which is necessary for further cooperation, etc. On the other hand, they can generate loss or decrease in controllability, disintegration or destruction of structures and institutions, growth of hostility and aggressiveness of behavior, distrust, etc. [10].

The conflict itself and conflicts of interest are permanent. Therefore, it is impossible to prevent the occurrence of a conflict of interest, to prohibit their appearance at the legislative level, for objective reasons. In turn, the purpose of lawmaking, including the creation of an effective legal mechanism for resolving emerging conflicts of interest, their management. The legislator should develop a legal framework that allows to effectively resolve (settle) emerging conflicts of interest, both in court and out of court.

Currently, the mechanisms for resolving conflicts of interest arising in various associations of citizens are not adequately regulated by law. An example of this is such an association of citizens as a peasant (farm) economy.

According to art. 2 of the Federal Law of 11.06.2003 № 74-FZ "On a Peasant (Farm) Economy" [11] (hereinafter – FL "On PF"), a peasant (farm) economy is understood to be an association of citizens related by kinship and (or) property, having property in common ownership and jointly carrying out production and other economic activities (production, processing, storage, transportation and sale of agricultural products), based on their personal participation. According to this article, a peasant (farm) enterprise carries out entrepreneurial activities without forming a legal entity.

Since 2013, citizens who conduct joint production or other economic activities in the field of agriculture also have the opportunity to create peasant (farm) enterprises, as legal entities, which should be based on membership, on the personal participation of their members and the association of members of property deposits (art. 86.1 of the CC RF).

For further presentation, it is important to understand that the norms of the Federal Law "On PF" do not apply to the activities of peasant (farm) enterprises created in accordance with Art. 86.1. CCRF. The activities of these associations of citizens are subject to various legal regulations. In previous works, we substantiat-

ed this conclusion in detail [12]. It is also confirmed by jurisprudence.

The Arbitration Court of the Far Eastern District in its Resolution № F03-6024/2018 dated 21.01.2019 [13], in examining the dispute at the claim of a participant in a peasant (farm) economy created as a legal entity, he pointed out to the economy that "in accordance with part 5 of art. 86.1 CC RF, the specifics of the legal status of a peasant (farm) economy established as a legal entity are determined by law". The court also stated that in the absence of a special law on the settlement of legal relations between the participants of this organizational legal form of a legal entity, the general provisions of § 2 ch. 4 CC RF, as well as art. 86.1 CCRF.

Therefore, in relation to the creation, operation, termination of the activity of peasant (farm) enterprises created in accordance with CC RF, the norms of the Federal Law "On PF" cannot be applied, and if they can, then only in the manner of applying the analogy of the law.

It is also important to understand that the authors of this article include only the corporation itself, its participants and bodies as participants in corporate relations. The authors are not inclined to include other persons (creditors, registrars, etc.) as participants in corporate relations [14. p. 36].

Law enforcement shows that, often, despite the fact that peasant (farm) farms are associations of relatives and, as a rule, based on mutual trust, in these associations there is a conflict between the interest of the farm and the interest of a member (members) of the farm. Of course, from the point of view of the moral component, there should not be conflicts of interest among relatives that can have a negative impact on the activities of the economy or make it impossible. But as the practice of divorce proceedings and inheritance shows, sometimes even the interests of the closest relatives diverge, in connection with which a conflict of interest arises.

Article 14 of the Federal Law "On PF" establishes that "membership in a farm is terminated upon withdrawal from the members of the farm or in the event of the death of a member of the farm". There are no other grounds for terminating membership in a peasant (farmer) economy either in CC RF or in the Federal Law "On PF".

The question arises: "What to do with a member of the peasant (farm) economy who acts contrary to the interests of the economy, and does not want to voluntarily leave the economy"? How to resolve the resulting conflict of interest?

A particular example of a conflict of interest in a peasant (farm) economy is a dispute [15] between the economy and its members who do not fulfill their membership obligations. The head of the farm, considering that by their inaction the defendants harm the interests of the farm, went to court, stating that "for many years, the defendants have not actually taken part in the cultivation of the land, they have not provided assistance, their shares in the farm are insignificant, and

interest in farming has been lost". In this case, the interest of members who do not participate in the activities of the peasant (farm) economy, in receiving dividends from the activities of the economy, is opposed to the interest of the economy in the participation of all its participants in its activities and the fair distribution of profits. Therefore, the plaintiff considered that in order to eliminate the conflict of interest that had arisen, it was necessary to apply to the court with a statement of claim for the exclusion of the defendants from the farm in a judicial proceeding with the payment of compensation to them.

Another example of a conflict of interest between a farm and its member is a dispute that became the subject of consideration by the Federal Arbitration Court of the North Caucasus District in case № A32-24063/2013 [16]. Defending the interests of a peasant (farm) economy, one of its participants applied to the court with demands for the exclusion of three members from the economy. The plaintiff motivated his claims that the defendants obstruct the activities of the farm, in particular, by making transactions for the alienation of fixed assets of the farm, member № 1, to a third party, at a price below the market value to the detriment of the interests of the farm, which were subsequently recognized by the Arbitration Court as invalid. Also, a loan agreement was concluded between the farm and member № 2 in the amount of 4,450,000 rubles for the purchase of fertilizers, however, there was no actual purchase and supply of fertilizers, the funds were cashed out through a staging company and, contrary to the interests of the farm, were turned by the defendants in their favor, as a result of which the plaintiff, as a member of the economy, suffered significant material damage. The above actions of the defendants testify to the emergence of a conflict of interest between the plaintiff and the farm on one side and the defendants (members of the farm) on the other. In order to resolve the conflict of interest that has arisen, the plaintiff applied to the court demanding the exclusion of the defendants from the farm. According to the plaintiff, the exclusion of the defendants from the farm will lead to the termination of the conflict of interest. It is worth noting that the Claimant in this dispute considered it possible to apply the analogy of the law (the norms of art. 10 of the Federal Law "On Limited Liability Companies"), since, according to the Plaintiff, such a possibility follows from the essence of a peasant (farm) economy.

Based on the analysis of the materials of the cases cited above, it can be concluded that the exclusion of unscrupulous participants could serve as an effective legal mechanism for resolving the conflict of interest that has arisen.

However, the Supreme Arbitration Court of the Russian Federation, considering these disputes within the framework of the supervisory instance, agreeing with the opinion of the lower courts, stated that, while securing the right to exit a member of a peasant (farmer) economy from the economy, neither CC RF nor a special law – FZ "On PF" do not contain norms providing for the forced exclusion

of its members from the peasant (farm) economy. Therefore, in the absence of the defendants' statements about leaving the farm, the claims cannot be satisfied.

Consequently, the conflict of interest that arose between the farm and its individual members was not resolved. That is, the legislator, contrary to the requirements of art. 18 of the Constitution of the Russian Federation, did not create an effective legal mechanism for resolving this conflict. At the same time, as we noted at the beginning of the article, the goal of lawmaking, including the creation of legal mechanisms for resolving the resulting conflicts of interest. In its decisions, the Constitutional Court of the Russian Federation notes that, by virtue of the prescription of Article 18 of the Constitution of the Russian Federation, according to which the rights and freedoms of a person and a citizen determine the meaning, content and application of laws, the activities of public authorities and are provided with justice, should provide for appropriate conditions for the establishment, creation and registration of associations, determine their legal status, ... so that citizens, having united, have the opportunity to effectively defend their rights and legitimate interests [17].

The absence of the possibility of excluding members of a peasant (farm) economy from the composition of the economy is not an advantage of the legislation. Undoubtedly, the exclusion of participants from one or another association of citizens, whether it be a legal entity or a contractual association, should be used as a last resort, and only if there are no other ways to resolve the resulting conflict (for example, reorganization in the form of separation). In turn, it is up to the court to determine the sufficiency of grounds for exclusion of a member from the peasant (farm) economy, as well as to determine whether there are other ways to resolve the conflict of interest that has arisen, based on the circumstances of a particular case.

In connection with the above, it seems correct to supplement the CC RF and the FZ "On PF" with a norm that would make it possible to exclude a participant from a peasant (farmer) economy. Moreover, taking into account the specifics of peasant (farm) enterprises, regardless of whether it operates as a legal entity or as a contractual association, it is necessary to provide for both the possibility of extrajudicial exclusion (in the event of unanimity of the remaining participants), and exclusion based on a court decision (when there are no consensus on exclusion).

Along with the improvement of legislation, we also consider it possible to develop a methodology for responding to conflicts of interest, in PF, and managing them. This methodology, in particular, should be aimed at improving the efficiency of the organization, in order to minimize the conditions conducive to the emergence of a conflict of interest. With the help of the methodology, effective identification of conflicts of interest should be ensured. It is necessary to develop methods for managing a conflict of interest, with the help of which it is possible

to determine the “depth” of contradictions between a member of a peasant (farm) economy and the economy itself, eliminate the resulting conflict, and if the conflict cannot be eliminated, exclude the participant from the economy.

References

1. *Watson, D. Behavior as a subject of psychology // Reader on the history of psychology / ed. P.Ya. Galperin, A.N. Zhdan - M.: Publishing House of MSU, 2008. - 404 P.*
2. *Yakobson I.M. Psychological problems of human behavior motivation. - M., 1969. – P. 12.*
3. *Ryzhenkov A.Ya. Action by one's own will and in one's own interest as a principle of civil law ("Lawyer", 2014, № 16) // SPS Consultant Plus.*
4. *Ethics Office at the United Nations. Internet site: <https://www.un.org/ru/ethics/> (access date: 19.03.2022).*
5. *Decree of the Plenum of the Supreme Court of the Russian Federation of 23.06.2015 № 25 "On the application by the courts of certain provisions of Section I of Part One of the Civil Code of the Russian Federation" // "Rossiyskaya Gazeta", № 140, 30.06.2015.*
6. *Fedorov M.V. Legal individualization in the conflict of interests // Law and state: theory and practice. 2017. № 11 (155). P. 51-54.*
7. *Dedov D.I. Conflict of interest / Dedov D.I. – M.: Wolters Kluwer, 2004.*
8. *Commentary on the Civil Code of the Russian Federation. Part one: educational and practical commentary (item-by-article) / ed. A.P. Sergeeva, M., 2010.*
9. *Fedorov M. V. Conflict of interest and its objectification in the Russian legal system: diss. cand. jur. sci.: 12.00.01. Belgorod, 2021. 207 P.*
10. *Fedorov M.V. Conflict of interests and its objectification in the Russian legal system: abstr. diss. ... cand. jur. sci.: 12.00.01. Belgorod, 2021. 23 P.*
11. *Federal Law of 11.06.2003 № 74-FZ "On Peasant (Farm) Economy", as amended of 29.12.2020 № 474-FZ // Parliamentary newspaper, № 109, 18.06.2003.*
12. *Terentiev A.V. On some issues of management in peasant (farm) farms created in accordance with art. 86.1 CC RF // Civil law. 2020. № 6. P. 35 - 38.*
13. *Decree of the Arbitration Court of the Far Eastern District dated 21.01.2019 № F03-6024/2018 case № A04-2050/2018 // SPS Consultant Plus.*

14. *Terentiev A.V. On the concept of corporate relations in modern Russian legislation // Electronic supplement to the Russian Legal Journal. 2018. № 3. P. 33 – 41.*

15. *Order of the SAC RF dated 05.07.2012 № VAS-8053/12 case № A32-26766/2010 // SPS Consultant Plus.*

16. *Resolution of the FAS of the North Caucasus District dated 02.04.2014 case № A32-24063/2013 // SPS Consultant Plus.*

17. *Resolution of the Constitutional Court of the Russian Federation of October 24, 2013 № 22-P "On the case of checking the constitutionality of paragraphs one to eight of Article 3 of the Federal Law "On trade unions, their rights and guarantees of activity" in connection with complaints from the All-Russian Trade Union of Oil and Gas Industry and Construction Workers and the All-Russian Trade Union of Workers of State Institutions and Public Services Russian Federation" // "Bulletin of the Constitutional Court of the RF", № 1, 2014.*

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国家对工业园区和外商投资企业的防火和灭火管理——来自越南的经验
**STATE MANAGEMENT OF FIRE PREVENTION AND FIRE
FIGHTING FOR INDUSTRIAL PARKS AND FOREIGN INVESTMENT
ENTERPRISES – EXPERIENCE FROM VIETNAM**

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近年来，随着经济、文化和社会的发展，全国火灾爆炸形势复杂而普遍，对人员和财产造成了严重的损失，特别是在工业园区和外商投资企业。文章对越南工业园区和外商投资企业的消防国家管理现状进行了分析和评价；在此基础上，汲取经验教训，交流解决方案，提高今后工作的组织实施效率。

关键词：状态管理；工业区；外商投资企业；越南

Abstract. *Along with the development of economy, culture and society in recent years, the situation of fire and explosion across the country has become complicated and widespread, causing serious damage to people and property, especially in industrial parks and foreign-invested enterprises. The article analyzes and evaluates the current state of state management of fire prevention and fighting for industrial parks and foreign-invested enterprises in Vietnam; on that basis, draw lessons from experience in order to exchange solutions to improve the efficiency of the organization and implementation of this work in the coming time.*

Keywords: *state management; industrial area; foreign-invested enterprises; Vietnam*

1. Make a problem

In the first 9 months of 2021, the whole country has 12 localities with adjustments in the development planning of industrial zones approved by the Prime Minister. In the first 9 months of 2021, there were 41 new/expansion/adjusted industrial park infrastructure investment projects approved by the Prime Minister with a total area of about 7,670 hectares (listed). Send with). Accordingly, by the end of September 2021, nationwide, there are 563 industrial parks included in the planning on development of industrial parks in Vietnam with a total natural

land area of about 210.9 thousand hectares, accounting for about 0.6% of the total natural land area of the country and 4.1% of the total non-agricultural land area in the national land use planning period 2016 - 2020. As of the end of September 2021, the occupancy rate of established industrial parks is above the whole country reached about 52.5%. If only industrial parks have been put into operation, the occupancy rate will reach about 70.9%, approximately compared to the end of 2020. Regarding the labor situation, due to the impact of the Covid-19 epidemic, a number of industrial parks in epidemic-affected localities faced many difficulties in organizing production. However, these difficulties are only temporary, in terms of the number of employees with formal labor contracts, industrial parks across the country have created jobs for about 4.07 million direct workers, an increase of about 90 thousand employees compared to the end of 2020. Of which, there are about 456,000 foreign workers, accounting for 11.2% of the number of employees working in industrial parks [2].

In 05 years (2015-2019), there were 17,844 fires nationwide, killing 431 people and injuring 981 people; property damage was estimated at 8,399 billion VND and 8,810 hectares of forest; Notably, out of 50 fires causing serious loss of life and property in the period 2014 - 2018, up to 29 fires occurred at facilities in the industrial park causing great loss of life and property, impact on investment environment and social security [1]. Developing industrial parks and attracting foreign direct investment enterprises is the goal of promoting socio-economic development of each country, a comprehensive study of state management on fire prevention and fighting for this issue has an important meaning, contributing to ensuring stability and sustainable development. Therefore, it is important to study the contents and methods of implementation, especially the achieved results, limitations, common omissions and the causes and solutions that have been applied, is a useful reference channel between countries in the region and the world in order to exchange information that contributes to improving the efficiency of state management of fire prevention and fighting for industrial parks and businesses with Foreign investment capital.

2. Reality

2.1. Result

Over the past time, the Fire Prevention and Fighting Police force has actively advised the provincial People's Committees to issue directive documents and plans to implement fire prevention and fighting work. fires at industrial parks and FDI enterprises; coordinate with departments and branches to effectively implement the state management of fire prevention and fighting in construction investment and in the process of operation, contributing to curbing the number of cases and damage caused by fire at industrial parks, FDI enterprises, specifically:

- In 2021, the Police force for fire prevention and fighting and rescue has fo-

cused on advising and effectively implementing the directives of the Party, Government and Ministry of Public Security; reported to the Secretariat of the Party Central Committee to issue Conclusion No. 02-KL/TW dated May 18, 2021 on continuing to organize the implementation of Directive No. 47-CT/TW of the XI Secretariat on strengthening the leadership of the Party for fire prevention and fighting; report to the Government, the Prime Minister and leaders of the Ministry of Public Security to issue documents to implement the directives of the Party and the National Assembly on fire prevention and fighting and rescue; continue to develop and complete Circulars, regulations and standards suitable to the actual situation of fire prevention and fighting and rescue. Concentrate on implementing measures to prevent and stop large fires and fires causing serious damage; implementing the peak period of propaganda and inspection of fire prevention and fighting safety for residential areas, households, residential houses in combination with production and business; direct and guide measures to ensure fire prevention and fighting, and rescue and rescue associated with Covid-19 epidemic prevention and control. Implemented the Project "Innovating and improving the effectiveness of propaganda, education and dissemination of law and knowledge of fire prevention and fighting and rescue; coordinate with central and local media agencies to renew propaganda forms; send messages to subscribers about warnings and recommendations to people to ensure fire safety, fire fighting and escape; research and build application software "App 114" to alarm fire when incidents, fires and explosions occur, and propagate and disseminate law, knowledge of fire prevention and fighting and rescue.

- In 2021, the Police force for fire prevention and fighting and rescue will continue to synchronously deploy measures to prevent and prevent large fires and fires causing serious damage; organized propaganda on fire prevention and fighting and rescue through social networks Zalo, Facebook.... Movement models and advanced examples in fire prevention, fighting and rescue, Rescue like: Model of "Cluster of enterprises for fire prevention and fighting safety", "Cluster of safe residential areas for fire prevention and fighting", "A typical advanced unit and a safe neighborhood for fire prevention and fighting", "Cluster of craft villages, industrial clusters of fire prevention and fighting safety. Building 28,820 news and articles published in electronic newspapers and magazines; 206,304 reportage and documentaries on the mass media at central and local levels; organized to hang 98,789 banners, panels, slogans, warning of the risk of fire and explosion; issued 2,962,813 leaflets, documents and recommendations on fire prevention and fighting to the people; propagate through the internal loudspeaker system of the establishment, through radio stations of communes, wards, residential quarters, residential areas and organize mobile propaganda 75,266 times; The fire prevention and fighting police force directly organized 228,387 oral propaganda sessions

attracting 2,069,222 listeners, organized for 312,233 establishments, households, and small businesses to sign commitments, ensure fire prevention and fighting safety; professional training in fire prevention and fighting, and rescue and rescue has been given 8,867 classes with 412,621 turns of participants, and granted 299,971 training certificates. A total of 69,885/86,468 (village) must-be-established civil defense teams have been established with over 700,000 members; has established a total of 325,087/340,945 grassroots fire prevention and fighting teams that are required to be established with over 2,321,000 members; established a total number of specialized fire prevention and fighting teams of 493/565 establishments subject to establishment with over 8,600 members; conducted 271,868 times of fire safety checks and made 271,868 inspection records; made 5,802 records of administrative violations, fined 5,392 cases with a total fine of 28.08 billion VND; temporary suspension of 419 cases; suspended operations 189 cases [8].

2.2. Limit, exist

- Many places have not yet established specialized fire prevention and fighting teams and equipped with fire engines due to difficulties in arranging people and investing in initial funding, as well as during operation; The operation of the fire fighting water supply system is still limited.

- In the course of operation, there are also violations such as arbitrarily installing roofs between workshops to expand the layout of warehouses and production places in this area, failing to ensure a safe distance for fire prevention and fighting; renovating, changing the nature of use or constructing more mezzanine floors in factories and warehouses to increase the usable area, failing to meet the requirements for fire prevention and escape; not fully equipped with automatic fire extinguishing system or installed but not meeting the technical requirements of the system, so it does not promote effective operation in case of fire or explosion...

2.3. Reason

Firstly, the facilities that have been invested in, built and put into operation for many years, especially if there are establishments before the Law on Fire Prevention and Fighting 2001 took effect or the establishments are subject to withdrawal or conversion. The purpose of use leads to degraded or damaged fire prevention and fighting items, systems and equipment, not being maintained in regular operation and not meeting the requirements of current standards and technical regulations, on fire prevention and fighting;

Second, the implementation of the provisions of the law on fire prevention and fighting still has a number of difficulties and problems such as the sanctions for handling violations of fire prevention and fighting in these fields have not met the requirements, meet management requirements; a number of provisions of standards and technical regulations are old, not suitable with current actual conditions;

Thirdly, heads of agencies, organizations and establishments have not strictly

complied with the provisions of the law on fire prevention and fighting, placing heavy emphasis on economic goals, and cutting investment costs for fire prevention and fighting, equipping and installing fire prevention and fighting systems and equipment that do not meet quality and technical requirements; Funding for the periodic inspection and maintenance of machinery and equipment for fire prevention and fighting and rescue is still low, leading to the system of fire prevention and fighting equipment and firefighting and rescue equipment, degraded, damaged...

3. Lessons learned

In the coming time, it is forecasted that the situation of fire and explosion will continue to develop complicatedly due to the growing socio-economic development, the number of establishments subject to the state management of fire prevention and fighting, and day-to-day rescue increasing; many new and complex types of facilities with high risk of fire and explosion continue to be formed, which will negatively affect the situation of fire and explosion, posing a very heavy task for fire prevention, fighting and rescue work. Rescue. In order to improve the effectiveness of state management of fire prevention and fighting in industrial parks and FDI enterprises, some lessons learned in the management process are as follows:

- Continue to advise the Party committees and local authorities to implement Directive No. 47-CT/TW dated June 25, 2015 of the Secretariat on strengthening the Party's leadership in fire prevention and fighting work, Resolution No. 99/2019/QH14 dated November 27, 2019 and Decision No. 630/QĐ-TTg dated May 11, 2020 of the Government promulgating the implementation plan of the National Assembly's Resolution on continuing to improve and improve efficiency. effectiveness and efficiency in implementing policies and laws on fire prevention and fighting; mobilize the involvement of Party committees and authorities in leading and directing the implementation of fire prevention and fighting in the locality.

- Advise the Ministry of Public Security on mobilizing forces and means to handle large-scale and complicated fires, explosions, accidents and incidents nationwide and coordinate with the People's Committee of Provincial-level People's Committees shall approve plans for fire fighting, rescue and rescue with the mobilization of forces and means of local agencies and organizations, in which, focusing on synchronously and comprehensively deploying to the affected areas, industry zones.

- Advise the Provincial People's Committees to direct the Departments, branches and People's Committees at all levels to promote coordination in the performance of state management responsibilities for fire prevention and fighting in order to increase the effectiveness and efficiency results in management and licensing; build a movement of all people to participate in fire prevention and fighting and rescue and rescue, in which focusing on consolidating the grassroots

and specialized fire prevention and fighting forces in industrial parks and FDI enterprises to meet motto 4 in place.

- The Fire Prevention and Fighting and Rescue Police force directly performing the state management of fire prevention and fighting for industrial parks and foreign-invested enterprises should:

(1) State management agencies in charge of fire prevention and fighting, the core force is the police force for fire prevention and fighting and rescue, which needs to be proactive in organizing and implementing its tasks; at the same time, guide the Management Board of industrial area and economic zones and the heads of establishments to organize fire prevention and fighting activities by themselves in accordance with the provisions of law. Proactive, creative and flexible in applying measures to implement the provisions of the law to the subjects under management. In addition, for violations of the law on fire prevention and fighting, it is necessary to strictly handle and take timely remedial measures [3].

(2) Fostering and improving the professional qualifications and skills of fire prevention and fighting for the staff who perform fire safety inspection in general and the management of the provincial industrial park in particular. Forecasting the situation and proactively advising and guiding the management boards of industrial zones, heads of facilities operating in industrial zones to well implement the provisions of the law on fire prevention and fighting, such as the Law on Fire Prevention and Control and the Law on Fire Prevention and Control fire fighting in 2001, the Law amending and supplementing a number of articles of the Law on fire prevention and fighting in 2013; Decree No. 136/2020/ND-CP dated November 24, 2020 of the Government [5]; Circular No. 149/2020/TT-BCA dated December 31, 2020 of the Ministry of Public Security [4];...

- For the industrial park management unit, it is necessary to: fully realize the importance of fire prevention and fighting in the industrial park. Actively coordinate with the Police force for fire prevention and fighting and rescue and rescue in formulating programs and plans to organize annual fire prevention and fighting activities. Coordinating with the Fire Prevention and Fighting Police agency to propagate to the heads of facilities in the industrial park to raise awareness, awareness of law observance of fire prevention and fighting for this subject. Strictly carry out the inspection of fire prevention and fighting, standing work and patrolling; change shifts, change duty to ensure that fire prevention and fighting work always has permanent staff to handle. In addition, the selection of people into the grassroots fire prevention and fighting force needs to ensure physical, mental and health conditions, must be trained and retrained in fire prevention and fighting skills, and must be licensed certificate of training and retraining in fire prevention and fighting, issued by a competent authority.

- For the head of the establishment, the grassroots fire prevention and fight-

ing force in the industrial park: proactively coordinate with the Fire Prevention and Fighting Police agency, the Management Board of the industrial zones in organizing activities fire prevention and fighting activities at establishments under their management. Building the grassroots fire prevention and fighting force in accordance with regulations on quantity and quality. Coordinating with the Fire Prevention and Fighting Police force in organizing training and retraining in fire prevention and fighting skills for the grassroots fire prevention and fighting force and officers and employees working in the facility; develop an on-site fire fighting plan and rehearse the situations in the plan periodically at least once a year. Capturing the scale, nature of operation and fire and explosion hazard characteristics of the establishments under their management and from there develop internal rules and regulations on fire prevention and fighting safety accordingly.

- To step up the work of guiding the fire prevention and fighting responsibilities of heads of agencies and organizations. For violating agencies, organizations and establishments that do not comply with the sanctioning decisions, it is necessary to apply appropriate preventive and handling measures in accordance with the provisions of law such as temporary suspension of operations; requesting functional agencies to coordinate appropriate preventive measures such as: Coercively implementing the construction part that is not in accordance with the approved design or transferring the dossier to the investigating agency for consideration and handling in accordance with the law; publicize the list of establishments that fail to ensure fire prevention and fighting safety on the mass media.

- Researching and perfecting the organizational model of the local fire prevention, fighting and rescue police force, especially the Police Teams and Teams for fire prevention, fighting and rescue, district-level security, focusing on developing a network of police units for fire prevention, fighting and rescue in key areas and areas with industrial parks to meet requirements and tasks in the new situation.

- Regularly and periodically organize preliminary and final reviews to evaluate and learn from experience in the process of organizing and implementing the work of ensuring the safety of fire prevention and fighting for industrial parks and economic zones in response to requirements and tasks set out in the new situation. Preliminary and summary results should be summarized and proposed to competent state agencies to issue leadership and direction documents to deal with difficulties and problems in the implementation process, since then, the implementation of fire prevention and fighting safety for industrial area and economic zones will be more convenient and effective [3].

4. Conclusion

Fires occurring in industrial parks and foreign-invested enterprises are an unpredictable threat because firefighting is difficult, causing great damage to property, affecting public health and safety. The work and life of thousands of workers...

Therefore, "fire prevention" should be more focused than "fire prevention". The solutions for state management of fire prevention and fighting for industrial parks and foreign-invested enterprises mentioned above are experiences in management work in Vietnam, and at the same time are the solutions to the problem measures to contribute to improving the efficiency of state management of fire prevention and fighting for this type of facility in the coming time.

References

1. *Government (2019), Report No. 400/BC-CP dated September 12, 2019 of the Government on the implementation of policies and laws on fire prevention and fighting in the period 2014 - 2018, Hanoi.*
2. *Ministry of Planning and Investment (2021), Report on construction and development of industrial parks and economic zones until September 2021, Hanoi.*
3. *Trinh The Tuan (2021), Safety assurance of fire prevention and fire fighting for industrial area, economic zones, lessons learned from Vietnam, European journal of technical and natural sciences number 2-3, DOI: 10.29013/EJTNS-21-2.3-22-29.*
4. *Ministry of Public Security (2020), Circular No. 149/2020/TT-BCA dated December 31, 2020 of the Ministry of Public Security detailing a number of articles and measures to implement the Law on Fire Prevention and Fighting and the Law on Amending, supplementing a number of articles of the Law on Fire Prevention and Fighting and Decree No. 136/2020/NĐ-CP dated November 24, 2020, Hanoi.*
5. *Government (2020), Decree No. 136/2020/NĐ-CP dated November 24, 2020 of the Government detailing a number of articles and measures to implement the Law on Fire Prevention and Fighting and the Law on Amendments and Supplements a number of articles of the Law on Fire Prevention and Fighting, Hanoi.*
6. *National Assembly (2001), Law on fire prevention and fighting, Hanoi.*
7. *National Assembly (2013), Law amending and supplementing a number of articles of Law on fire prevention and fighting, Hanoi.*
8. *Police Department of Fire Prevention, Fighting and Rescue (2021), Report of the Police Department of Fire Prevention, Fighting and Rescue on the review of work in 2021 and work orientation in 2022, Police force for fire prevention, fighting and rescue, Hanoi.*

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因不支付赡养费而被定罪者的犯罪学特征
CRIMINOLOGICAL CHARACTERISTICS OF THOSE CONVICTED
FOR NON-PAYMENT OF ALIMONY

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本文致力于研究因不支付抚养费而被定罪的人的人格犯罪学特征。文章中使用了以下方法：根据《俄罗斯联邦刑法》第 157 条第 1 部分对罪犯人口特征数据进行统计分析；2018–2021 年期间在利佩茨克地区根据俄罗斯联邦刑法第 157 条对 147 名罪犯进行的调查。根据对所得数据的分析发现，本条规定的罪犯的性别构成在过去五年中发生了显著变化，朝着女性比例增加的方向（26%）；年龄、教育水平、职业和酗酒/吸毒程度没有变化。该研究确定了一个典型的赡养费非支付者的画像：一名 30–49 岁的男性，受过中等职业或中等普通教育，身体健康，没有永久的收入来源，容易酗酒/吸毒。在这项工作中发现了两个趋势：罪犯居住地因素的重要性下降和性别因素的重要性增加，这表明犯罪的女性化。

关键词：刑法，赡养费，不支付抚养费，罪犯画像，行政偏见。

Annotation. *This article is devoted to the study of the criminological characteristics of the personality of those convicted for non-payment of funds for the maintenance of children. The following methods were used in the article: statistical analysis of data on the demographic characteristics of convicts under part 1 of article 157 of the Criminal Code of the Russian Federation; survey of 147 convicts under article 157 of the Criminal Code of the Russian Federation in the Lipetsk region in the period 2018-2021. Based on the analysis of the data obtained, it was found that the gender composition of convicts under this article has changed significantly over the past five years in the direction of an increase in the proportion of women (26%); age, level of education, occupation, and level of alcoholism/drug use did not change. The study identified a portrait of a typical alimony non-payer: a man aged 30-49 years old, with a secondary vocational or secondary general education, able-bodied, without a permanent source of income, prone to alcoholism / drug addiction. Two trends were identified in the work: a decrease in the importance of the factor of the place of residence of the convict and an increase in the importance of the gender factor, which indicates the*

feminization of crime.

Keywords: *criminal law, alimony, non-payment of funds for the maintenance of children, portrait of a criminal, administrative prejudice.*

The significance of the study of the criminological characteristics of the subject of a crime is due to the need, firstly, for the development of particular issues of criminology as a science, secondly, for the formation of a body of targeted preventive measures, and thirdly, for a balanced assessment of the effectiveness of criminal law norms. In the case of the enforcement of Article 157 of the Criminal Code of the Russian Federation, several more aspects must be taken into account. The prejudicial nature of this article gave rise to a discourse regarding its effectiveness in a broad social context (A. V. Antyukhov, S. V. Kara [2], A. V. Ivanchin [6], A. G. Kibalnik [7], etc.). The researchers argue that the application of administrative prejudice to the norms of criminal law in theory is focused on the prevention of crimes and their partial decriminalization, but in practice, on the one hand, it increases the number of convicts, which is at least an additional financial burden on the state budget, and at most reduces the indicators social welfare; on the other hand, it contributes to the formation of legal loopholes to avoid criminal punishment and ultimately devalues the institution of alimony. For example, there is a practice of avoiding criminal liability with partial payment of alimony [9].

The issue of maintenance obligations in the context of administrative and criminal law attracts a large number of researchers. As a rule, the criminological characteristics of the personality of those convicted for non-payment of funds for the maintenance of children are formed on the basis of a study of the demographic characteristics of criminals; as a result, the authors construct a generalized portrait of alimony non-payers. A similar approach is found in the works of T. V. Dolgolenko, V. Y. Doroshenko [5], A. A. Marina [8], A. N. Rubchenko [11] and others. of the Criminal Code of the Russian Federation and come to the conclusion that the criminal is a man aged 30-49 with fairly average social indicators: the presence of a secondary vocational education, living in a rural area, and the lack of a permanent source of income. The authors also note a high degree of recidivism among criminals in this category. Researchers often turn to regional statistical databases, which makes it possible to differentiate the generalized criminological characteristics of alimony non-payers. This fact is valuable due to the fact that socio-demographic and cultural-economic indicators differ on the territory of the Russian Federation, which has an unconditional impact on the portrait of regional crime in general and in the context of specific types of crimes. At the same time, with all the positive features of regionalistics in criminology, it is important to correlate individual samples with a common array, which makes it possible to detect stable trends and certain specifications.

A more detailed analysis of the personality of a convict under Part 1 of Article 157 of the Criminal Code of the Russian Federation, as a rule, is contained in dissertation research. For example, in the work of E.E. Pukhtiy [10], in addition to statistical analysis, the results of a survey of convicts are presented, which makes it possible to empirically correlate demographic characteristics with the motives of criminals, the circumstances and determinants that caused these criminal acts.

An interesting approach is presented in the article by A. A. Berndt, in which the author examines the criminological characteristics of persons who have committed criminal acts with administrative prejudice [3]. Based on the analytical data contained in the article, it can be concluded that there is no dynamics in demographic indicators that form the basis of the criminological characteristics of persons who have committed the crime of non-payment of alimony.

In this context, the purpose of this article is to study the criminological characteristics of the personality of those convicted for non-payment of funds for the maintenance of children.

The material of this study was an array of data - summary statistical information on the state of criminal record in Russia for the period 2016-2021, which was formed on the basis of reports on the demographic characteristics of convicts for all offenses of the Criminal Code of the Russian Federation. The work with this data array was based on statistical research methods: correlation analysis of r-Pearson.

The study used the method of questioning convicts under Article 157 of the Criminal Code of the Russian Federation. The second sample consisted of 147 people convicted in the Lipetsk region under part 1 of article 157 of the Criminal Code of the Russian Federation in the period 2018-2021. The demographic characteristics of this sample are as follows: 73% men and 26% women; 3% aged 18 to 24, 12% aged 25 to 29, 81% aged 30 to 49, 4% over the age of 50. The questionnaire was developed by the author and included 17 questions, which, in addition to demographic characteristics, made it possible to get an idea of the life circumstances and motivation of the convicts.

A study of the entire array of convicts under Part 1 of Article 157 of the Criminal Code of the Russian Federation in the period 2016-2021. Revealed that 26.24% of alimony non-payers are women. Over the years, the fluctuations in values are insignificant (2016 – 8 585 people (25.17%); 2017 – 11 223 people (27.87%); 2018 – 11 997 people (26.20%); 2019 – 12 153 (25.93%); 2020 – 9 828 (26.05%); 2021 – 10 613 (28.31%)). Compared to 2010-2015 The gender composition of the array of convicts under this article has changed significantly. For the previous period, the percentage of convicted women was 17.32%. We believe that these discrepancies are due not so much to the change in the norm of Article 157, but to the general process of the feminization of crime. This thesis is confirmed by the

fact that in 2015 and 2014 the percentage of women in the total number of convicts under Part 1 of Article 157 of the Criminal Code of the Russian Federation was 24.37% and 22.07%, respectively.

Factor analysis within each of the subgroups - convicted men and women - did not reveal significant differences in all indicators.

Correlation analysis of the entire array made it possible to determine significant and insignificant factors in this sample. First of all, I would like to dwell on insignificant factors, since in many similar works they are considered as significant. Correlation analysis did not reveal a significant influence of the place of residence factor. Indeed, the ratio of convicts at the place of residence - rural area - urban area - for the study period is 54.23% and 45.76%. That is, the statement that for convicted non-payers of alimony, living in a rural area is typical [11] is statistically unconfirmed. The same applies to the recurrence factor. For the entire sample for the specified period, the average recurrence rate is within 17.46%. With regard to the sample of women, the factors of pregnancy and the presence of a child under 3 years of age have an extremely low correlation, and for the entire sample, the retirement age and the presence of disability.

When characterizing the personality of convicted non-payers of alimony, the factors of age, education, occupation, and the level of alcohol / drug addiction have a high statistical significance.

A study of the entire sample by the “age” factor made it possible to establish the most characteristic age for this category of criminals - 81.5% of convicted non-payers of alimony are persons aged 30-49 years (2016 – 26 586 people (77.9%); 2017 – 32 848 people (81.6%); 2018 – 37 598 people (82.1%); 2019 – 38 484 (82.1%); 2020 – 31 601 (83 .8%); 2021 – 32 809 (82.9%)). Compared with data for 2010-2015. There are no discrepancies in the age of convicts (82.4%).

More diverse characteristics of convicts are recorded when studying their level of education. For this sample, citizens with higher education are not typical (3.55%). Meanwhile, two approximately equal groups of convicts stand out: these are persons with a level of secondary vocational education (39.48%) and a level of secondary general education (36.85%). Compared to the previous period 2010-2015. It should be noted the alignment of these categories of convicts. For 2010-2015 the following distribution was typical: 42.38% of persons with secondary vocational education, 31.29% - with secondary general education. Most likely in the near future (within 10 years) this trend will change. The number of those convicted for non-payment of funds for the maintenance of children with a level of secondary general education will decrease, and the number of persons with a level of basic or primary general education will increase. This forecast is due to the specific processes taking place in the field of education in the Russian Federation.

By type of employment, the majority of convicts (80.65%) are able-bodied

citizens who do not have a permanent source of income (2016 – 26 659 people (78.1%); 2017 – 31 648 people (78.6%); 2018 – 34 574 people (75.5%); 2019 – 39 801 (84.9%); 2020 – 32 487 (86.1%); 2021 – 34 561 (88.5%)). In the period 2010-2015. the percentage of these individuals relative to the entire sample was somewhat lower (71.25%). Obviously, this factor is due to the economic situation in the country.

It should be noted that in the official statistics, the level of alcohol / drug addiction of convicts for non-payment of child support is monitored rather formally (it is taken into account whether the convict is registered with a narcologist / psychiatrist). For this category of convicts, this factor is quite low (3.45% on average). At the same time, through the survey, it was possible to establish that about 75.4% of the convicts had problems with the abuse of alcoholic beverages / drugs, that is, they were addicted.

If the study of demographic characteristics did not reveal differences in the subgroups of men and women, then the survey contributed to a more accurate formation of a portrait of the criminal's personality. First of all, it was revealed that 56.4% of men and 45.3% of women were married 2 or more times, 47.5% of men and 53.7% of women are parents of large families. 44.5% of men and 32.7% of women are in the acute phase of conflict with their ex-spouse.

The majority of convicts (87.7%) cite poverty and the lack of a permanent job as the reason for non-payment of funds for the maintenance of minor children. At the same time, 34.6% of men express doubt that this is their child, which may have served as an internal reason or justification for irresponsible behavior. 13.5% of men fundamentally refuse to pay child support. No such motivation was found in women. 37.3% of men and 46.8% of women feel remorse and feel guilty before their children. Interestingly, 27.6% of men and 46.7% of women did not think about the consequences of their inaction regarding the upbringing and maintenance of children.

The results of the study of the criminological characteristics of the personality of those convicted for non-payment of funds for the maintenance of minor children coincided in a number of factors with the already discussed aspects of this topic by such authors as T. V. Dolgolenko, V. Y. Doroshenko [5], A. A. Marina [8], A. N. Rubchenko [11], E. E. Pukhtiy [10] and others. First of all, this concerns such factors as gender (male), age (30-49 years), level of education (secondary vocational or secondary general), employment (without a permanent source of income). However, two trends were identified.

The first trend is that the place of residence of the convict (rural or urban area) ceases to be a significant factor for many crimes, including non-payment of funds for the maintenance of minor children. Obviously, this is due to the blurring of differences in living conditions in rural and urban areas. Most likely, the volume

of conglomeration matters for the modern world.

The second trend is manifested in the feminization of crime, and non-payment of funds for the maintenance of minor children is no exception. Similar conclusions are contained in the works of E. A. Alekseeva [1], V. G. Gromov [4], O. G. Selikhova [12], and other authors.

Based on the study of statistical data, the survey of convicts, a portrait of a typical alimony non-payer was recorded in the study: a man aged 30-49 years, having a secondary vocational or secondary general education, able-bodied, without a permanent source of income, prone to alcoholism / drug addiction. Also, two trends were identified in the work: a decrease in the importance of the factor of the place of residence of the convict and an increase in the importance of the gender factor, which indicates the feminization of crime.

References

1. Alekseeva E A (2020) *Modern trends in the development of female crime in Russia. Psychopedagogy in law enforcement agencies*, 25, 1 (80), 105–112, DOI: 10.24411/1999-6241-2020-11016
2. Antyukhov A V, Kara S V (2017) *New version of article 157 of the Criminal Code of the Russian Federation: partial decriminalization or a change in the tactics of struggle? All-Russian Criminological Journal*, 11, 2, 268-279.
3. Berndt A A (2019) *Characteristics of convicted persons who committed a crime with administrative prejudice. Bulletin of the Kuzbass Institute*, 3 (40), 9-18.
4. Gromov V G (2019) *Women's crime: issues of determination and prevention. Man: crime and punishment*, 27(1–4), 2, 233–237, DOI: 10.33463/1999-9917.2019.27(1-4).2.233-237
5. Dolgolenko T V, Doroshenko V Y (2015) *Malicious evasion from paying funds for the maintenance of children or disabled parents: historical, comparative legal analysis and judicial practice. Criminological journal of the Baikal State University of Economics and Law*, 9 (3), 514–524, DOI: 10.17150/1996-7756.2015.9(3).514-524.
6. Ivanchin A V (2013) *On the expediency of constructing elements of crimes with administrative prejudice. Forensic Library*, 2 (7), 98-108.
7. Kibalnik A G (2013) *Inadmissibility of administrative prejudice in criminal law. Forensic Library*, 2 (7), 119-125.

8. Marina A A (2016) *Malicious evasion from paying funds for the maintenance of children or disabled parents: criminal law and criminological analysis of the subject of the crime. Legal Science and Law Enforcement Practice, 1 (35), 205-210.*

9. *On the practice of bringing alimony debtors to administrative and criminal liability: letter of the Federal Bailiff Service of Russia dated October 30, 2017 No. 00043/17/105618-VV. Consultant Plus. URL: <http://www.consultant.ru/>*

10. Pukhtiy E E (2004) *Crimes against the family and minors: questions of the technique of constructing elements and differentiation of responsibility: Abstract of the thesis. ... cand. legal Sciences: 12.00.08. Kazan.*

11. Rubchenko A N (2012) *The subject of malicious evasion from paying funds for the maintenance of children or disabled parents. Bulletin of the Chelyabinsk State University, 1 (255). Right. Issue. 31, 88–92.*

12. Selikhova O G (2020) *Criminological characteristics of female crime. Journal of Criminology, 4, 75-77.*

以生物信息学为例开展数字学科学生在线培训课程存在的问题

PROBLEMS OF DEVELOPING ONLINE TRAINING COURSES FOR STUDENTS IN DIGITAL DISCIPLINES USING BIOINFORMATICS AS AN EXAMPLE

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近年来, 总体而言, 数字化任务, 医学和自然科学远程学习培训计划的发展变得越来越重要。在本文中, 我们介绍了莫斯科几所大学使用的在线生物信息学培训课程的开发方法。近两年持续的疫情, 加速了远程学习措施的落地, 也暴露出一些新的组织问题。在结合不同形式的学习(面对面、远程、混合形式)时, 学生对教育材料的理解和可靠感知需要开发新的测试方法、知识检查、使用在线程序独立完成教育任务。讨论了组织生物信息学和在线数据库管理基础培训课程的经验。

关键词: 远程教育、数字化、在线课程、生物信息学、数据库、电子健康

Abstract. *The tasks of digitalization in general, the development of training programs for distance learning in medical and natural sciences are becoming increasingly relevant in recent years. In this paper we present approaches to the development of online bioinformatics training courses used in several Moscow universities. The epidemic situation that has continued over the past two years has accelerated the adoption of distance learning measures and revealed a number of new organizational problems. Understanding and reliable perception of educational materials by students when combining different forms of learning (face-to-face, distance, mixed forms) require development of new approaches to the testing, knowledge checking, independent fulfillment of educational tasks using*

online programs. The experience of organizing a training course on the basics of bioinformatics and online databases management is discussed.

Keywords: *distant education, digitalization, online courses, bioinformatics, databases, e-Health*

Introduction

The task of digitalization of medicine is a priority in Russia, for the management and contemporary organization of medical care. The epidemic situation of the last two years has only accelerated the adoption of measures for remote organization of medical consultations; these problems have been discussed both at the RAS and at events held at Sechenov University (First Sechenov Moscow State Medical University of the Russian Ministry of Health) in Moscow, at scientific and educational conferences (<https://sechenov-sibs.confreg.org/>). Note the series of international conferences BGRS\SB (Bioinformatics of Genome Regulation and Structure \ Systems Biology) on bioinformatics and systems biology held since 1998 in Novosibirsk (<https://bgrssb.icgbio.ru/2022/>) (Orlov et al., 2021). Bioinformatics as a modern scientific discipline meets more and more applications in biology, medicine, requires re-training of the specialists. It was discussed in the series of international Schools of young scientists in systems biology and bioinformatics - "Systems biology and bioinformatics" (SBB) series of Schools in Novosibirsk (Orlov et al., 2018). Of special interest is the computerization and automation of teaching informatics-related disciplines, including medicine - in the areas of telemedicine, e-Health (Lebedev et al., ed., 2010; Koshechkin et al., 2021).

The issue of developing bioinformatics courses is related to the adaptation of the training to the educational profile of students and trainees (Kolchanov et al., eds., 2012). Thus, according to the experience of the work of teaching bioinformatics students - mathematicians require not only a different presentation of the materials, but also the methodology itself, in contrast to students in medical and natural students who do not have enough skills in computer science, programming, and writing their own code. The assessment of students' skills is given on the basis of personal teaching experience in Novosibirsk State University for biologists of the Natural Sciences Department at NSU, students of pharmacy, specialization "Bioengineering and bioinformatics" at Sechenov University, and at PFUR (Peoples' Friendship University of Russia), as well as for the students of the Financial University under the Government of Russian Federation in Moscow.

The situation with the frequent transition to distance learning in Russia from 2020 required the development of new methods of teaching, with the possibility for students to use Internet resources and do independent work without access to a stationary computer class, in remote mode. The authors proposed a training

course on basics bioinformatics, the use of elements of which began at Novosibirsk State University in the early 2000s (<http://lcg.nsu.ru/ru/home-2/>), then was adapted for students at Sechenov University in Moscow (<https://student.sechenov.ru/>), and later, since 2021, at the Agrarian and Technological Institute of PFUR (<https://www.rudn.ru/education/schools-and-departments/institutions/agricultural-technology-institute>).

The bioinformatics course was read for students at Sechenov University in Moscow; it was presented online only on the university's internal website (<https://student.sechenov.ru/>). Let us note a number of qualitatively new educational tasks in the field of digital health, such as the use of blockchain technologies, the use of Artificial Intelligence (AI) methods in supporting medical decision-making (Lebedev et al., 2021; Koshechkin et al., 2021; Gusev et al., 2021).

There is great interest in the development of such a bioinformatics course from a number of universities in Russia. For replication, video tutorials need to be recorded and examples of scientific problems to be adapted to different directions. A project has been formed which was used in applying for grants to the Russian Science Foundation and the Potanin Foundation (<https://zayavka.fondpotanin.ru/ru/>). The concept of the proposed educational course includes a theoretical part (listening to the course in the form of lectures, video lessons) and a practical part - performing tasks on the use of computer programs and databases, to solve practical tasks, in written form, which are evaluated by the teacher and can be of independent value as reference scientific papers. Course content includes the fundamentals of bioinformatics databases, online tools, and web services for medical consultations (Shaderkin and Shaderkina, 2021).

Overall, the goal of the project is to teach digital specialties, bioinformatics in medicine using online and hybrid approaches. As already noted, the issue of developing bioinformatics courses is related to the need to adapt training depending on the educational profile of the trainees. The transition to distance learning requires the development of new methods of teaching, with the ability of students to perform independent work using only Internet resources, which in turn meets a number of challenges due to limited access to a number of online services in Russia (for example, data storage in Google cloud storages).

Examples of usage

Examples of practical tasks in medical informatics, which can be solved - the formation of lists of genes associated with the disease, reconstruction of the associative gene network, visualization of the gene network, calculation of categories of gene ontologies, overrepresented in a given list of genes, determination of the spatial structure of the protein. These tasks students are able to solve independently, using online tools, with the preparation of abstracts and their own publications.

Note the work on gene network models for glioma (Gubanova et al., 2021), Parkinson's disease (Orlov et al., 2021), and metabolic syndrome (Tiis et al., 2021). The task is to construct (collect) a list of genes associated with the development of the disease (e.g., Parkinson's disease), analyze gene ontology categories for such a list, and reconstruct the gene network. For the key disease genes derived from the gene network structure analysis, drug search options are considered (Orlov et al., 2021). This approach has already been tested for teaching the course "Fundamentals of Bioinformatics and Databases Management" at the Sechenov University, including course in English for foreign students of the Institute of Pharmacy (Gubanova et al., 2021; Dergilev et al., 2021).

The development of next-gen sequencing technologies poses new challenges which can be solved by already existing online tools without the use of programming skills, in remote access. In many cases, the trainees require advanced training, additional education in modern genomics technologies, such as high-throughput genomic and transcriptomic sequencing, data analysis, metagenome sequencing, non-coding RNA studies, Artificial Intelligence (AI) applications in medicine, which greatly expand the range of classical bioinformatics tasks. One current important application example is the analysis of the coronavirus genome structure using mathematical approaches (Galieva et al., 2021).

The demand for online computer science courses and the existing challenges

The growing demand for bioinformatics data analysis requires advanced training for professionals who already have a college degree and are working in their fields of expertise. Accordingly, the target audience is university students (undergraduates), and specialists - researchers, regardless of the age. The digitalization of medical education in general requires the presentation of new modern courses, not included in paper textbooks, or only a series of videos, assuming comprehensive mastering, testing of knowledge, and application in a specific subject area, for example for the analysis of molecular mechanisms of complex diseases, the search for diagnostic markers. Existing disparate educational courses, in addition to being commercially oriented, are scattered and too specialized.

There is interest in such a course from a number of universities - the Kant Baltic Federal University (BFU, Kaliningrad), Novosibirsk State University (NSU, Novosibirsk), Irkutsk State University (Irkutsk), Far-Eastern Federal University (FEFU, Vladivostok), Russian University of Peoples' Friendship (PFUR, Moscow), Federal Research Center "Subtropical Scientific Center of the Russian Academy of Science" (SSC, Sochi).

The innovativeness of the proposed course in the adaptability of the modules depending on the educational background of the students, regardless of the hard-

ware, and the way of listening, and in doing practical exercises.

The proposed course complements the existing educational standards of the I.M. Sechenov First Moscow State Medical University and corresponds to the University's concept of development in the direction of digital transformation, organization of distance education in biotechnological disciplines. The materials itself on online bioinformatics tools (databases and web services) are updated annually (See, for review <https://academic.oup.com/nar/issue/50/D1>). The volume of databases, sequencing data banks, the number of fully sequenced personal genomes and the total number of scientific publications are growing. Keeping up-to-date information in the taught course requires regular updates. We note the work in this direction at the ICG SB RAS and NSU in Novosibirsk (Kolchanov et al., 2021), including the organization of Schools for Young Scientists in Systems Biology and Bioinformatics (Orlov et al., 2017).

Course Content

The following units and online bioinformatics resources form the basis of the proposed modular course (Table 1). All resources are presented in English. As can be seen from the table, methodological developments and online resources from different countries of the world - China, Japan, Europe - are used. A separate group presents Russian materials on the website of the Novosibirsk Institute of Cytology and Genetics of the Siberian Branch of the Russian Academy of Sciences (www.mgs.bionet.nsc.ru), also in English.

Table 1. Online Bioinformatics Resources for Training

| Course section | Link |
|--|---|
| Bioinformatics Data Banks. NCBI, GenBank, EMBL. Genomic Institute databases in China. NCBI sections - Genbank, dbSNP, OMIM, GEO, PubMed. | https://www.ncbi.nlm.nih.gov/ |
| Dot matrix or diagram method. DotPlot. | https://www.ebi.ac.uk/Tools/psa |
| Pairwise and multiple sequence alignment. CLUSTAL package. | https://www.ebi.ac.uk/Tools/msa/ |
| BLAST and BLAT (BLAST-like alignment tool) homology search. | https://blast.ncbi.nlm.nih.gov/Blast.cgi https://genome.ucsc.edu/cgi-bin/hgBlat |
| Gene evolution analysis. Phylogenetic trees. iTOL. CLUSTAL software. Tree Plot, Phylogeny.fr, PhyML. | http://lifemap-ncbi.univ-lyon1.fr/ |
| Inverted repetitions, palindromes. Tandem and dispersed repetitions. RepeatMasker. Estimation of genetic text complexity. Entropy. REPuter, Complexity_TRF | https://varnomen.hgvs.org/bg-material/standards/ https://bibiserv.cebitec.uni-bielefeld.de/ https://tandem.bu.edu/trf/trf.html |
| Secondary RNA structure. Loops and hairpins of secondary structure. Recording format. RNA structure visualization. ViennaRNA RNAfold, MFold, RNAstructure. | http://www.unafold.org/ |

| | |
|--|---|
| Secondary RNA structure. Loops and hairpins of secondary structure. Recording format. RNA structure visualization. ViennaRNA RNAfold, MFold, RNAstructure. | https://swissmodel.expasy.org/ https://www.cathdb.info/ |
| Gene and metabolic networks. Theoretical and graphical representation. Protein-protein and DNA-protein interactions. Regulatory gene network. | KEGG.jp |
| Reconstruction of the gene network. STRING-DB, GeneMANIA, Cytoscape resources. Cluster (node) detection in the network, statistical evaluation. KEGG, Reactome. The concept of disease networks (diseasome). | https://string-db.org/ https://cytoscape.org/ |
| Gene Ontology. Definition of gene ontology categories. DAVID and PANTHER. | https://www.genecards.org/ http://pantherdb.org/ |
| Genome navigators NCBI, UCSC, Ensembl. Genome visualization. | http://genome.ucsc.edu |
| Fundamentals of high throughput DNA sequencing technologies. ChIP-seq profiles. Galaxy. | https://galaxyproject.org/tutorials/chip/ |
| GEO NCBI (Gene Expression Omnibus) archive. Calculation of genomic profiles RNA-seq, ChIP-seq. Microarray-based sequencing technologies, SAGE/ CAGE, EST. | https://www.ncbi.nlm.nih.gov/geo/ |

Existing solutions. Conclusion

Educational courses in bioinformatics are presented in detail in MSU, MIPT, but are not aimed specifically for medical field. Existing commercial advanced training courses (for example, St. Petersburg, Institute of Bioinformatics) (<https://bioinformaticsinstitute.ru/>), provide narrowly focused and commercially oriented training, nevertheless very much in demand. Among Russian universities it is worth mentioning the programs at NSU, published a detailed textbook in bioinformatics and systems biology in 5 volumes, edited by academician N.A. Kolchanov (Kolchanov et al., 2012). However, the textbook is not available online due to copyright restrictions, a publicly available online course is needed, in a comprehensible volume. Note the growth of data and the emergence of centralized resources of the Beijing Institute of Genomics (BIG - Beijing Institute of Genomics) (<http://english.big.cas.cn/>). One can note the training courses of MIT, Bielefeld University in Germany (<https://bibiserv.cebitec.uni-bielefeld.de>). The authors' team is working in collaboration with Gothenburg University, Sweden, and Belgrade University, Serbia (<https://belbi.bg.ac.rs/>). Despite of some unfriendly statements from some scientific organizations in Europe, all bioinformatics resources (Table 1) were available online at the date of this paper writing.

Note the organizational events, conference, and School for young scientists in Systems Biology and Bioinformatics (Orlov and Bakulina, 2018; Orlov et al.,

2020) in Novosibirsk. In 2021, special issues on the bioinformatics of gene expression regulation in model organisms were completed in MDPI *Life* (Orlov, Anashkina, 2021), *IJMS* (Orlov et al., 2021a), and *Frontiers in Genetics* (Orlov et al., 2021b) journals. The next “Bioinformatics and Systems Biology Conference” (BGRS\SB-2022) will be held in Novosibirsk in 2022 (<https://bgrssb.icg-bio.ru/2022/>) also has an educational aspect and the associated Young Scientists School on bioinformatics.

The online course under discussion is aimed at a distance and mixed learning format; it has applications primarily in medicine to analyze the molecular mechanisms of complex diseases, reconstructing gene networks. It is unique both in highlighting new approaches to modeling complex diseases such as cancer and mental disorders (Gubanova et al., 2021) using gene networks, and in controlling techniques for student assessment of material using online bioinformatics tools. Video lessons were recorded by class by class in 2021 (Zoom, video files). Further development of the course on various technical platforms, including Webinar.ru, is needed. Further development assumes solving problems by students using their own code, and online tools, presenting their own developments.

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References

1. Dergilev A.I., Orlova N.G., Dobrovolskay O.B., Orlov Y.L. *Statistical estimates of transcription factor binding site clusters in plant genomes based on genome-wide data. Journal of Integrative Bioinformatics. 2021; 18, 20200036 doi: 10.1515/jib-2020-0036*
2. Galieva A.G., Luzin A.N., Orlova N.G., Kulikova D.K., Dergilev A.I., Orlov Yu.L. *Bioinformatic approaches for the analysis of mutation points of the coronavirus genome // In the collection: Molecular Diagnostics and Biosafety-2021. COVID-19: epidemiology, diagnosis, prevention: (April 28-29, 2021, Moscow) / ed. V.G. Akimkina.- M.: Central Research Institute of Epidemiology of Rospotrebnadzor, 2021.-144p. (ISBN 978-5-6045286-2-4) p. 23. (In Russian)*
3. Gusev A.V., Ivshin A.A., Vladzimirsky A.V. *Russian mobile health apps: systematic search in app stores. Russian journal of telemedicine and e-health. 2021; 7. No. 3. S. 21-31. doi: 10.29188/2712-9217-2021-7-3-21-31 (in Russian)*
4. *Information technologies in medicine. Eds. G.S. Lebedev, O.V. Simakov, Y.Y. Mukhin. Moscow: Radio engineering. 2010. 152 p. (In Russian)*

5. *Introduction to information biology and bioinformatics: In 5 volumes: Textbook / Eds. N.A. Kolchanov, O.V. Vishnevsky, D.R. Furman. Novosib. state university. Novosibirsk, 2012. Vol. 4. 336 p. (In Russian)*
6. Koshechkin K., Lebedev G., Radzievsky G., Seepold R., Martinez N. *Review of Blockchain Technology Projects to Provide Telemedical Services. Journal of Medical Internet Research. 2021; 23(8):e17475, doi: 10.2196/17475*
7. Lebedev G., Vladzimerskiy A., Kozhin P., Fartushniy E., Fomina I., Druzhinin F., Lutsai E., Klimenko H. *Systematization of the principles and methods of applying for digital medicine in oncology. Procedia Computer Science. 2021; Vol. 192, P. 3214-3224, doi: 10.1016/j.procs.2021.09.094*
8. Orlov Y.L., Anashkina A.A., Klimontov V.V., Baranova A.V. *Medical Genetics, Genomics and Bioinformatics Aid in Understanding Molecular Mechanisms of Human Diseases. International Journal of Molecular Sciences. 2021; 22(18):9962. doi: 10.3390/ijms22189962*
9. Orlov Y.L., Anashkina A.A., Tatarinova T.V., Baranova A.V. *Editorial: Bioinformatics of Genome Regulation, Volume II. Frontiers in Genetics, 2021b; 12, 2234 DOI:10.3389/fgene.2021.795257*
10. Orlov Y.L., Bakulina A.Yu *Development of Education in Bioinformatics Based on Student Conferences ISSC-2018, School of Molecular Modeling and Hackathon in Novosibirsk. Vestnik Novosibirsk State University. Series: Information Technologies 2018; 16(3):5-6 (in Russian)*
11. Orlov Y.L., Ignatov A.N., Galieva E.R., Dobrovolskaya O.B. *Microbiology research at the systems biology and bioinformatics - 2019 (SBB-2019) school. BMC Microbiology. 2020; 20(Suppl 2):348. DOI:10.1186/s12866-020-02038-5*
12. Orlov Y.L., Tatarinova T.V., Zakhartsev M.V., Kolchanov N.A. *Introduction to the 9th Young Scientists School on Systems Biology and Bioinformatics (SBB'2017). Journal of Bioinformatics and Computational Biology. 2018; 16(1):1802001 doi: 10.1142/S0219720018020018*
13. Orlov Yu.L., Galieva A.G., Orlova N.G., Ivanova E.N., Mozyleva Yu.A., Anashkina A.A. (2021) *Reconstruction of the Parkinson's disease gene network to search for target genes. Biomedical Chemistry. 2021; 67(3):222-230 doi:10.18097/PBMC20216703222 (In Russian)*
14. Shaderkin I.A., Shaderkina V.A. *Remote medical consultations for patients: what has changed in Russia in 20 years. Russian journal of telemedicine and e-health. 2021; 7. No. 2. S. 7-17. doi: 10.29188/2712-9217-2021-7-2-7-17 (In Russian)*
15. Tiis R.P., Osipova L.P., Galieva E.R., Lichman D.V., Voronina E.N., Melikhova A.V., Orlov Yu.L., Filipenko M.L. *Polymorphism of N-acetyltransferase 2 (NAT2) gene variants and gene network analysis. Biomedical Chemistry. 2021; 67(3): 213-221 doi:10.18097/PBMC20216703213 (In Russian)*

性别教育方法的神经心理学方面：学生创造性活动的发展

NEUROPSYCHOLOGICAL ASPECT OF THE GENDER APPROACH TO EDUCATION: DEVELOPMENT OF STUDENTS' CREATIVE ACTIVITY

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在俄罗斯教育实践中引入性别方法面临着许多困难：社会和讲师职业环境中的模棱两可的态度；教师缺乏性别教育学领域的专业知识；制定专业方案和教科书时没有考虑到教育的性别原则。文章的目的是确定不同性别学生在认知活动上的差异，以及这些差异在专业化过程中创造性活动表现的作用。

关键词：性别教育，创造性活动，左半球，右半球，思维。

Annotation. *The introduction of a gender approach into the practice of Russian education faces a number of difficulties: an ambiguous attitude in society and in the professional environment of lecturers; teachers' lack of special knowledge in the field of gender pedagogy; professional programs and textbooks are developed without taking into account gender principles of education. The purpose of the article is to determine the differences in the cognitive activity of students of different sexes and the role of these differences in the manifestation of creative activity in the process of professionalization.*

Keywords: *gender education, creative activity, left hemisphere, right hemisphere, thinking.*

Formulation of the problem. In the context of significant changes in the socio-cultural life of society, there is a general trend of transformation of cultural stereotypes of masculinity and femininity, the individuality of a person, the freedom to choose the ways of self-realization, regardless of gender, becomes the center.

“The main areas of research in the field of person’s socialization are all spheres of human life in a specific refraction” [13, p. 64].

It is important for teachers to develop gender sensitivity, which means the ability to perceive, realize and model the impact of verbal, non-verbal and other environmental influences on the formation of a student's gender identity [9]. “The problem of a gender approach to the education and upbringing of a person is becoming relevant in the context of updating the content of education and modernizing the general education school. Gender education helps to solve many important social problems, and the need for its development is increasingly being discussed in the pedagogical community” [5, p. 2]. Gender education should continue throughout life, which will create an effective system of gender education of the population.

E.G. Lukovitskaya, A.M. Osipov consider it expedient to introduce a gender component into the curricula of all levels of education and it is necessary to strive to: 1) increase the prestige of work in the field of education; 2) introduce academic disciplines on gender issues; 3) conduct gender expertise and correction of school textbooks; 4) conduct trainings and master such teaching and communication styles in the education system that involve overcoming false and unfair gender stereotypes [8].

L.P. Okulova considers it expedient to introduce a gender component into curricula at all levels of education [14]. “Gender difference in society leads to typical differences in the interests of women and men. When learning this is reflected in proposed and elected areas research, as well as when choosing examples in teaching, in development of teaching materials, teacher responses to specific questions of trainees, in order to avoid explicit or implicit evaluation and comparison of men and women” [14, p. 119]. The studies of scientists on the gender issue in education are presented in Table 1.

Table 1. The study of the gender approach to education by various scientists

| The author | Research direction |
|-----------------|---|
| L.P. Okulova | Gender strategy as a factor in the democratization of the education system |
| M.A. Butaeva | Transformation of gender relations in the modern family |
| F.IIbragimi | Gender Issues of Women Participating in the Socio-Economic Sphere of Society |
| T.V. Mikhalkina | Factors of professional self-realization of men and women in Russia |
| E.S.Sarukhyan | Dynamics of subjective views on their own lives of men and women in the period of adulthood |
| V.P. Pilaykina | Moral assessment of persons by means of the gender category in English |
| O.A.Otradnova | Love as the basis of gender relations in the culture of the ancient world |
| V.I. Atagunov | Gender differences in the perception of "freedom" and "unfreedom" |

| | |
|---------------------------------|--|
| O.N.Salnikova | The specifics of understanding female self-awareness in philosophy |
| Yu.Yu. Atroshenko | Gender problems of modern folklore |
| E.A.Mukhortova | Origins of gender studies |
| A.E.Gaffarova | On the issue of the formation of cognitive, emotional and behavioral components of gender identity in children of primary school age |
| E.M.Zvyagintseva | Variability in the Development of Women's Gender Identity |
| A.S.Berbegian | The Significance of Ethnopsychological and Gender Factors for the Formation of a Culture of Interethnic Interaction of Students in Conditions of Integration into the World Education System |
| N.D. Sidorova | The study of gender differences in the professional choice of high school students |
| N.V. Rudenko | Gender Relations in the Educational Environment |
| N.S. Veshcheva | Gender stereotypes and gender representations |
| M.A. Butaeva | Study of gender stereotypes in modern society |
| L.M.Abrosimova | Age features of gender stereotypes |
| N.T. Vardyan | Gender Aspects of Value Orientations of Modern Armenian Youth |
| I.G. Doroshina | Classification of gender positions in marital relations |
| M.D. Ktenidy, O.V. Bondareva | Gender aspects of the connection between adolescent privacy and the type of parental relationship |

Source: [18].

E.V. Pankratova, O.A. Khasbulatova consider it important to unite the efforts of scientists, specialists from all levels of government to equalize men's and women's status in the field of professional activity, to promote the idea of gender equality in all spheres of society in the public consciousness [15].

Gender researchers emphasize that gender competence is becoming part of the necessary leadership skills in professional institutions, organizations and is a necessary quality for successful effective management, like other competencies [5, 16].

M. Kostik and E. Hilgard [3] revealed the advantage of males (students) in transferring learning (applying skills, knowledge and skills to new situations). E. Sweeney found a significant superiority of young men in "restructuring". However, in Z. Dudek's work, it was revealed that girls have the best creative and creative abilities [2].

T.A. Barysheva revealed the advantages of boys over girls in terms of intellectual parameters of creativity: divergence, ability to predict, ability to associate and competence in the field of theory and technology of creativity [6].

The expressiveness of creative activity in males and females is obviously determined by the type of creativity, but scientists in this case do not have a unanimous opinion. According to some data, male students have greater creative productivity, and female students have greater creative abilities and pronounced figurativeness, according to other data, girls are superior to boys in verbal creativity, and boys are

superior to girls in figurative creativity [2].

The relevance of gender studies is an attempt to understand socio-social processes on the basis of changes in socio-cultural paradigms of behavior. Gender examines the relationship between socially significant aspects of public morality and the real factors of behavior that really shape modern society now [12, 17].

Gender research is an attempt to consider a fundamentally new problem - how does a change in socio-cultural identity lead to a transformation, in general, of social roles? Now the process of forming social status is becoming relevant, which determines individual opportunities in the field of education, professional activity, family roles, reproductive behavior [12].

Education should be an effective mechanism that enables students to plan their own lives on the principles of active citizenship. This is possible only by shifting the focus to the model of gender-oriented education. It is necessary that the state and society outline their position on the issue of gender education, which would give impetus to further research in this direction. According to experts, the implementation of the gender concept is real only with the revision of the entire curriculum [5].

The problems of pedagogy of higher education in modern scientific thought are comprehended from the point of view of the theory and methodology of gender. But the neuropsychological aspect of the development of students' creative activity has not been studied enough.

The purpose of the study is to identify differences in the cognitive activity of students of different sexes and the role of these differences in the manifestation of creative activity in the process of professionalization.

The introduction of a gender approach into the practice of Russian education faces a number of difficulties: an ambiguous attitude in society and in the professional environment of teachers; teachers' lack of special knowledge in the field of gender pedagogy; professional programs and textbooks are developed without taking into account gender principles of education.

Results. There are many different definitions of the term “gender”. One can say that gender is a set of social and cultural norms that society prescribes to people depending on their biological sex, i.e. a set of anatomical, hormonal, physiological features of the body that provide sexual reproduction.

The gender approach in education includes the study of gender as a social characteristic and taking into account the specific impact on the development of boys and girls of all factors of the educational process, as well as male and female psychology, manifested in behavior, reaction and teaching style.

Gender pedagogy creates a different view of the world, of one's own role in society, of relationships with other people, with representatives of the opposite sex, which leads to serious changes in worldview, to the formation of a more active

civic position, and ultimately to a change in public consciousness [3].

“This is due to the fact that in modern society a professional career and creative self-realization are becoming more and more significant in people's lives, and social relations are becoming more intense and diverse. In recent decades, great changes in gender-role relations have taken place all over the world, gender stereotypes are changing, an increasing number of women are taking participation in management in the economic, managerial and political spheres” [10, p.78].

A gender approach application in education means acting with an understanding of the social, constructive origin of the categories of “male” and “female” in society, putting the personality and individuality of the student in development and education above the traditional gender framework. In the process of vocational training, the third stage of gender socialization takes place – the process of assimilation of norms, rules of behavior, attitudes in accordance with cultural ideas about the role, position and purpose of men and women in society. In total, there are three stages of socialization: initial – socialization within the family; secondary – schooling; adult socialization (the stage of accepting those roles for which the individual was not fully prepared during the first two stages) [5].

Recently, gender aspects have attracted the attention of specialists in various fields – psychologists, neuropsychologists, teachers, doctors. In the scientific literature, there are differences between men and women in the pace and quality of intellectual development, emotional reactivity, motivation for activity and assessment of achievements, in behavior: differences in the cognitive activity of students of different sexes. “Men and women have different types of psyche, different types of cognition, which in turn is determined by the different structural and functional organization of the male and female” [5].

Analyzing the differentiation of the levels of creative activity of students depending on the gender factor, it was revealed that at the stage of expressing ideas, women are superior to men, and at the stage of introducing ideas, men are significantly superior to women [7]. That is, women have more creative potential, and men have a higher level of productivity [11]. Women offer a lot more ideas, but within a narrower framework. The ideas that young men offer are more original, short-lived, innovative, and creative. These facts indicate the need to develop gender-differentiated training programs for the development of students' creative activity [11].

The indicators of creative activity are affected by the ratio of internal and external motivation, and this dependence is associated with the severity of sex-role stereotypes. Many studies have found that intrinsic motivation is more significant in the manifestation of creative abilities in women than in men; creative productivity is more stimulated by competitive conditions for women [6].

To determine the differences in the cognitive activity of students of different

sexes and the role of these ones in the creative activity manifestation during the process of professionalization, one should consider this problem from the point of view of the functional specification of the two hemispheres of the brain. The left and right hemispheres collect information respectively from the right (left) and left (right) sides of the body, as the nerve pathways cross and organize the activity of the opposite side of the body. The two hemispheres of the brain are symmetrical and asymmetric at the same time, since the principles of perception and processing of information, its memorization and reproduction, organization of motor activity and emotional formation are different for them. These basic principles of brain organization are the same in men and women [4].

The left hemisphere is considered rational-logical, algorithmic, classifying, analytical, the function of which is to divide information into blocks without irrelevant details and to build causal or logical chains according to the algorithm. Since there are speech centers in the left hemisphere, only “it owns grammar and syntax, the laws of agreement of words in a sentence, the competent construction of complex speech statements in oral and written speech” [4, c. 5].

The right hemisphere is spatial, figurative, holistic, and intuitive; therefore it perceives the world holistically. The possibility of non-standard solutions is typical for the right hemisphere. Left hemispheric thinking can be described and brought to the consciousness of a student only if there is enough information in each link of the chain of thought being built. If there is not enough information (knowledge), then the left hemisphere is powerless: the chain of thinking breaks and further mental activity is impossible. The right hemisphere does not build chains, it is able to complete mentally to the end and make a decision. At school, they develop mainly left-brain thinking. But in life you have to rely on right-brain thinking [5].

The specializations of the hemispheres are more pronounced in men, while in women the picture is less clear. In men, the left hemisphere will become rational-logical and more specialized than in women of their group mates, men are much more difficult to compare information received and processed by different hemispheres. Women have better developed speech and algorithmic left-brain thinking. That is why they are better versed in the rules, typical tasks; they better build an oral and written answer. Women are able to separate the whole into parts [12].

Male students have a number of difficulties in cognitive activity due to the special organization of their brain. The two hemispheres are interconnected by several bundles of nerve fibers and are able to exchange information. In men, the number of nerve fibers is 20% less than in women, therefore, it is much more difficult for them to compare information received and processed by different hemispheres. This makes it possible to somewhat restrain the processes of duplication in the work of the two hemispheres and allows the formation of a pronounced and functional specialization in young men. In women, specialization is less pronounced.

Conclusions and prospects for further research. Thus, psychology, genetics, physiology, neuropsychology have been accumulated data on differences in the organization of the brain and psyche in people of various sexes. The gender approach in education involves the study of gender as a social characteristic and taking into account the specifics of the impact on the development of boys and girls of all factors of the educational process.

A gender approach implementation in education means acting with an understanding of the social, constructive origin of the categories of “male” and “female” in society, putting the personality and individuality of the child in development and upbringing above the traditional levels of gender.

The need for gender approaches to education is caused by theory (the difference in perception, thinking, emotions, communication, and hence in cognitive activity) and the practice of differentiated education of students of different sexes. The idea of gender education contributes to the introduction of a personality-oriented approach to learning, development and education in order to achieve maximum results. Education taking into account the gender characteristics of students requires the use of such methods and forms that would correspond to different types of functional asymmetry of the brain in the perception of information.

Modern approaches to higher education actualize the issue of training specialists, the focus of which is not only the professional competence of a specialist, but also one’s skill as a subject of interaction with people of different sex, age, etc. Our study is of great importance for the educational process of students and can be applied in universities to increase the creative activity of students of different specialties.

References

1. Antokhina Yu.A., Mikhailova A.G., Kolesnikov A.M., Kokodey T.A. *The role of personal and business qualities in the development of a professional. Bulletin of the St. Petersburg State University of Technology and Design. Series 3: Economic, Humanities and Social Sciences.* 2020. No. 4. Pp.3-8.
2. *Creativity of males and females* URL: https://psyera.ru/kreativnost-lic-muzhskogo-i-zhenskogo-pola_14344.htm (date of access: 23.03.2022).
3. *Democratic state: concept, principles. Forms of democracy* <https://jurkom74.ru/ucheba/demokraticheskoe-gosudarstvo-ponyatie-printsipi-formi-demokratii>
4. Eremeeva V.D. *Neuropsychological aspect of the gender approach to learning. Gender approach in education. Pedagogical review.* 2014. No. 1-2 (131-132). Pp. 4-6.
5. *Gender approach in education. Pedagogical review.* 2014. No. 1-2 (131-132). 28 p.
6. Ilyin E.P. *Psychology of Creativity, Creativity, Giftedness.* St. Petersburg; 2009 434 p.

7. Lekareva V.D., Mikhailova A.G. *The influence of the psychological climate on interpersonal relations in the team. Modern management: problems, trend analysis, development prospects: Proceedings of the III International Scientific and Practical Conference, December 2020, Volgograd. Volgograd branch of the Federal State Budgetary Educational Institution of Higher Education "Russian University of Economics named after G.V. Plekhanov". Volgograd: Sphere, 2021. Pp. 222-225.*
8. Lukovitskaya E. G., Osipov A.M. *Education and gender. Education and society. 2005. No.1. URL: <http://www.education.rekom.ru> (date of access: 23.03.2022).*
9. Mezentseva A.I., Mikhailova A.G. *Business game in teaching professional communication in a foreign language at the university. Modern problems of science and education: collection of articles of the III International scientific and practical conference. Penza: ICNS "Science and Education". 2022. Pp. 84-87.*
10. Mikhalkina T. V. *Factors of professional self-realization of men and women in Russia. Theory and practice of gender studies in world science: materials of the international scientific-practical conference May 5-6, 2010. Penza-Yerevan-Prague: LLC Scientific and Publishing Center "Sociosphere", 2010. P.78*
11. Mikhailova A.G. *Succession as an acmeological category in the context of formation of professional and creative abilities of future engineers. Bulletin of the Samara State Technical University. Series: Psychological and pedagogical sciences. 2015. No. 3 (27). Pp. 138-143.*
12. *Modern approaches to gender URL: <https://www.referat911.ru/Filosofiya/sovremnyye-podhody-k-genderu/52815-1461001-place1.html> (date of access: 23.03.2022).*
13. Nuriyeva M. *Categories of social development and socialization of personality as a subject of scientific analysis in gender practice. Theory and practice of gender studies in world science: materials of the international scientific-practical conference May 5-6, 2010. Penza-Yerevan-Prague: LLC Scientific and Publishing Center "Sociosphere", 2010. P. 61*
14. Okulova L.P. *Gender strategy as a factor in the democratization of the education system. Theory and Practice of Gender Studies in World Science: Proceedings of the International Scientific and Practical Conference May 5–6, 2010. Penza-Yerevan-Prague: LLC Scientific and Publishing Center "Sociosphere", 2010. P.119.*
15. Pankratova E.V., Khasbulatova O.A. *The Concept of Family Life Quality in Sociology: Gender Aspect Woman in Russian Society. 2018.No. 1 (86). Pp. 43-52*
16. Rodstein M.N. *On the question of the dynamics of changes in gender identity Bulletin of the Samara State Technical University. Series: Psychological and pedagogical sciences 2018.No. 1 (37) Pp. 90-94*
17. Shevtsova O.V. *Gender aspects of management URL: <https://ekonomika.snauka.ru/2014/03/4665> (date of access: 23.03.2022).*
18. *Theory and Practice of Gender Studies in World Science: Proceedings of the International Scientific and Practical Conference May 5–6, 2010. Penza-Yerevan-Prague: LLC Scientific and Publishing Center "Sociosphere", 2010. 212 p.*

师范大学毕业生的职业期望和意向
**PROFESSIONAL EXPECTATIONS AND INTENTIONS OF
GRADUATES OF PEDAGOGICAL UNIVERSITIES**

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本文旨在研究未来教师的专业期望和意图的现状。对这项研究的需求是合理的，因为相关数据是设计有效流程的核心，以根据所选专业为未来教师就业做好准备。为确定未来教师的专业自主形成水平，采用了专业活动动机、专业身份地位研究的方法。通过问卷调查对学生的职业期望进行了研究。为了确定实验分布的可靠性，使用了学生 t 检验和 Pearson 相关系数。该研究涉及布宁耶莱茨州立大学的 327 名毕业生。该研究揭示了许多模式：学习成果高的学生缺乏对教学专业的定位；专业形象与专业现实之间的差异；职业冷漠和职业失调。

关键词：就业、未来教师、职业意向、职业动机、职业认同、职业期望。

Annotation. *The article is aimed at studying the current state of professional expectations and intentions of future teachers. The demand for this study is justified by the fact that relevant data are at the heart of designing an effective process of forming the readiness of future teachers for employment according to the chosen specialty. To determine the level of formation of professional self-determination of future teachers, methods for studying the motivation of professional activity, the status of professional identity were used. The study of students' professional expectations was carried out through a questionnaire. To determine the reliability of experimental distributions, Student's t -test and Pearson's correlation coefficient were used. The study involved 327 graduates of Bunin Yelets State University. The study revealed a number of patterns: the lack of orientation towards the teaching profession among students with high learning outcomes; discrepancy between the image of the profession and professional realities; professional apathy and professional maladjustment.*

Keywords: *employment, future teacher, professional intentions, professional motivation, professional identity, professional expectations.*

The employment of university graduates is a significant indicator and factor in the development of the economy and society. This process in the Russian Federation is accelerated through indirect strategies. In particular, the Ministry of Science and Higher Education of the Russian Federation, on the basis of monitoring studies of the activities of universities, determines the number of budget places, the indicator of employment of university graduates is one of the most significant in assessing the activities of universities. Universities, in turn, implement various programs for the employment of graduates. This approach is quite democratic, but it is largely determined by a number of factors.

External factors that determine the employment of graduates are associated with the development of the regional and Russian labor market, changes in the social status of a particular profession. Many studies have been devoted to this issue: T. M. Zaitseva, A. G. Bulatov [5], O. A. Karmanova, L. P. Kunitsyna [7], etc. Some external factors are system-wide in nature, some are specialized in a particular area.

In particular, employment in the field of education has certain specifics. On the one hand, if the quality of training of an economist, lawyer, civil servant, programmer, etc. determined by the requirements of the labor market, then this dependence does not work with respect to the teacher. Organizations working, for example, in the field of economics, have the opportunity to choose between applicants for a particular place, appealing to the quality of training of a possible recruit, while educational organizations are forced to recruit all applicants due to a shortage of supply markets. On the other hand, there is an obvious lack of young personnel in the system of general education [3], which causes serious concern when assessing the personnel potential of general education in a ten-year perspective. On the third hand, due to the cyclic nature of the activities of the general education sector, hiring a new teacher in the middle of the academic year is unlikely. As a result, a paradoxical situation arises: a shortage of supply and demand, with a shortage of personnel in schools and a sufficient number of graduates of pedagogical universities.

Another significant external factor, which is directly related to the internal factors of employment of graduates of pedagogical universities, is the social status of the teacher. The crisis of pedagogical identity is evidenced, among other things, by the recognition of this problem at the federal level. In particular, President of Russia Vladimir Putin, following a meeting of the Council for the Implementation of State Policy in the Sphere of Family and Children Protection on October 14, 2019, instructed the Government of the Russian Federation "to develop a set of measures aimed at raising the status of a teacher, considering the possibility of state support for the creation and dissemination, including in the information and telecommunications network "Internet", film and video products, which contrib-

utes to the popularization of the teaching profession" [14].

In this situation, it is obvious that internal factors play an important role in the employment of graduates of pedagogical universities: motivation for learning, professional self-determination, professional expectations. According to numerous studies of this problem at the level of stating facts (L.I. Kobysheva, A.P. Krotova [8], N.A. Pakhtusova, G.A. Herzog [12] and others), pedagogical education is perceived by students not only as a path to direct activity, as much as a "startup" into a relatively average professional path of a different profile.

A comprehensive analysis of professional self-determination and professional expectations of future teachers seems relevant, since it is on actual data that the effectiveness of the process of forming the readiness of future teachers for employment according to the chosen specialty is based. Accordingly, the purpose of the article is to explore the current state of professional self-determination and professional expectations of future teachers.

Based on the analysis of reference literature, works of famous scientists (B. M. Bim-Bad [1], V. I. Zagvyazinsky, A. F. Zakirova [13], N. S. Pryazhnikov [15]) in a study under a professional self-determination of the future teacher, the following was determined: the student's attitude to pedagogical activity at the need-motivational, procedural-identification and content levels. Professional expectations are interpreted as the intentions of graduates to find employment, their ideas about the specifics of professional activity, possible achievements and difficulties in the profession, etc.

Accordingly, in order to study the professional self-determination of graduates of pedagogical universities, it is necessary to diagnose the professional motivation and professional identity of the future teacher. In the developed program for the study of professional self-determination of future teachers, the methods of K. Zamfir in the modification of A. Rean "Motivation of professional activity" [11], A. A. Azbel, A. G. Gretsova "Studying the status of professional identity" [6] were used. The technique of K. Zamfir and A. Rean allows you to determine the ratio of internal, external positive and negative motivation. The methodology of A. A. Azbel, A. G. Gretsov involves the classification of the professional identity of the subjects as indefinite, imposed, crisis, formed. Also, within the framework of this diagnostic program, it was supposed to correlate the results of the study of professional self-determination with the quality of student education.

To study the professional expectations of students, the author developed a questionnaire that included questions on the following topics: the choice of professional activity after graduation, factorial assessment of the advantages and disadvantages of the teaching profession and in case of rejection of the chosen profession.

To determine the reliability of experimental distributions within the sample,

the method of mathematical statistics, Student's t-test, was used. The program involved studying the relationship between professional self-determination and professional expectations of future teachers through the use of the Pearson correlation coefficient.

The study involved 327 graduates of Bunin Yelets State University. The research phases are 2019, 2020, 2021. Accordingly, 106 students of 2019 graduation (64% of the total number of bachelor's graduates in the direction of training "Pedagogical education" of full-time education), 112 graduates of 2020 graduation (67% of the total) and 109 students of 2021 graduation (715 of total).

The results of studying the professional motivation of students according to the method of K. Zamfir in the modification of A. Rean were obtained as follows: internal motivation was demonstrated by 31.5% of the sample members, external positive motivation - 47.1%, external negative - 21.4%. It is noted that the sample of graduates of 2019 had the largest percentage of students who are characterized by external positive motivation - 50.9%, and the sample of graduates of 2020 - the largest percentage of students with internal motivation (33.0%) and external negative motivation (23.2%). Meanwhile, the application of the Student's t-test for unrelated samples did not record a statistically significant difference between the level of professional motivation of graduates of different years ($t_{emp} = 0.87$ $k = 224$).

In a study by A. V. Merenkov, D. G. Sandler, V. S. Shavrina, about 60% of students graduated in 2018 demonstrated external positive motivation, from 15.6% to 27.8% - external negative motivation (studying at a prestigious university, receiving any higher education) [10, p. 126].

The study of students' professional identity gave the following results: formed professional identity is observed only in 31.8% of respondents, crisis - in 41.9%, imposed - in 14.1%, unformed - in 12.2%. A group of students graduated in 2021 stands out from the sample of students: this group recorded the largest percentage of students with a formed professional identity (34.9%) and the smallest percentage of students with an imposed (12.8%) and indeterminate (9.2%) professional identity. At the same time, there is no statistically significant difference between the outputs ($t_{emp} = 1.21$ $k = 224$).

The study of the correlation between professional motivation, professional identity and the quality of student learning using the Pearson coefficient revealed the following patterns: professional motivation and the quality of student learning are in correlation ($r_{emp} = 0.374$ $k = 325$); The professional identity and the quality of a student's education reveal a statistically significant correlation only between an unformed, imposed professional identity and a satisfactory quality of education; there is no correlation between excellent students and their professional identity ($r_{emp} = 0.12$ $k = 43$). Comparison of professional identity and professional

motivation also revealed an indefinite correlation between intrinsic motivation and formed professional identity. Obviously, there is a crisis of professional identity among students with very high learning outcomes.

A study of students' professional expectations showed that 36.1% of respondents definitely plan to work as teachers after graduation; 15.3% of students tend to work in their specialty, but are still not completely sure; 13.5% of students most likely will not work as a teacher; 35.2% of students unequivocally spoke out against working as a teacher. In this sample, graduates of 2020 stand out, among which the largest number of students who are not sure about their professional choice. In general, there is no statistically significant difference between the professional expectations of outputs of three years ($t_{emp} = 1.17 k = 224$).

Similar results were obtained in a study by A. V. Merenkov, D. G. Sandler, V. S. Shavrina, which refers to a third of graduates who are ready for employment in their specialty [10, p. 126-127]. The work of A. M. Gendin says that this result - a third of graduates planning to work as a teacher - was typical for students studying in the early 2000s, in the 2010s this percentage drops to 23% [2, p. 142].

Respondents cited the following as reasons for not wanting to work in their specialty: low wages (69.7%), inconsistency between the characteristics of the profession and the personal qualities of the graduate (41.2%), and the unsatisfactory social status of the teaching profession (37.4%). At the same time, some of the respondents do not know how much a teacher earns, and have little idea of the features of the teaching profession. As a rule, these are students with insufficient professional identity, whose performance may be different. This phenomenon is explained by the discrepancy between the image of the teaching profession, formed by students, and professional realities. N. S. Martyshenko drew attention to this fact in his study [9]. The reasons for this attitude may be the following: insufficient work of the university on the professional orientation of students and the low social status of the teacher. Another part of the students refuses to work as a teacher in favor of another, often related profession. As a rule, these are highly successful students who have an internal motivation for learning.

In general, there is a correlation between professional self-determination and the choice of work in the specialty ($r_{emp} = 1.27 k = 325$).

Another regularity is also obvious: many graduates do not aspire to engage in professional activities immediately after graduation (27.4%), preferring to improve their educational level (master's, postgraduate studies) (43.6%), to receive education in another direction (18.9%), creating a family (14.3%) or recreation and self-discovery (24.2%). It is no coincidence that one of the Western trends in the modern lifestyle of young people has become the Gap year - a year-long break between school and vocational education, the time frame of which, in the conditions of Russian reality, is shifted to postgraduate time.

Thus, the study found that there is a direct relationship between professional self-determination and professional expectations of graduates: the higher the level of professional motivation and professional identity of a student, the more likely it is that he will work in his specialty. Currently, such graduates are about a third of the total. At the same time, it was found that students with high learning outcomes do not aspire to work in their specialty. There is also a discrepancy between the image of the profession and professional realities among some students. In addition, there is professional apathy and professional maladjustment of some graduates, the dominance of the satisfaction of purely personal interests over the need for employment. In addition to the economic and cross-cultural reasons for this state of affairs in the issue of employment of graduates of pedagogical universities, two factors are decisive: the insufficient level of career guidance in universities and the low social status of a teacher in Russian society, which, as practice shows, does not directly depend on the economic status of this profession.

References

1. *Bim-Bad B. M. Pedagogical encyclopedic dictionary. - M.: Great Russian Encyclopedia, 2008. - 528 p.*
2. *Gendin A. M. Evolution of professional intentions and plans of graduates of a pedagogical university (based on monitoring materials) // Bulletin of the Krasnoyarsk State Pedagogical University. V. P. Astafieva. - 2013. - No. 4 (26). - P. 140–145.*
3. *The head of the Ministry of Education is concerned about the aging of personnel in the system of pre-university education // Interfax. - URL: <https://academia.interfax.ru/ru/news/articles/2851>*
4. *Diagnostics of professional self-determination: textbook-method. allowance / comp. Ya. S. Suntsova. - Izhevsk: Publishing house "Udmurt University", 2009. - 112 p.*
5. *Zaitseva T. M., Bulatova A. G. Employment prospects for university graduates (on the materials of ALTSU) // International Scientific Research Journal. - 2014. - No. 1-3 (20). - P. 21–23.*
6. *The study of the status of professional identity (method A. A. Azbel, A. G. Gretsova) // Diagnostics of professional self-determination: textbook-method. allowance / comp. Y. S. Suntsova. - Izhevsk: Publishing house "Udmurt University", 2009. - P. 4-11.*

7. Karmanova O. A., Kunitsyna L. P. *The problem of employment of graduates of higher educational institutions (on the example of FGBOU VPO "Transbaikal State University")* // *Scientific notes of the Transbaikal University: Philosophy, sociology, cultural studies, social work.* - 2014. - No. 4. - P. 21–27.

8. Kobysheva L. I., Krotova A. P. *Self-determination as a condition for the formation of professionalism of future teachers* // *Society: sociology, psychology, pedagogy.* - 2012. - No. 2. - P. 95–103.

9. Martysenko N. S. *Formation of the image of the profession on the way of future employment of university graduates* // *Azimut of scientific research: economics and management.* - 2017. - V. 6. No. 4 (21). - P. 179–183.

10. Merenkov A. V., Sandler D. G., Shavrin V. S. *Peculiarities of changes in the orientations of undergraduate graduates towards employment* // *Obrazovanie i nauka.* - 2019. - V. 21, No. 10. - P. 116–142.

11. *Motivation of professional activity (K. Zamfir's method modified by A. Rean)* // Rean A. A., Kolominsky Y. L. *Social pedagogical psychology.* - St. Petersburg: Publishing house "Peter", 2000. - P. 237–239.

12. Pakhtusova N. A., Herzog G. A. *Study of professional intentions of graduates of a professional pedagogical university* // *Modern problems of science and education.* - 2016. - No. 6. - P. 437.

13. *Pedagogical dictionary: textbook. allowance for students. higher textbook institutions / V. I. Zagvyazinsky, A. F. Zakirova, T. A. Strokovaya and others; ed. V. I. Zagvyazinsky, A. F. Zakirova.* – M.: Academy, 2008. – 352 p.

14. *The list of instructions of the President of the Russian Federation following the meeting of the Council for the implementation of state policy in the field of protecting families and children on October 14, 2019* // *President of Russia.* – URL: <http://kremlin.ru/acts/assignments/orders/61841>

15. Pryazhnikov N. S. *Theory and practice of professional self-determination: textbook.* - M., 1999. - 97 p.

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农村社会文化发展：市政实践“传统之家”的经验

SOCIO-CULTURAL DEVELOPMENT OF RURAL AREAS: THE EXPERIENCE OF THE MUNICIPAL PRACTICE "HOUSE OF TRADITIONS"

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当前，农村发展受到国家高度重视。农村地区可持续发展的概念基础和方向体现在许多战略性法规性法律文件和计划中。人们意识到农村地区具有巨大的潜力：自然、社会文化、经济，只要有目的地利用这些潜力，就有可能实现我国经济的高水平发展。本文通过激活居民的社会文化潜力和感兴趣的公民参与支持正在进行的活动的机制来介绍农村发展的经验。这种方法揭示了吸引村里原住民资源的可能性，让政府机构和社会和文化领域的机构积极参与发展特定农村地区的娱乐、文化和经济功能的工作。

关键词：农村地区，村庄，可持续发展，社会文化，参与。

Abstract. *The development of rural areas is currently given great attention by the state. The conceptual foundations and directions for the sustainable development of rural areas are enshrined in a number of strategic regulatory legal documents and programs. There is a realization that rural areas have a huge potential: natural, socio-cultural, economic, with the purposeful use of which it is possible to achieve a high level of economic development of our country. The article presents the experience of rural development through the activation of the socio-cultural potential of residents and the mechanism of participation of interested citizens in*

¹ The article was prepared with the support of the Presidential Fund for Cultural Initiatives based on the results of the Competition for grants from the President of the Russian Federation for the implementation of projects in the field of culture, art and creative (creative) industries, as part of the project № PFKI-21-1-002537 "MY VILLAGE: from cultural traditions to civil initiatives".

supporting ongoing activities. This approach revealed the possibility of attracting the resources of the natives of the village, the inclusion of government bodies and institutions of the social and cultural sphere in active work to develop the recreational, cultural, economic functions of a particular rural area.

Keywords: *rural areas, village, sustainable development, socio-culture, participation.*

Over the past two decades, initiatives for the development of rural areas have been actively supported by the state. At the moment, a set of state programs has been developed and is being implemented aimed at solving the problems of rural areas: the provision of medical care, housing construction, the development of agricultural production, and the improvement of the welfare of the rural population. But, at the same time, we cannot speak specifically about the sustainable development of rural areas. This is evidenced by a number of studies conducted in rural regions of the Russian Federation. So, for example, Krutalevich M.G. gives an analysis of the factors hindering the pace of development of rural areas of the Orenburg region; Minenko A.V., Seliverstov M.V. indicate the need to improve working and living conditions in rural areas of the Altai Territory; The team of authors of the State University for Land Management gives a critical analysis of the process of implementing programs aimed at supporting rural areas in the regions of the Russian Federation [3;4;2].

The existing regulatory and program approach to the development of rural areas creates conditions, first of all, for increasing agricultural production and developing the processing industry, aimed at improving the efficiency of agriculture. But another component in the development of rural areas is not provided - the demographic and socio-cultural potential. The population living in rural areas is constantly decreasing. This negative trend has been observed for a long time. According to Rosstat, the share of the rural population in Russia at the beginning of 2022 is 25.56% of the total population.[8] The reasons for the depopulation of the rural population are not only the excess of mortality over the birth rate, but also the lack of a developed social infrastructure, the preservation of rural original culture and traditions, and the growth of the quality of life in the countryside, affecting the livelihoods of the population.

According to the Strategy for the Sustainable Development of Rural Territories of the Russian Federation, developed for the period up to 2030, "sustainable development of rural areas is a stable socio-economic development of rural areas, an increase in agricultural production, an increase in the efficiency of agriculture, the achievement of full employment of the rural population and an increase in its standard of living, rational use of land" [6], in our opinion, does not reflect the aspect of preserving or transforming the rural way of life and using its advantag-

es to solve the main problems in the countryside. It would be more appropriate and purposeful to use the scientific approach of Grekov A.N. and Grekova N.S. according to which, the sustainable development of rural areas is a purposeful process of stable development of the rural community, providing economically justified expanded reproduction, raising the level and improving the quality of life of the rural population while maintaining the natural resource, historical, cultural, spiritual and moral potential of the countryside.[1] This approach, in our opinion, ensures the preservation and development of such functions of the countryside as economic, social, cultural, recreational, environmental, spiritual and creates conditions for improving the quality of life of the rural population.

Focusing on this approach in the sustainable development of rural areas, the Mordovian Regional Public Organization for the Development of Rural Areas "New Village", with the support of the Presidential Grants Fund and the Presidential Fund for Cultural Initiatives, has been implementing projects aimed at supporting the rural population and the socio-cultural development of the village for several years. The projects are being implemented in the village of Parakino, Bolshebereznykovsky district of the Republic of Mordovia. In the Republic of Mordovia, at the end of 2021, 280.1 thousand people lived in rural areas, which is 36% of the total population of this region. Bolshebereznykovsky district is home to 11.7 thousand people.[7] The village of Parakino was founded in 1614, currently 384 people live here.[5] In the five-kilometer zone are located with. Buzaevo and with. Chernaya Promya whose people live in close connection with the village of Parakino and actively participate in cultural and social activities. The total number of permanent residents in the three villages is 674 people. [5]

Since 2019, the project "Museum and Cultural Center "HOUSE OF TRADITIONS"², has been implemented in the village of Parakino, and since 2021 this project has been replicated in other villages of the Bolshebereznykovsky district of the Republic of Mordovia with the support of the Presidential Fund for Cultural Initiatives³.

The practice of the Museum and Cultural Center "HOUSE OF TRADITIONS" is aimed at solving a number of social problems of the modern Russian village, including:

2 Supported by the Presidential Grants Fund in the direction: support for projects in the field of culture and art, project number: 19-1-023806. <https://xn--80afcdbalict6afooklqi5o.xn--p1ai/public/application/item?id=82E361C7-436A-4343-9AFA-ABE582395EA8>

Took 2nd place in the all-Russian competition "Best Municipal Practice" in the nomination "Strengthening interethnic peace and harmony, the implementation of other measures in the field of national policy at the municipal level"

3 Presidential Fund for Cultural Initiatives. Competition for grants from the President of the Russian Federation for the implementation of projects in the field of culture, art and creative (creative) industries. № PFKI-21-1-002537 "MY VILLAGE: from cultural traditions to civil initiatives" <https://xn--80aeeqabljrdbg6a3ahhcl4ay9hsa.xn--p1ai/public/application/item?id=a4fba151-b8b4-4f20-8081-6c0f78f4de22>

1. Loss of the natural and socio-cultural environment of the village, the qualities of cultivation, the savagery of large rural areas. The historical and cultural heritage of the peoples of Russia today risks being largely lost due to the current crisis processes in the countryside: the outflow of the young generation, the closure of schools, hospitals and other significant social infrastructure.

2. The rapid decline in the rural population leads to the extinction of villages and villages over time, not a single permanent resident remains. As a result, the traditions of family foundations, moral and moral values are violated. There are difficulties in communication between the older and younger generations.

3. The lack of dialogue, the destruction of traditions of mutual assistance, the disunity of the rural local community, when responsibility ends with the boundaries of one's farmstead, apartment and small family, the underdevelopment of the civil community, the lack of initiatives for social tasks, and cooperation lead to the disappearance of villages.

4. The village, in its old sense and form, does not fit into the format of the modern world order.

The project is aimed at the socio-cultural and economic development of rural areas through the participation of interested citizens in socially significant events to preserve the history, traditions and culture of the small Motherland and popularize the historical and cultural heritage and identity of rural areas.

"HOUSE OF TRADITIONS" is an interactive original socio-ecological space in the form of a museum and cultural center, taking into account the specifics of life in a typical Russian village, combining traditional excursion programs with creative and educational workshops, as well as museumification of rural areas. Simultaneously with the functioning of the museum and cultural center, a demonstration, discussion and dissemination of the experience of creating a socio-cultural space through the project's web resources is carried out, which makes it possible for the modern young generation to touch the life of their ancestors in an interactive form, activates civil initiatives, involving the local population and natives of the area, living in the distance, to jointly address issues of preserving the small Motherland. "HOUSE OF TRADITIONS" is a place where traditions and modernity, past and present harmoniously "live" in interaction with nature and the local population.

The results of the practical activities of the "HOUSE OF TRADITIONS":

- communication between the natives of the village and their small homeland has been established, platforms have been created for their participation in the life of villages, involvement in public initiatives;

- a new form of rural community has been developed on the basis of specialized groups in social networks, modern information and communication technologies for working with villagers have been implemented;

- the social activity of the population has been strengthened, the possibilities of project activities have been popularized, the attention and participation of the authorities in the implementation of civil initiatives has been attracted;
- the activities of rural libraries and cultural centers have been activated and updated with new forms of work, the historical and cultural heritage of rural areas has been museumified, digitalized, broadcasted;
- the significance of the historical environment of the settlements has been increased and popularized, the conditions of social and cultural life in the village have been improved.

The municipal practice of the "Museum and Cultural Center "HOUSE OF TRADITIONS" has consistently led the rural area to economic activity. In the village of Parakino, a factory of Mordovian cuisine for the production of hand-made dumplings, a cafe of national cuisine, an artel of craftswomen, and a tourist route were created. In February 2021, a local cooperative was created to activate personal subsidiary plots through the development of services for the sale of their products. To date, the villagers are engaged in landscaping the territory, erected a children's and sports grounds, planned the creation of a weekend fair, a crafts center, a hostel, and are aimed at developing ethnographic, culinary and agricultural tourism.

The replication of the project "Museum and Cultural Center "HOUSE OF TRADITIONS" is aimed primarily at solving the problem of disunity of the local community of modern villages of the Republic of Mordovia and the lack of mechanisms to stimulate involvement and participation in the development of their small homeland of residents and natives of rural settlements. The project gives modern villagers, natives of the village, the opportunity to receive a certain form of participation in ongoing events. The proposed Internet communications connect the irrational and rational aspects of the perception of the surrounding world.

It should be noted that any rural area has its own characteristics of development, problems and resources for their resolution. Sustainable development of rural areas requires an integrated approach and rational use of their resources and potential. Another important mechanism in the development of rural areas is the involvement of business and non-profit organizations and, accordingly, the development of public-private partnerships in the implementation of various projects and programs for the rural population.

The demand for such projects and municipal practices as the "HOUSE OF TRADITIONS" is currently due to the dynamics and specifics of today's socio-cultural request of society: "search for oneself" through a growing interest in history, culture and traditions, in national identity; demand for ecological, recreational and ethnographic tourism. Satisfaction and development of this request is of strategic importance for the preservation of Russian culture and sovereignty.

References

1. Grekov A.N. Grekova N.S. *Essential Directions and Mechanism of Sustainable Development of Rural Territories // Agro-Food Policy of Russia. –2017. – №2(62). – P. 73-76.*
2. Kostesha V.A., Ruleva N.P., Kolesnikova I.K. *Problems and prospects of sustainable development of rural areas of the Russian Federation // IACJ. 2022. №1. URL: <https://cyberleninka.ru/article/n/problemy-i-perspektivy-ustoychivogo-razvitiya-selskih-territoriy-rossiyskoy-federatsii> (appeal date: 26.03.2022).*
3. Krutalevich Marina Gennadijevna *Trends in the development of rural areas // Moscow Economic Journal. 2020. №4. URL: <https://cyberleninka.ru/article/n/tendentsii-razvitiya-selskih-territoriy> (appeal date: 26.03.2022).*
4. Minenko A.V., Seliverstov M.V. *Modern approaches to improving working conditions and creating comfortable living conditions in rural areas of the Altai Krai // Economics and Business: Theory and Practice. 2022. №2 (84). URL: <https://cyberleninka.ru/article/n/sovremennye-podhody-k-uluchsheniyu-usloviy-truda-i-sozdaniyu-komfortnyh-usloviy-prozhivaniya-v-selskoy-mestnosti-altayskogo-kрая> (appeal date: 26.03.2022).*
5. *New village. URL: <http://nselo.ru/proekty/dom-traditsiy/o-proekte/> (appeal date: 28.03.2022).*
6. *Decree of the Government of the Russian Federation of February 2, 2015 N 151-r "On the Strategy for the Sustainable Development of Rural Territories of the Russian Federation for the period up to 2030" (with amendments and additions) URL: <https://base.garant.ru/70861426/> (appeal date: 27.03.2022).*
7. *Territorial body of the Federal State Statistics Service for the Republic of Mordovia / Catalog of Publications / Statistical Yearbook (2021) URL: <https://mrd.gks.ru/storage/>*
8. *Federal State Statistics Service. Demography. The number and composition of the population. URL: <https://rosstat.gov.ru/folder/12781> (appeal date: 28.03.2022).*

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嘲弄和挑衅：俄语中的词汇和语义表示

MOCKERY AND PROVOCATION FOR FUN: LEXICAL AND SEMANTIC REPRESENTATION IN THE RUSSIAN LANGUAGE

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该研究旨在确定现代俄语互联网交流中的词汇语义表示模式，即为了娱乐而进行的欺凌和挑衅行为是现代互联网社区的实际现象。分析了命名相应破坏性人际行为的词的语义和组合特异性。揭示了俄罗斯语言文化中各种形式的 *lulz* 欺凌/挑衅的语言表征的一般和差异特征。

关键词：搭配、语义特征、结构特征、组合特征、关键词、词汇和语义表示、对 *lulz* 的嘲弄和挑衅、俄罗斯语言文化、互联网传播。

Abstract. *The study is aimed at identifying patterns of lexico-semantic representation in modern Russian-language Internet communication of bullying and provocation for the sake of entertainment as actual phenomena of modern Internet communities. The semantic and syntagmatic specificity of the words naming the corresponding destructive interpersonal actions are analyzed. General and differential features of the linguistic representation of various forms of lulz bullying / provocation in Russian linguistic culture are revealed.*

Keywords: collocation, semantic features, structural features, syntagmatic features, keyword, lexical and semantic representation, mockery and provocation for lulz, Russian linguoculture, internet communication.

Lulz as a desired goal, justifying and explaining actions, violation of rules and moral principles; parasitism on the emotions of others; the gaming orientation is a consequence of the development of a consumer society, a society of impressions against the background of the globalization of information and communication technologies [Semenova, 2019]. Destructive interpersonal actions, for example, bullying, provocations, can also be of a lulz nature and become a source of entertainment, pleasure for addressees and addressees (from the content, form and

reaction of observers-participants), which is reflected in the language. The object of our study is collocations extracted from web collections of text corpora with the keywords (KW) *mockery, banter, prank, trolling*, denoting mockery, provocation for the sake of entertainment. The study is aimed at a comparative characterization of the semantic and syntagmatic characteristics of KW, identifying patterns of lexical-semantic representation of "entertaining" bullying and incitement through a multi-aspect analysis of collocations functioning in Internet communication 2010-2020 with KW data.

In the selected KW group, Russian-language units and units borrowed from English are equally represented. Collocations are considered by us as statistically stable semantically and syntactically integral combinations of KW and collocate, which are typical for the language/type of texts [Lai, 2019; Onal, 2019; Kang, 2018; Lin & Jin, 2019; Phoocharoenil, 2021]. The studied collocations include nominal collocations (NC) and verb-nominal collocations (VNC). To determine the features of the lexico-semantic representation of the phenomenon of lulz bullying and incitement in the Russian language, a poly-aspect (structural, syntagmatic, semantic) characteristic of collocations is implemented; the number of components, the simple / complex structure of the phrase are analyzed (absence / presence of other connections besides the connection between KW and collocate); subjectivity (description of a VNC situation as implying the presence of an animate and / or inanimate subject of action), objectivity (description of a VNC situation as implying the presence of an object), internal / external transitivity (inclusion of a direct object in VNC / the ability of VNC to attach a direct object); description of a series of collocations - combinations of KW and collocate that have a similar linguistic representation of designated situations (we are talking about combinations of KW in the same case form and semantically, syntagmatically close collocates), structural-semantic models of NC and VNC as schematized correlations of their structural and semantic features; systematization of regular spheres of identification of denotative situations (these spheres are determined by the same structure of the collocate meaning; for example, in collocation *sellout mockery* the adjective has the meaning "one who gives himself, his feelings for money; someone who can be bribed, who is ready for dishonest deeds for the sake of money, profit" [Evgenieva, 1999] and characterizes mockery by analogy with a living person; in collocation *hide behind a prank*, a verb with the meaning "to hide from others in some place" [Evgenieva, 1999] determines the interpretation of the denotative situation as unfolding in some space, and the phenomenon of "prank" itself - as a kind of fragment of space); description of the pragmatic component of the meanings NC and VNC, expressing a value attitude to the named phenomenon (on the reflection of value orientations in syntagmatics, see [Marinova, 2018]). The source of the material is the Sketch Engine and LEEDS corpora

web collections, which use similar association measures (logDice, Loglikelihood score) to extract collocations, estimating the frequency and joint occurrence of collocation components in relation to the frequency of random combinations. The results of the performed analysis are presented in Table 1.

Table 1. Results of analysis of collocations with KW *mockery, banter, prank, trolling*

| analysis parameters | mockery | banter | prank | trolling |
|---|--|---|--|---|
| three-component collocations | 5.62% | 3.31% | 2.5% | 12.5% |
| subject collocations | 47.62% | 52.94% | 44.44% | 81.25% |
| with an animated subject | 35.71% | | 44.44% | |
| two-subject collocations | - | - | - | |
| with an inanimate subject | 11.91% | 8.82% | - | 25% |
| subject-object collocations | 23.81% | 32.35% | 33.33% | 12.5% |
| non-subject non-object collocations | 28.57% | 14.71% | 22.23% | 6.25% |
| internally and externally intransitive collocations | 33.34% | | 20% | |
| externally transitional collocations | 9.26% | 1.92% | 20% | 7.14% |
| collocations | 12.96% | | 0 | |
| NC series | 12 | 19 | 7 | 10 |
| VNC series | 6 | 4 | 1 | 3 |
| What do frequency series describe? | negative development and the transformation of communication into mockery the scale of its manifestation; its skill; long duration / repeatability, non-intensity; targeting a certain group, important, big, significant | fixing the perception of banter; negative development of the situation and transition to banter; cruelty, immorality; skill, intelligence; high quality; duration or frequency; banter authorship | high quality and impacting prank potential; its focus on a specific person, the means / instrument used, the participants involved | typical nature of trolling; his skill and intelligence; rigidity, intensity; recognizability; place of occurrence |

| | | | | |
|-----------------------------------|--|--|--|---|
| <p>structural-semantic models</p> | <p>20: WHAT over a multitude/group, initiated by someone WHAT, "WHAT over a cultural object / in relation to a cultural object"; "WHAT is above the valuable / in relation to the valuable"; "turn into WHAT"; "refined WHAT"; "l o n g W H A T "; "characterized by a small measure of WHAT"; "WHAT is being done"; "there is, becomes large-scale WHAT"</p> | <p>24: amusing WHAT"; having a large measure of WHAT, "not offensive WHAT"; "quality WHAT"; "refined WHAT"; "original WHAT"; "large-scale WHAT"; "evil WHAT"; "primitive WHAT"; "indecent WHAT"; "obvious WHAT"; "simple WHAT"; "having a certain temporal sign of WHAT"; "conscious WHAT"; "coming from a certain person WHAT"; "not corresponding to the situation WHAT"; "perceive WHAT"; "perceive with pleasure WHAT"; "go to WHAT"; "WHAT gives pleasant experiences"; "WHAT is above the template, in relation to the template"; "WHAT over a certain / indefinite individual / collective subject, in relation to a certain / indefinite subject / subjects"; WHAT over the object of culture, worldview, in relation to the object of culture, worldview "</p> | <p>8: unrestrained, sweeping WHAT, excellent WHAT"; "Private W H A T "; "WHAT is growing"; "WHAT over a specific group of persons or a specific person / in relation to a specific group of persons or a specific person"; "WHAT together with the participant / with the help of the participant"; "WHAT with the tool-object / with the help of the object"</p> | <p>13: intense W H A T ; WHAT in a certain fragment of the communicative space, "refined W H A T "; "explicit W H A T "; "ordinary W H A T "; "primitive WHAT"; "incept WHAT"; "stupid W H A T "; "developed W H A T "; "consciously built WHAT"; "yield to the influence, reacting to W H A T "; "turn into W H A T "; "punish by exclusion for WHAT"</p> |
|-----------------------------------|--|--|--|---|

| | | | | |
|--|--|---|---|--|
| thematic codes | someone alive (21.32%); event, event (18.57% act, misconduct (16.58%); trouble, negative impact (15.07%); object (12.52% moving object, fragment of space (7.51%); text, content, communication (7.03%) | personification - 30.35%; subject - 15.73%; act, misdemeanor - 13.48%; text, content, communication - 13.36%; event, event, action - 9.99%; a moving object, a fragment of space - 8.94%; with trouble, negative impact - 2.54%; skill, ability - 2.25%. | text, content, communication (19.28%); subject (17.95%); deed, action, misconduct (16.26%); someone alive (12.96%); impact (unpleasant) (11.24%); moving object, fragment of space (8.98%); event, event (7.97%); sample (3.34%.) | someone alive (25.39%); subject (20.51%); text, content, communication (14.80%); event, event (14.02%); deed, misdemeanor (13.31%); impact (7.32%); a fragment of space, a moving object (2.54%). |
| neutral | 51.68% | 53.61% | 75% | 50% |
| negative assessment of the phenomenon | 37.08% | 19.59% | 10% | 35% |
| positive assessment of the phenomenon | 11.24% | 26.80% | 15% | 15% |
| value attitude reflected by collocations | something cruel, imbued with hatred and aggression, unpleasant, dishonest, unworthy, inappropriate, harmful, directed against the valuable, important, inviolable; at the same time also as something skillful, intellectual, popular, aimed at shortcomings | something that delights with its quality, intelligence, skill, scale, relevance, creativity, as something entertaining, delivering positive experiences, reflecting a friendly attitude; on the other hand - as something evil, cruel, excessive, indecent, violating the norms, unacceptable, interfering, of unsatisfactory quality, stupid | something fun, entertaining, skillful, extraordinary, impressive, but, on the other hand, as violating the rules and regulations, unacceptable, aimed at valuable | something inappropriate, of improper quality, cruel, meaningless, unworthy, unintellectual, dishonest and victimizing; as something complex and skillful, of high quality, admirable, requiring invention, strictly following the goal |

Thus, in the lexico-semantic superverbal representation of bullying / provocation for the sake of entertainment, nominal collocations prevail, which indicates the particular importance in the linguoculture under consideration of reflecting the characteristics of the designated Lulz destructive interpersonal actions them-

selves. Verb collocations predominantly describe situations associated with lulz mockery / provocation as initiated by an animated subject; less often - as the actions of the subject aimed at the denoted entertaining destructive phenomenon; the least represented are descriptions of the corresponding situations as involuntary, and the phenomena themselves as independent, uncontrollable. The most significant parameters of phenomena and situations of their realization, subject to detailing in a series of collocations, are quality, intensity, duration or repetition, focus on a specific object of influence, characterization of the phenomenon as a result of a negative development of the situation, which is confirmed by the described structural and semantic models of collocations. The designated phenomena, as the analysis of thematic codes shows, are identified when they are represented by means of NC and VNC, mainly with a living person, an object, some text or content, an act or misconduct, an event or event, a moving object or a fragment of space, an impact; higher or lower frequency of codes is specific for groups of collocations with different KW. Collocations reflect the ambivalence of the evaluative attitude of native speakers to the designated phenomena with the prevalence of negative evaluation. A positive assessment of the studied phenomena, however, is also widely represented. The fixed ambivalence is due to the opposite of the assessment of the objects that destructive actions are aimed at, the emotional impact and quality of the action, its expectation, complexity/simplicity.

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References

1. Evgenieva A. P. (ed.) *Dictionary of the Russian language. RAS, Institute for Linguistic Research. Moscow: Poligrafressursi, 1999. Retrieved from <http://feb-web.ru/feb/mas/mas-abc/default.asp>.*
2. Kang B. M. *International Journal Of Corpus Linguistics*, 23, 85-113 (2018).
3. Konyaeva Yu. M. *Belgorod State University Scientific bulletin*, 18 (27), 140-144 (2015).
4. Lai H. L. *Pragmatics*, 29 (4), 545-570 (2019).
5. Lin Z., Jin Sh. *Pragmatics and society*, 11(1), 96-123 (2019).
6. Marinova E. *Przegląd Wschodnioeuropejski*, 8(2), 273-282 (2018).
7. Onal I. O. *Nauchnyj dialog*, 1, 73-87 (2019).
8. Phoocharoenil, S. *Eurasian journal of applied linguistics*, 7(1), 240-258 (2021).
9. Semenova E. A. *Television Science*, 15.2, 43-63 (2019).

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笑的民间文化对S. YA的创造力的意义。马沙克
**THE SIGNIFICANCE OF THE LAUGHING FOLK CULTURE FOR THE
CREATIVITY OF S.YA. MARSHAK**

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文章探讨了雅诗中民间笑文化的民俗体裁和艺术手法运用的特点。马沙克和他的诗歌翻译。给出了同时代人对诗人作品的陈述和评价。注意到诗人对不同国家的幽默歌曲的兴趣。

关键词：笑文化、民俗、幽默、讽刺、民谣、歌曲、神话诗学。

Abstract. *The article discusses the peculiarities of the use of folklore genres and artistic techniques of folk laughter culture in the poetry of S.Ya. Marshak and his poetic translations. Statements and assessments of contemporaries about the work of the poet are given. The poet's interest in humorous songs of different nations is noted.*

Keywords: *laughter culture, folklore, humor, satire, ballad, song, mythopoetics.*

The traditions of folk laughter culture, manifested in verbal folklore, music in folklore theater and dance, are very productive for similar types of professional culture, M.M. Bakhtin. They were a kind of synthesis of people's optimism, creative ingenuity, ability to various forms of play activity, the scientist emphasized in his works on the theory of universal folk laughter culture [1].

In this work, based on the testimonies of contemporaries, we will consider some facets of the personality, psychological and creative image of the outstanding poet, indicating the closeness of his personality to the elements of folk laughter culture. Its concept is adequately characterized by the statement of the outstanding film director, screenwriter, poet, playwright Eldar Ryazanov "Where there is humor, there is truth."

Large and different layers of S. Marshak's creativity are connected in different ways with interest in folk culture. Amid the upheavals of the XX century, the writer recreates the type of consciousness that served as the basis for folklore in previous centuries. Therefore, his works, even seemingly very far from the popular worldview ("The War on the Dnieper"), combine the traditions of two genres - a folk tale and journalistic reporting, often acquiring mythopoetic features. Folklore motifs play an important role in the organization of the artistic space and the system of characters.

A.T. Tvardovsky wrote about Marshak as a poet who actively mastered folklore texts in various forms and genres. He emphasized that S. Marshak occupied a considerable place with a variety of manifestations of humor, satire, semantic play. These are, for example, "Mr. Twister" and similar examples of political caricature; plays built on the traditions of Russian popular culture; numerous translations of folk and book humorous poetry (Y. Tuwim, J. Rodari), translations of English "nonsense" poetry and much more.

The combination of the poetics of folklorism with a completely different artistic thinking and figurative structure gave Marshak's original and translated work an image of the world associated with the traditions of Russian folk and classical culture.

Many of his works are based on specific historical events and descriptions of real life. However, behind them one can feel the mythopoetic overtones associated with the folklore tradition. Narrative from the perspective of different characters allows the writer to create a special type of narrative that takes on a symbolic meaning. "This joy arising from purifying suffering is the key to life wisdom, to wisdom that creates and builds, is grateful and overcomes. It opens up to babies and people with a pure heart," – this is how I. A. Ilyin defined the originality of a folk tale [2; 385].

During this period, folklore influences in the works of Marshak are almost absent outwardly, the real discovery of folklore by the poet will occur later. But implicitly, in parallel with the main line of creativity in the early period, there is an accumulation of "folklore potential" from various sources - biblical texts, then - English and Scottish ballads, Russian urban satirical poetry.

We consider it necessary to turn to individual memories of the poet by his relatives and friends, who left very important evidence of his various predilections in the field of literature, both professional and folk.

The concept of "literary life", introduced into scientific use by Yu.N. Tynyanov and B.M. Eikhbaum, further developed by Yu.M. Lotman, who defined "literary life" as a kind of text, has its own application in each specific case. In relation to S.Ya. Marshak, we can judge the unity and interdependence of his human and writer's appearance, the inseparable connection between life and creativity, where the

laughter element also occupied a large place. The poet's son, I.S. Marshak, recalls that in his childhood, along with reading Russian and English poems, classical Russian prose, and the best translated books in his family, "my father sang a lot of folk songs to me". "From an early age, the chime of Edgar Allan Poe's Bells, complex musical melodies in my father's favorite poems from Thomas Hood ("Bridge of Sighs") and Francis Thomson ("Hound of Heaven" and "Daisy")" [3;74].

The selection of works heard from his father was distinguished by exceptional taste. "Evenings on a farm near Dikanka", "The Nose", "Overcoat", "Carriage", "Inspector", "Marriage", "Dead Souls", many Chekhov stories. "The Night Before Christmas" he read especially often. "And when I had literary hobbies that were not approved by him, he very subtly warned me against them - most often with a joke, like a casual impromptu: "From Alexandre Dumas/You won't get smart)" [3; 75]. It was important that S.Ya. Marshak, who deeply knew and appreciated the highest works of world classics, like Pushkin, never neglected the poetry of the people, did not look down on her.

The earliest memorable songs "with content" Immanuel Samuilovich Marshak, along with Maykov's "Lullaby" (his father and mother sang at his bedside in Krasnodar), calls the song that his father sang, "bringing me cheerfully on his shoulders through the streets and alleys of the park in Detskoye Selo":

*В чуждеальной стороне,
В незнакомой доле,
В неизвестном табуне
Конь гулял по воле... [3; 109].*

I.S. Marshak does not quite accurately quote and does not specify that it was also the Cossack drill song "Oh, near the meadow, near the meadow..." "taken out" from Krasnodar-Ekaterinodar. But he very accurately reproduces the forgotten Russian folk song beloved by his father:

*Сидела Катюшенька
Поздним вечером одна,
Вышивала Катенька
Тонким шелком рукава.
Вышивши рукавчики,
В терем к батюшке пошла.
Вышивши рукавчики,
В терем к батюшке пошла.*

*Сватался к Катюшеньке
Из сената сенатор.
Давал он в обличьице
Полтораста душ крестьян.
Думаю-подумаю,
Я за этого нейду.
Думаю-подумаю,
Я за этого нейду [3;109].*

The plot of this ballad song is quite rare, although simple. Katyushenka also rejects the "first guild of the merchant", who gave "in the guise of eighteen ships", and she accepts the proposal of the village musician, who gave "in the guise only a violin and a pipe". The song ended with a beautiful hymn to the power of art:

*Выйду ль я на улицу, -
Всякий любовью назовет.*

*Любушка-голубушка,
Музыкантова жена.*

The poetics of this song is typical of old folk family love songs, which were included in the category of *long* songs. These are repetitions that create a special melodiousness, and diminutive suffixes, and constant epithets. According to his son, Marshak included his own variation on this theme (perhaps, this is the only case in his literary work) in the play "To be afraid of grief - not to see happiness" (Vakhtangov Theater, 1953).

The dialectical unity of fun and sadness characteristic of the people's worldview ("Something native is heard in the long songs of the coachman: That revelry is daring, That heartfelt longing ..." (A.S. Pushkin, "Winter Road") will be organically close to the worldview of S. Ya. In the future, in his poetry, Marshak will rarely imitate folklore verse, resort to stylizations and direct imitations (this mainly applies to his translations from the poetry of other peoples). However, the spirit and form of folk art will be present in the works created by the author.

I.S. Marshak notes that his father also loved other Russian folk songs, adding that his father was friends with many people who knew and loved folk songs. S.Ya. Marshak remembered and performed many Russian, Ukrainian, Belarusian, Armenian, English, Scottish, Finnish, Jewish songs [3;74]. Such is the witty and ironic poem "The Miller, the Boy and the Donkey" that has long been a textbook, which in turn gave rise to various paraphrases. It is prefaced with the subtitle "Oriental Tale", which subtly imitates the rhythm and stanza of a folk joke song and at the same time a parable:

*Где это Видано?
Где это Слыхано? —
Старый осел
Молодого везет!*

It is characteristic that Marshak was attracted by really rare songs that had not been processed by mass culture, that is, those in which the true nationality was preserved. The author "is ironic about the philistine interest in all kinds of rumors, superstitions, about the extremely narrow and primitive nature of mass consciousness" [4; 147]. It is interesting that in Marshak's work there is no direct influence, imitation of such songs, they exist, as it were, in the subtext, in that part of the "iceberg" that is hidden under water and give special depth and richness to his outwardly different poetry.

K. Chukovsky noted another side of Marshak's talent - the master of the difficult genre, which was owned by folk wits - poetic impromptu. Everywhere - in the theater, at the dacha, at a party, in a bookstore, in a hairdresser, in a hospital - under any circumstances, he easily and freely improvised mischievous poems, epigrams, parodies, "admiring with their brilliant humor and charming brevity of form." In

1960, sending K. Chukovsky the book "Satirical Poems", he reported that "the publishing house" expelled "several impromptu from it."

*Но, может быть, в Музее
Чуковского Корнея —
В «Чукоккале» найдут
Изгнанники приют.*

E. Papernaya, in her memoirs, which are also called "A Friend of the Song," writes about one of the episodes that happened in the Leningrad House of Books in the late 1920s. "Long corridors, austere offices - a solid and respectable institution, and suddenly a song is heard from the editor's office, but what a merry one! No, no, this is not a radio, this is someone singing in Ukrainian in the office of Samuil Yakovlevich Marshak:

*Ви, музики, грайте,
А ви, люди, чуйте.
Старимах по домах,
Молоді, танцюйте! [5; 170].*

The beginning young author from Ukraine, as it turns out in the conversation, knows a lot of folk songs. And suddenly, his conversation with the editor, at the request of the editor, ends with singing. "Both are involved. Samuil Yakovlevich is sitting at the editor's desk, littered with manuscripts and galleys, and leaning forward, listening to the song with great attention and interest. His eyes sparkle behind glasses, his face is animated, his fingers fiddle with a strand of hair - a sign of concentration. One of the junior editors enters the office: "Sit down and listen to the song, it will be useful to you. What a wonderful rhythm! And how succinctly, nothing more. This melody will remain in the memory, it will appear in the rhythm of a new poem..." [5; 170].

"Here Samuil Yakovlevich rushes along the corridor of the publishing house, hurries to his office, preoccupied and upset by something. Harms stops him.

— You see, Samuil Yakovlevich, I suddenly forgot the melody of the Pomor song that you sang to me, Kharms says, how does it begin? - In such a case, you can't refuse! And Marshak, busy up to his throat, immediately sings softly as he walks in his low, hoarse voice:

*Уж ты гой еси, море синее,
Море синее, все студеное,
Все студеное, да все солоное.
Кормишь-поишь ты нас, море синее,*

*Одевать-обуваешь, море синее,
Погребать ты нас, море синее,
Море синее, все студеное,
Все студеное да все солоное...*

The harsh original melody of this old Pomeranian song, its rhythm, which conveys the movements of the rowers, gradually captures both Marshak and Kharms. The preoccupied expression disappears from the face of Samuil Yakovlevich, the wrinkles on his forehead are smoothed out - the song drove away the fuss... "[5; 170].

E. Papernaya recalls how two young very musical authors, knowing Marshak's passion for folk art, composed a rather successful imitation of a Russian folk song. The forgery Marshak did not capture, he remained indifferent to it. But on the other hand, how excited he was when the song touched him to the core!

A. Goldberg, in his memoir essay "The light you lit is burning ...", recalls how in December 1957 Samuil Yakovlevich arrived in Leningrad for the first time after the war. After a big and noisy evening, the tension disappeared, and Samuil Yakovlevich turned from an "anniversary object" into himself, he needed a release, because he immediately offered to sing. One of the poets present knew Marshak's "repertoire", and the two of them began to sing old and long-forgotten songs.

A. Goldberg made a very subtle remark about S. Marshak's perception of the tonality of different languages: "Samuil Yakovlevich pronounces the words with such pleasure that it was clear how much he liked clear rhythmic repetitions. And, as soon as he had finished singing, he began to talk about how the song verse sounds differently among different peoples. The Ukrainian language, for example, is especially adapted for humor, it has wonderful words - "manesenyky", "manenesenyky". The Russian language is inherent in that great power, which is necessary for a high song and which, by the way, is also in the English language. Very few great poets manage to combine folk humor and the high structure of verse in their work" [6;45].

Noteworthy is S. Marshak's assessment of the translations of English ballads. He was afraid that the translations would look bookish.

Here is an excerpt from a popular dance song:

*Эх, распошел, распошел, распошел
Парень молодой,
В красной рубашоночке,
Хорошенький такой*

According to S. Ya. Marshak, the melody of the English folk ballad "The Gypsy Countess" sounds something like this. Samuil Marshak's folk song acts as a source of vital optimism.

Thus, the elements of humor and satire, games with form and content in S. Marshak's original work and translation are important for the writer as a manifestation of national characters, they penetrate into all areas of his work, filling and enriching it with a life-affirming character.

References

1. Bakhtin M.M. *Creativity of Francois Rabelais and folk culture of the Middle Ages and the Renaissance. Rabelais and Gogol (Art of the Word and Folk Laughter Culture)*. — M.: Russian dictionaries; Languages of Slavic cultures, 2010. — 752 P.
2. Goldberg A. "Your light is burning..." // "I thought, I felt, I lived." *Memories of Marshak*. M., 1988.
3. Ilyin I. A. *Coll. op.: In 10 v. V. 6. Book 1*. M.: Russ. book, 1996. P. 385.
4. Marshak I.S. "My boy, I give you this song" // "I thought, I felt, I lived."
5. Papernaya E. *A friend of the song* // "I thought, I felt, I lived." *Memories of Marshak*. M., 1988.
6. Stepanova T.M., Autleva F.A. *Parody rethinking of romantic and folklore genres and motifs (medieval ballad, gothic story) in W. Irving's short stories*. *Bulletin of the Adyghe State University. Series 2: Philology and Art History* 2015. №2.

技术哲学分析与对话哲学

**PHILOSOPHICAL ANALYSIS OF TECHNOLOGY AND PHILOSOPHY
OF DIALOGUE**

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考虑了借助对话哲学分析技术的前景。它表明技术是对话的反面：一个人的独白，他根据自己的意愿改造自然和其他人（谁改造了他）。技术增加了一个人在被动环境中作为主动主体的创造潜力，因此它不会增加他的自由：技术是独白的自由。

关键词：技术、哲学、对话、人、自由、创造力。

Abstract. *The prospects for the analysis of technology with the help of the philosophy of dialogue are considered. It is shown that technology is the opposite of dialogue: a monologue of a person who, according to his own will, transforms nature and other people (who transform him). Technique increases the creative potential of a person as an active agent in a passive environment, so it does not increase his freedom: technique is the freedom of a monologue.*

Keywords: *technique, philosophy, dialogue, man, freedom, creativity.*

From the very beginning of the philosophical analysis of technology, there has been a dispute: whether technology increases the freedom and creative potential of a person or reduces it. The pragmatic side of technology and its transformative impact on nature and the human body have been studied quite well [5], and the expansion of technical rationality characteristic of modern society has been identified [4]. But the individualizing effect of technology is not sufficiently disclosed, although the analysis of technology as a spiritual phenomenon that determines the measure of human freedom is necessary when looking for ways to humanize society. The connection of technical activity with the creative, creative potential of a person has been repeatedly noted by philosophers - although they usually attributed it to the lowest level of needs, seeing technology as a means to improve the material side of life. In fact, both the weakening of the exploitation of man by man (depriving the conflict of labor and capital of leadership among the causes of social conflicts), and the increase in average life expectancy, and the victory over

many diseases are the undoubted results of technological progress, which freed man from many coercive factors. Technique - wherever we transform the elements - natural, social, instinctive; wherever people improve reality by overcoming limitations and realizing their own goals. The life of mankind from technical progress as a whole is improving: the technogenic dependence of human life has replaced not an era of complete freedom, but another form of dependence - on the unpredictable elements of nature (including spontaneous processes in society). Thus, technological progress is inseparable from social and cultural progress - from the formation of the ideas of freedom and human creativity. Relying on successes in the fight against nature, people gained faith in their own strength, in the ability to improve social relations. Creativity and technical progress do not oppose each other: man created both culture and technology, transforming the inner and outer world.

However, the question of whether technological progress helps the formation of personality is still on the agenda. Let's consider this problem with the involvement of the philosophy of dialogue - a direction that explores the opposite of a technical attitude to the world: technology is the control of an object and its transformation, and dialogue is communication of equal subjects and understanding. Dialogue as a method of cognition that occurs during the exchange of dissimilar opinions has been known since ancient times. But at the beginning of the XX century, the problem of human alienation and loneliness, intensified by the technical manipulation of the world and consciousness, led to a new level of dialogue discussion. Many philosophers sought to restore the absolute value of the human personality in the way of communication aimed at understanding and recognizing the uniqueness of the interlocutor: this is the dialogue, understood as a fundamental characteristic of the position of a person in the world. In contrast to classical philosophy ("monologic", speaking about an autonomous "I", but essentially seeing objects in everything - "It"), a new type of philosophical reflection was proposed, refusing to reduce personal worlds to a common denominator - a single system of views. It was argued that it is the dissimilarity of the participants in the dialogue that turns their meeting into an event. "I" is born only when a person is directed towards the "Other" - this is how relationships are created, and hence consciousness; in the course of the dialogue of equal subjects, the meanings of culture are born.

M. Buber, one of the founders of dialogic philosophy, singled out two relationships of a person to the world: functional "I-It" (relation to things and other people as impersonal objects - tools designed to serve the goals of this person) and dialogic "I-You" (personal relationship, when others are seen as the only and unique beings, equal partners in the dialogue). Depending on which of these positions a person chooses, everything appears before him either as a thing or as a friend. Turning something into "It", we use it: then we have a world of objects that

allow us to use ourselves, but the person himself becomes an object. It is impossible to live without "It", but the one who lives only by it is not a person, M. Buber believed: the spiritual crisis of modernity is caused by the fact that humanity is immersed in the "I-It" relationship - not evil, but defective, necessary for life in the physical world, but bearing estrangement from the world and oneself. A person in the "I-It" position perceives another person as a dangerous "Not-I" and tries to present it as a "thing among things". In "I-You" a person is a person who reveals himself in a dialogue: when she addresses the "Other", who has become "You", then the "Other" answers her. Only in relation to "I-You" does a person find true life, and the "Other" turns into a person - different from me, but equal to me in its unconditional value. The "other" does not become me, and I do not become him, but I take care of him, and he answers me the same. M. Buber believed that the existence of a person is "coexistence" with other people: communication generates the true essence of a person. This is how "We" is born - not a crowd, but a combination of "independently responsible individuals". As M. Buber stated, "only people who are able to tell each other the real "You" can tell each other the real "We"" [3, p. 104]. So, dialogic philosophy explores the "I-You" relationship, when one person treats another as an equal and tries not to control him, but to understand him. Philosophical systems based on the "I-It" relationship understood a person as a thing and tried to subordinate him to the general principles of the universe; according to M.M. Bakhtin, the focus on "monologism" previously dominated - one true point of view and a single consciousness: either the "Other" was understood the same as "I" (idealism), or "I" was understood the same as "Other" (materialism). Dialogical being is an "event" for the implementation of which two dissimilar personalities are needed. Consciousness, argued M. M. Bakhtin, appears only when there are at least two consciousnesses: "'I" must become different in relation to itself - living its life in this value world, and this other must take an essentially justified value position outside me" [2, p. 100]. In a dialogue, unlike a monologue, the independence of the other is recognized: its goal is understanding, and not persuading the other (not even "empathy" with him, since this would mean losing one's point of view). By the dissimilarity of their positions, the participants in the dialogue enrich the world. Alien consciousnesses "cannot be contemplated, analyzed, defined as objects, as things - one can only communicate with them dialogically." Otherwise, people "turn to us with their objective side: they fall silent, close and freeze into complete object images" [1, p. 116]. Even agreement with the other should be dialogical, not leading to "the merging of voices and truths into a single impersonal truth" [1, p. 161].

Why can the philosophy of dialogue say a new word about technology?

Today, according to V.S. Stepin, "scientific and technological development is the core of technogenic civilization, the basis for its change and the formation of

new states of social life": this means that "scientific and technological development intertwines the links between the fundamental values of technogenic culture - creative activity, scientific rationality, attitude to nature as a resource for transformative activity, understanding of power as control over natural and social objects" [6, p. 11]. As you can see, both power and creativity are the consequences of a technical attitude to the world; if a city dweller spoiled by comfort is ready to leave power over nature in the past (not suspecting how difficult the life of the first people in "untouched" nature was), then he will not want to stop perceiving himself as a free person. But one effect cannot disappear without the other; technology grants freedom both from the elements of nature and from traditions that oppress free will. But technology is not the freedom of man, but the freedom of one of his sides - activity. Consequently, technical progress and, in general, the technical attitude to the world has a dual value coloring: they both free a person and subordinate him to a new dependence. But this technogenic dependence is still lighter. It is only necessary to find out to what extent natural processes can be transformed: not so much biospheric (ecology deals with this), as cultural, moral, psychological, so that in the constant change of technologies one does not lose the person himself and does not jeopardize the humanization of his life. This is what philosophy should do.

A person's desire to get rid of external restrictions is realized with the help of technology - material and non-material (science, education, medicine - methods of improving one's own mind, psyche, body). Technical is the relation of a person to the world, based on the desire to remake it in order to adapt to one's desires: this attitude is the opposite of the readiness to remake oneself to adapt to the world, which is characteristic of traditional societies and biological species in general (therefore, technology is a purely human readiness to change others). Both attitudes to the world - technological and personal, monologue and dialogue - are justified by necessity and must take their place in life, but today the technological attitude is replacing the personal one.

It is necessary to identify the optimal boundaries of the technical transformation of the environment and one's own natural substrate (physiology, instincts, etc. - everything that differs from consciousness). Should anything remain unchanged during this rework? Is there something essential in human nature, the loss of which threatens the loss of personality? A person is forced to change the world - but a person transforms himself as actively as the outside world, starting with the invention of writing and ending with projects of transhumanism. Is there anything that cannot be changed at the risk of losing one's own identity (personal or biological)? Technique reflects the measure of a person's freedom from external restrictions, carried out through the implementation of artificial processes that increase the efficiency of natural processes. Technique is what was caused by the struggle for

existence characteristic of nature, therefore, paradoxically, technology is the most natural of the human: what other living beings do unconsciously, a person does technically. All biological species strive to survive; people strive for the same thing, and this desire - this instinct - for some reason is considered anti-natural!

The opposite of technology is passivity, conformism, obedience to restrictions imposed from outside. Sometimes these restrictions are justified by the fact that their source is another person who has his own interests and defends them; sometimes they are the result of the influence of the laws of nature, which a person seeks to know and use to his advantage. The third source of restrictions is the nature of the person himself, which he, in a fit of transformative optimism, can destroy without noticing it himself. A technological view of the world both increases freedom and reduces it: a person becomes dependent on the technical rationality and transformative plans of other people (for example, those who manage social technologies). Here is the main contradiction of technology: giving a person the opportunity to influence the world, changing it according to his desires, technology at the same time gives other people and society as a whole the opportunity to influence a person.

The subject of technical activity is a person - and at the same time the object of technical activity on the part of other people. A person is both an agent (the creator of technologies) and a product (of other people who create and apply other technologies).

The reason for technological progress is the desire of people to overcome the imposed restrictions: natural (with the help of industrial technologies), social (with the help of social technologies), biological (medical techniques up to modern methods of changing appearance, gender, etc.), psychological (psychotechnics - from memorization techniques to esoteric practices). All these phenomena, so different, are united by a common feature - the remaking of reality: dissatisfaction with what exists, and the desire to change it to something new. Dissatisfaction is the root of enmity, so technique is initially associated with struggle, with violence against everything that is natural. Nevertheless, this desire and technical progress itself cannot be considered negative: natural restrictions are not sacred, the progress of human society, the humanization of society and the increase in cultural wealth are reduced to their expansion. Calls for a "dialogue with nature" are initially fruitless - nature does not honor us with a dialogue, not to mention the lack of subjectivity in it.

Technique helps to realize our desires, which often turn out to be either ill-conceived or inspired from outside. As a result, we do not get what we would like to receive; but it is not technology that is to blame, but the arrogant monologue of an individual who does not want to understand the limitations - internal and external. Thus, technology can be called the unconscious of our civilization. Philosophy

recognizes the social conditioning of the technical base of civilization, but emphasizes the possibility for a person to overcome this conditioning if he really wants to be free. The negative consequences of technical progress are the result of a mistake of a person who has forgotten that he himself is both the subject of technical activity and the subject of technical influences. However, in the course of technological progress (and especially in a technogenic society), this mistake becomes almost inevitable and, consequently, the monologues of self-confident creators give rise to dissonance instead of harmony. A person transforms everything that he can transform without stopping before the technogenic risk; the freedom granted by technology turns into arbitrariness - decisions are caused by the whim of fashion or the unconscious action of propaganda. The freer a person considers himself today, the more difficult it is for him to achieve truly free thinking.

Modern civilization is in crisis, and its cause is the contradiction between the growing technological changes in the world around man (including other people) and its response transformations caused by feedbacks with society and nature - connections that are still little studied and therefore insurmountable. This feedback frees a person from some types of dependence (on natural conditions and specific people), but makes him dependent on the anonymous forces of social reality. However, technogenic crises are constantly traced in history, and the way out of them is not a technical regression, but cultural progress, that is, the outstripping development of the cultural and moral qualities of people. Technologies should not only satisfy the material needs of people, but also create spiritual needs - this primarily applies to social technologies, to the field of upbringing and education. Thus, philosophy shows how technology helps a person overcome the limitations imposed by nature or society. But man himself is their creation: therefore, opposing external coercion, he fights with himself and - unfortunately - more and more often defeats himself. This is the main negative impact of technology: a person, being a part of nature and society, transforms himself, not always understanding the consequences of technological changes. Wherever we see a desire to increase the efficiency of any process (natural or social), we meet with a technical mind that seeks to reject the old for the sake of the new. It is not for nothing that modern society is called technogenic: philosophy shows both the dependence of human life on technology and the contradictory fruits of this dependence. The philosophy of dialogue helps to reveal the complex relationship between freedom and dependence - man on society and society on man - which technological progress reveals and sharpens.

References

1. Bakhtin M.M. *Problems of Dostoevsky's poetics*. – M.: Fiction, 1972. – 363 P.
2. Bakhtin M.M. *Aesthetics of verbal creativity*. – M.: Art, 1969. – 445 P.
3. Buber M. *The problem of man*. – M.: Republic, 1992. – 464 P.
4. Popkova N.V. *Humanitarianization of teaching philosophy as a struggle against the expansion of technical rationality // Alma Mater (Vestnik vysshei shkoly)*. – 2019. – № 2. – P. 16-20. DOI 10.20339/AM.02-19.016
5. Popkova N.V. *Man in the technogenic world: ideological contradictions and philosophical search // World of Psychology*. – 2018. – № 4. – P. 22-34.
6. Stepin V.S. *Globalization and dialogue of cultures: the problem of values // Age of globalization*. – 2011. – № 2. – P. 8-17.

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地缘政治背景下的信息与心理战：理论与实践
INFORMATION AND PSYCHOLOGICAL WAR IN THE CONTEXT OF
GEOPOLITICS: THEORY AND PRACTICE

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在文章中，作者指出，目前现代信息过程的全球化以及绝大多数人缺乏必要的知识和时间来对世界上的事件和现象编制客观意见导致了简单化和非批判性的看法 收到的信息，这创造了广泛影响公众舆论，追求政治利益的机会。

关键词：信息战，地缘政治，信息空间，操纵理论，虚假，心理战。

Abstract. *In the article, the authors note that at present the globality of modern information processes and the lack of necessary knowledge and time for the vast majority of people to compile an objective opinion on events and phenomena in the world leads to simplification and non-critical perception of the information received, which creates the opportunity to widely influence public opinion, pursuing political interests.*

Keywords: *information war, geopolitics, information space, manipulation theory, fake, psychological war.*

The globalization of modern information processes and the lack of necessary knowledge and time for the vast majority of people to compile an objective opinion on events and phenomena around the world leads to simplification and un-critical perception of the information received, which creates the opportunity to widely influence public opinion, pursuing political interests.

It should be noted that the inextricable information connection with the surrounding reality is one of the most important conditions for the normal life of a person in society.

Information combines both creative and destructive effects. Control over information flows is a determining factor in the realization of the interests of States at the international level, resulting in the emergence of the term "information war".

Information warfare is a set of measures designed to have a psychological impact on both individuals and large groups of people in order to change their mood, attitudes and behavior in a plan beneficial to the subject.

Back in the 19th century, an English researcher of psychological warfare P. Warburton wrote: "The main task in the war is not to destroy the enemy's armed forces, as it was before, but to undermine the morale of the population of the enemy country as a whole to such a level that it forces its government to go to peace. The armed clash of armies is only one means to achieve this goal. "

One of the first cases of the use of information and psychological impact dates back to the 5th century BC. e., when the Persian king Xerxes I, trying to frighten the Hellenes, spread rumors about the gigantic size of his army².

There are various concepts, information and psychological warfare, among which eight main ones can be distinguished: "controlled chaos," "network war," "information-network war," "operations to achieve effect," "pre-emptive war," "geopolitical operation," "strategy of indirect geopolitical actions" and "political war."

Let us dwell on the concept of a "geopolitical operation" originally proposed and developed by Russian researchers L.G. Ivashov K.V. Sivkov. The geopolitical operation is seen as the new highest form of interstate confrontation at the global and regional level, with its stages of preparation and conduct, which surpasses military operations in the space covered, the number and variety of forces and means involved.

The goals of a geopolitical operation are the elimination of a geopolitical opponent or a change of power in a particular country. The content of the geopolitical operation consists of operations and military operations of groups of armed forces and irregular formations, secret operations of special services, events of economic war, diplomatic and information.

Examples of these forms of action in interstate confrontation are the Eastern European ones carried out by the West (culminating in the collapse of the bloc of socialist countries and the expansion of NATO to the east), Euro-Asian (ended in the disintegration of the USSR), East Asian (an attempt to establish control over Iraq and Afghanistan) and North African - "Arab Spring" (change of regimes in the MagHreb countries) operations.

It is also worth noting that the modern information and psychological impact

1 Sinchuk Y.V. Information structures of armies of leading foreign countries//Bulletin of Moscow State Linguistic University. Social sciences. 2017. – № 787. – P. 78-94.

2 Volkovsky N. L. History of information wars: vol. 1 (from ancient times to the XIX century)/ed. I. Petrov. – St. Petersburg: Polygon, 2003. 502 p.

must be considered within the framework of the theory and practice of conducting fourth-generation wars, or the strategy of "4GW," an independent type of influence, an effective weapon aimed at weakening the psychological stability of the enemy, suppressing his morale, and arousing political, social, economic activity of the governed masses. The ultimate goal of such influence is mass demonstrations to overthrow the political regime, to arouse interest in alternative socio-political constructions.

Thus, the objects of influence are: consciousness,³ will, feelings of the population of the opposing state, especially during periods of elections, referendums, crisis and emergency situations; Persons making managerial decisions in key areas of the state's life, including in the field of security and defense. This thesis is confirmed by mass riots of an extremist and terrorist nature in the Republic of Kazakhstan, after which K. Massimov, Chairman of the National Security Committee of Kazakhstan, was charged with treason⁴.

At the same time, such an impact should be understandable and accessible for perception, coincide with the model of perception of the surrounding world. Each state has a unique spiritual and psychological system, which includes a holistic historically formed system of unconscious attitudes of the population and an unconscious reaction of this population to a situation related to a threat to life, as well as unconscious instincts of self-preservation⁵.

The analysis of modern trends of information and psychological impact makes it possible to distinguish its main directions, influencing which it is possible to achieve a change in the cultural code of the country.

The first direction is worldview, an influence on which is carried out by the massive introduction into the consciousness of people of many false stereotypes of perception and thinking.

The second, chronological, is the emptying of historical landmarks and their replacement with facts or myths convenient for the subjects of influence.

The spent direction is factual-logical, that is, the formation of the attitude of people to certain events, by subjective submission of information that excludes the possibility of the existence of another, opposite assessment.

Taking into account the situation in the information space that has developed

3 Kikhtan V.V. Study of the processes of manipulation of consciousness in modern media/V.V. Kikhtan//Bulletin of Volzhsky University named after V.N. Tatishchev. - № 2.- Vol.2.-2018, P.220-226: Consciousness is a special kind of activity of the psyche related to the interpretation of information entering the brain from the outside world.

4 Source: According to the investigation, the chairman of the National Security Council of Kazakhstan has been repeatedly reported on the activities of terrorist and extremist organizations, as well as their accomplices in large cities of the republic, while no concrete actions were taken to prevent the threat. [Electronic resource] .- Mode of access - <https://www.iz.ru/> (date of appeal: 15.03.2022)

5 Sitnikova I.V. Information and psychological impact as a practice of conducting wars of the fourth generation/I.V. Sitnikova, A.A. Polyakov//Vlasty. – No. 7. – 2018. – P.70-75.

against the backdrop of a special military operation in Ukraine, one should separately dwell on such a phenomenon in Western culture as Russophobia, which is actively used in the information and psychological war by Western countries, both in relation to the population of their states and to disorganize the population of Russia.

Russophobia must be understood not only as a manifestation of negative feelings regarding Russia and Russian culture, but as a rather holistic ideology, that is, a special complex of ideas and concepts, having its own structure, its own system of concepts and its history of genesis and development in Western culture, as well as its typical manifestations⁶.

The subjects of information and psychological warfare are States with their geopolitical interests in relation to the object of influence, usually related to territory control and unhindered access to natural resources. Direct impact measures are implemented by foreign political departments, special services, information and propaganda structures, transnational commercial companies, controlled international organizations and other structures that can influence a large audience.

The main principles of organizing and conducting information and psychological warfare are: the principle of asymmetry of the conflict; the principle of manoeuvrability; "wars without rules" and "wars of all against all"; the principle of chaos; principle of special effects, principle of combat flock; the principle of "victory without control."

Modern weapons of information and psychological warfare are represented to use television, radio, social networks, computer games, the film industry, literature, media, the Internet, mobile communications, global navigation.

A study of the history of information and psychological warfare technology can be concluded that there are a wide range of examples of the exercise of influence, which range from the distribution of literature, leaflets, to the creation and support of organizations lobbying for the goals of the affected subject, including in virtual space. So, German publications, during the First World War, published a newspaper in French, where, among other things, they printed the names of captured French soldiers. At the same time, the Soviet government renamed the settlements with German names, including the capital of the Russian Empire of St. Petersburg to Petrograd, and the change of German names to Russians was also actively carried out.

In the XX century, active popularization of the exploits of heroes was carried out, which was carried out not only by publishing in print media and broadcasts on television and radio, but also by placing portraits of heroes on general goods (cigarette packages, candy wrappers).

Some researchers attribute the adoption of regulatory legal acts to the actions

⁶ Groys B. Russia as a subconscious of the West//Groys B. Utopia and exchange. – M, 1993. P. 251–252.

of the information and psychological war, so the Soviet decrees "On Peace," "On Land," were addressed not so much to the government as directly to the masses and had a vivid propaganda character. Opinion leaders play a significant role in information and psychological warfare. So Stalin, after the German attack on the USSR, made a speech in which he addressed not the traditional "comrades," but "brothers and sisters."

To date, there are more than 60 methods of information and psychological influence in science, as a rule, the application of certain methods depends on the goal of influence, the audience, its cultural and historical views and worldviews and the possibilities of means of manipulation.

Mainly, information and psychological warfare is carried out in two main forms, which can be both constructive and destructive.

The first form of propaganda. The term "propaganda" comes from the Latin "propaganda" and means "distribution." In science, propaganda began to be actively explored only from the 19th century. We can distinguish two main schools of scientists who began to consider this concept: functional direction and critical (Frankfurt school)⁷.

Representatives of the functional field in political sciences, such as G. Lasswell, W. Lippmann, K. Hovland, D. Lillecker, laid the theoretical foundations for understanding propaganda and identified the main methods and methods of its implementation.

So, D. Llecker believed that propaganda is "communication, which was developed by one social group with the goal - to influence the opinion, attitudes and behavior of others. In propaganda, symbolism and rhetoric are often used, it turns to the emotional and irrational aspects of our perception".

In turn, G. Lasswell formulated a formula that sets a certain format for describing communication: "Who reports what, through what channels, to whom and with what effects?" Also, the scientist claims that society consists of different groups and layers whose interests are far from the same. Lasswell shows that the degree of effectiveness of propaganda is largely determined by the ability to take into account these features and convey to representatives of specific groups exactly what can affect their behavior⁸.

In his book, W. Lippmann introduced into the scientific sphere the concepts of "agendasetting," that is, those events that, after being brought to public attention, are subject to discussion by the population. W. Lippmann wrote that the media serve as a link between real events and images in the minds of people.

7 Ivanov A.A. Communicative space of war: propaganda and public sentiment/A.A. Ivanov Educational and methodological manual. - St. Petersburg, 2017. – P. 72.

8 Lasswell. G.D. Propaganda Technique in World War II/G.D. Lasswell RAS. INION. Center for Social Scientific and Information Research, Otd. political science, Otd. sociology and social psychology; sucker. and translator V.G. Nikolaev; Otv. ed. D.V. Efremenko; a leap. article by D.V. Efremenko, I.K. Bogomolova. - Moscow, 2021. – 237 p.

Considering the approaches of the Frankfurt School, one should separately focus on the works of leading representatives of the Frankfurt Institute for Social Research - Max Horkheimer, Theodor Adorno, Herbert Marcuse, as well as Erich Fromm.

According to Adorno and Horkheimer, the mass production of cultural forms involves the unification of individual features. Scientists believe that the audience is a kind of homogeneous mass, which is offered pre-tested materials. Another important circumstance that Adorno and Horkheimer draw attention to is the emphasis on the formation of passivity and conformism in the audience.

E. Fromm, talking about propaganda, in his book "Flight from Freedom," says that in many cases German citizens who have nothing to do with Nazism protect him from criticism of foreigners, because they regard this criticism as attacks on their country. The most important axiom of political propaganda. Any attacks on Germany as such, any propaganda defaming the Germans, only increase the loyalty of those who do not yet fully identify with the Nazi system. This problem cannot be solved even by the smartest and most skillful propaganda.

Also, E. Fromm identified a certain propaganda algorithm, including the following stages: the first, creating a certain type of behavior; the second, the transformation of this type of behavior into a natural habit, with the help of propaganda; third, fixing this habit through products replicated by the culture industry.

In detail, this algorithm was embodied in the technology of the Overton Window, which was named after the American scientist and psychologist Joseph Overton, who studied the technique of dehumanizing a person and explained how to step by step reformulate human perception to unacceptable, disgusting and shameful into normal and even prestigious, that is, gradual destruction of human moral principles. At the same time, the object of influence forms the illusion that it independently makes a choice and makes a conscious decision.

The second form of information and psychological warfare is manipulation. The term "manipulation" comes from the Latin word *manipulare* and means "control."

In the theory of manipulation, primary and secondary stages are distinguished. Primary manipulation is a purposeful process, the hidden management of the will and feelings of the object of control. Secondary manipulation is primarily the result of primary manipulation, which can be spread by the victims of manipulation themselves. A striking example of secondary manipulation is posts on social networks on the Internet of people who were subject to manipulation, and now this information is disseminated further.

As already noted, the media are a key tool of influence. There are interpretations of manipulation methods in the media, among which we can distinguish: the spread of "fakes," fabrication of facts, substitution of the meaning of the word and

concept, sensationalism, inspiration, transfer of the private to the general, fragmentation.

Based on their analysis of the information and psychological war carried out against Russia, it can be argued that it is carried out with the help of significant forces and means of geopolitical rivals.

Thus, the factors of stability of the state, in the current conditions, are: the ideological and value sphere of society; a high level of socio-economic, inter-ethnic and interfaith stability; the extent to which society supports the political regime; stable functioning of the public administration system; life support infrastructure; a military organization; the state of international relations.

References

1. Kikhtan V.V. *Research of processes of manipulation of consciousness in modern mass media/V.V. Kikhtan//Bulletin of Volzhsky University named after V.N. Tatishchev .- № 2.-T2.-2018- Pp.220-226.*
2. Sinchuk Y.V. *Information structures of armies of leading foreign countries// Bulletin of Moscow State Linguistic University. Social sciences. 2017. – № 787. – P. 78-94.*
3. Sitnikova I.V. *Information and psychological impact as a practice of conducting wars of the fourth generation/I.V. Sitnikova, A.A. Polyakov//Vlasty.- No. 7.-2018.- Pp. 70-75*
4. Groys B. *Russia as a subconscious of the West//Groys B. Utopia and exchange. M, 1993. Pp. 251–252.*
5. Volkovsky N. L. *History of information wars: vol. 1 (from ancient times to the XIX century)/ed. I. Petrov. St. Petersburg: Polygon, 2003. P. 502.*
6. Lasswell G.D. *Propaganda Technique in World War II/G.D. Lasswell/RAN. INION. Center for Social Scientific and Information Research, Otd. political science, Otd. sociology and social psychology; sucker. and translator V.G. Nikolaev; Otv. ed. D.V. Efremenko; a leap. article by D.V. Efremenko, I.K. Bogomolova. - Moscow, 2021. - 237 p.*
7. Ivanov A.A. *Communicative space of war: propaganda and public sentiment/ A.A. Ivanov Educational and methodological manual. - St. Petersburg, 2017. – 72 p.*

英雄作为一种文化和哲学现象
HERO AS A CULTURAL AND PHILOSOPHICAL PHENOMENON

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这篇文章致力于对英雄主义现象的理解。作者通过与命运等基本生活现实的关联分析了英雄主义的讨论方式。作者讨论了英雄主义现象如何被视为人类的极限状态之一。英雄主义现象从神话、哲学和文化等方面呈现。

关键词：英雄主义现象、英雄、命运、元现代主义、后现代主义。

Annotation. *The article is devoted to the understanding of the phenomenon of heroism. The authors analyze the way heroism is discussed through correlation with such fundamental reality of life as fate. The authors discuss how the phenomenon of heroism is considered as one of the limiting states of human being. The phenomenon of heroism is presented from the mythological, philosophical and cultural aspects.*

Keywords: *phenomenon of heroism, hero, fate, metamodernism, postmodernism.*

The problem of understanding the world by a modern person, who is far from philosophical and cultural issues, is the perception of the surrounding reality as an isolated phenomenon, a unique set of facts coming one after another. Considering a set of facts separated by commas in an uncomplicated everyday sequence, it is impossible to discern and understand the context. Interpreting the meanings of what is happening becomes problematic without understanding the context. Life turns from research and progressive development into a simple statement of activity.

Understanding life as a continuing phenomenon, process, is the only way to lead to the beginning of reflection, resulting in the emergence of new knowledge

as a prerequisite for changing the surrounding world. This process consists of irreversible, interconnected short-term and long-term changes, some of which a person can control, others he has no power over, which he organizes himself, or which confront him with inexorability. When studying and comprehending the events taking place in the surrounding world, it is necessary to understand not only that any of them has causes and consequences, but also not to forget that it is difficult, and sometimes simply impossible, to consider them in a pure, laboratory form. A researcher in the field of liberal arts, such as philosophy and cultural studies, necessarily moves from the realm of the ordinary, with its simplified and flattened understanding of what is happening, which does not allow the possibility of interpretation, to the sphere of the symbolic.

It goes without saying, that the researcher may rip (“delicate extracting” in this case is simply excluded) some cultural or political event from the context and, figuratively speaking, put it on the table and do the dissection. In this case it will be impossible to escape from the accompanying threats. Firstly, the study of social phenomena using the methodology inherent in natural sciences does not necessarily lead to objective results from the point of view of humanitarian theory. Secondly, there are serious doubts about the possibility of achieving the research goal (it is enough to recall the notorious comparative historical method in the study of religion), namely, an attempt to trace connections, analyze and identify patterns, and thereby try to at least in broad strokes anticipate the further development of social cultural situation. The latter is necessary not for a rationally planned control of the process (although, of course, such a danger should not be excluded), but for realizing and trying to avoid mistakes made by humanity in the past.

Our world is constantly changing. What is of greater significance, it is changing impetuously. Modernity was replaced in the 20th century by postmodernism with its concept of the plurality of Truths and a new understanding of the Man. The authors of the 21st century, namely, Alexander Pavlov, address to the post-, but to the post-postmodern, trying to help the “reading public” understand the diversity of its interpretations [3]. Other researchers (Robin van der Akker, Josh Toth, Allison Gibbons, Timotheus Vermeulen) offer a new interpretation of cultural and aesthetic phenomena, speaking of the advent of the era of Metamodernism [2].

Modern people live at the tipping point of political, economic, cultural, religious, philosophical and ontological eras. Homo soveticus filed as a history, having ceased to exist as a project at the national level. If we turn to the historical aspect of the stated topic, throughout our life a person constantly meets characters called heroes in numerous various contexts. These heroes can be both: mythological or really living among people. It should be immediately noted that we are going to speculate about such phenomena as the heroes and heroism taking into account the contemporary point of view, bearing in mind the fact that any work should at

least try to be conceived in the context of the era in which it was produced (which is undoubtedly difficult, but definitely must be done).

It makes no sense to argue with Stagirite, who proclaimed the priority of the social in the formation of individual consciousness in his treatise "Politics" ("Man is a political being." Aristotle). His teacher Plato also did not see the possibility of the emergence of humanity apart from communication with their own kind. The principles proclaimed by these thinkers have not lost their relevance and continue to be decisive for both society and the state till the present day.

Both, although they realized the ideal citizen of the perfect polis in different ways, agreed on the main thing: to create one, it is necessary to educate and civilize an individual who is just claiming to be called a human being. The biological nature of man (the first one), according to thinkers, is imperfect, it does not contribute to being. Human selfishness knows no boundaries, it requires constant immoderate satisfaction of desires, satisfaction at any cost, accompanied by outbursts of rage, greed and lust. Obeying one instinct alone, it is impossible to build a society, but it is easy to find yourself in a troop. The good news is that in addition to the "first" nature, a person can also have a "second" one, based on culture and sociality. It puts individual happiness and ethical virtue at the forefront, but not the bodily well-being of the individual.

The main role in the process of forming a moral person is assigned to the culture, i.e., to the area of the symbolic. A hero, a role model, a landmark in the life of a virtuous citizen should and must be here, not in the sphere of the empirical. Indeed, the heroes, and more precisely, the stories about them, accompany us everywhere: in the Greek myths, which we learn about in childhood, such as Achilles, Hercules, Demophon, Theseus. Then, at a more adult age, when we begin to engage in historical science (Great French Revolution, Revolution of 1917, Second World War), finally, one should not discount the cultural crisis taking place in our time. In addition, one should take into account the future, which will turn into the present at some point.

We should not fall into despair when trying to answer the question of whether the current situation is hopeless and whether the future awaiting us in this regard is bleak. In this context, it is necessary to recall the old principle: if the situation becomes a dead end (or seems to be), one should return to the roots and try, taking into account the current state of affairs, to rethink the accumulated cultural experience. In this case, there is hope. Firstly, to take a different look at the prospects for the development of the phenomenon. Secondly, to formulate, based on cultural grounds, an alternative to what is happening today and in the near future.

The future is understood as the onset and expansion of a new - media reality, from television to multimedia and the Internet. Given the topic of this study, there is no need to dwell in detail on the network structure of being offered to society

and man by new technologies. Like any other tool, they can be used both for good and for harm. The main thing is not to forget that this is just a tool, not a substitute for life.

In this regard it is necessary to refer to the work by Pyotr Alexandrovich Saporov "The Phenomenon of Heroism". In his work, the author presents the fundamental concepts of human culture: God, being, fate, chance, death, life, freedom, sage, man, hero. One must agree with the author that the phenomenon indicated in the title of the work should be considered using examples created by works of art. Documentary, scientific and memoir sources often suffer from a narrow focus on the subject of consideration. Sometimes, especially when it comes to various diaries and memoirs, they have a tendency to subjective and attempt to justify or frankly embellish what was happening [4].

Fate, one of the most mysterious and elusive concepts of culture, is the decisive factor influencing the appearance of the hero, the beginning of his existence. Directly or indirectly a huge number of works of art are devoted to its interpretation. Here is another argument in favor of considering fate from cultural, and not from actually philosophical, positions. Those who fancy wisdom treat destiny with caution. It is difficult (if not impossible) to place this concept into a coherent system that claims to be a philosophical one.

The difficulty consists primarily in giving a clear and precise definition of the phenomenon. Only under this condition it is possible to "work" with it. It comes as no surprise that the main characters in Russian folk tales express, at first glance, a paradoxical request "Who are you? Name yourself!" encountering yet another monster. Interaction with it becomes problematic without a preliminary understanding of the object.

Drawing a parallel with this example, it is necessary to understand that fate is, first of all, "who" or "what". From the stories about heroes created in different eras and based on different cultural traditions, it becomes clear that fate is secondary to the world, it interacts with the existing, but is not the source of being. «It does not generate anything and does not create» [4, 21]. What has been said does not mean powerlessness or neutrality of fate. It holds a unique position and serves an important function of dissolution and elimination of existing. It is similar to the shadow cast by objects, but it is the shadow of being, its reverse side, "nothing ever manifesting itself, dynamics and power without a carrier» [4, 23].

As a person we always have to encounter fate. As long as individuals have a strong group identification, correlation with family, tribe, clan, he obeys a common will, is guided by a common character, they do not feel the "breath" of fate with their skin (philosophical, logical, legal languages are powerless in this case). But when an "ontological revolution" occurs, when the individual begins to realize himself as a person, thereby standing out and, as a result, separating from others,

acquires a character inherent to him and only to him, an understanding of the drama of being immediately comes. If I exist, then my self must have a beginning, and since it has a beginning, then with a high degree of probability it is possible to admit that someday, sooner or later, my self will disappear, cease to exist. This is how tanatos, the messenger and constant companion of fate, appears the world. One way or another, the hero needs fate, just like fate needs him.

Life is followed by death. Life, which is not just lasting, but also purposeful, especially for the hero. Understanding and accepting responsibility for their own actions, the feeling that a person is able to change the reality around, pushes to be active in both social and political spheres. This is how a tradition of setting the hero as an example for others to follow appears.

Who are the others? They are those who surround the hero while they are not heroes themselves –they are “a slave and a man of “the golden mean” [4, 114]. They all strive for the same goal, fortunately remembering Plato and Aristotle. But this is the only thing that unites them. Difficulties arise immediately, as soon as the question arises of understanding the essence of this very happiness. For the slave, it consists in receiving primitive pleasures dictated by instincts that drown out the voice of reason. The slave does not control pleasure, pleasure controls the slave. In this case, it is impossible to break out of the immanent. In this case, being together becomes problematic, if not possible at all. Stagirite is categorical in his assessments, calling such "happiness" bestial.

A sage, a person of “the golden mean” perceives happiness the other way. He possesses that which is inaccessible to a slave (either by birth or as a result of primitive laziness and thoughtlessness), this knowledge, first of all, about truth and virtue. This person is capable of reasoning, avoids pleasures for which the slave is so greedy, strives for moderation in relation to himself, builds relationships with others in accordance with the category of good. His life, unlike the slave’s one, is not aimed at the brutal, but the social.

The meaning of the hero's life is in the struggle, opposing himself, his will and the force of the inexorable fate. He has an idea of sense gratification, knows about moderation, but does not strive for either one or another. The hero lives in another reality, in the space of battle. The only thing he needs is someone of his own kind, because both companions and opponents are needed for battle. Only by helping the first, suppressing the second, he is able to realize his heroism and achieve the goal - to become the first among equals.

This can only be achieved by self-realization, squeezing out all the "human, too human" feelings, such as anger, rage, pity and fear. Remembering Plato's "State", these affects must be kept on a leash, and the more reliable it is, the better. The choice is simple and cruel - either you are a hero or a slave (with a pretense of tyranny), there are no other options.

The first one to be expelled from the pantheon of heroes was the thinker who claimed "look inside yourself", Plato's teacher. Therein, the philosophical was first combined with the heroic. Socrates lived as a sage, but died undoubtedly as a hero. His tragedy lies in the clear understanding that "human, too human" knowledge, no matter how sophisticated it may be, cannot be true. It is impossible to live virtuously, orienting ourselves or appealing to the imaginary, transitory, and therefore subject to deprivation.

There is divine knowledge and it is true, for it has a non-human, but divine source. The tragedy consists in the fact that a living person is incapable of joining it. The conclusion, generated by the philosophical, speaks of the transition to the heroic, that is, of the meeting with death. One should agree with the author of *The Phenomenon of Heroism* that Socrates understood the inaccessibility of true wisdom in this world, conditioned by momentary opinions. "I know I don't know anything" - this is the thinker's manifesto and his "gift" to fellow citizens.

Subsequently, over time, the Old Testament tradition changed the understanding of heroism, ripping a person out of the bonds of blind, irrational, emotionless power and bringing him into correlation with the sphere of the transcendent. In this context, it is necessary to appeal to a thinker who had a significant impact on Christian, in particular Protestant, thought, the Dane Søren Kierkegaard. In the work "Fear and Awe", dedicated to the "father of faith" - Abraham, a man whom he could not but admire as a writer, the thinker analyzes the mediation of the ethical by the universal. It is on his example, as a "primary source" and "model", that the thinker explores the very nature or possibility of faith - the basis of communication and unity of the creature with the Creator [1].

A human is not born with faith and not everyone can find it. In this context, the Christian tradition continues the thought of Plato and Aristotle about the individual's innate predisposition to certain activities. The Ancient thinkers, it should also be noted, spoke of reason and correct judgment, accompanied by the desire for knowledge (the true one, not imaginary). Kierkegaard, on the other hand, discusses the "eternal consciousness" with which each person is born, not identical to faith, but making its bearer potentially capable of reuniting with the Other. The presence of this consciousness serves as embodied evidence of the will of the Creator, which separates man from the rest, the natural kingdom, which lifts the subject above him [1].

However, to comprehend the transcendent and to touch it, it is not enough just to distance from dark and blind instincts, more precisely, from unconditional submission to them. Any individual (both a man and a woman) needs the feeling of love to do it. It has several manifestations in this earthly world.

Individuals can love themselves, while living among others, interacting with them, setting goals, thanks to the achievement of which they have a chance to

gain greatness, their lives will pass in "waiting for the possible." On the other hand, they can have this feeling for the people living around them, devoting their whole life to serving them and taking care of them as his highest task. In this case, a person will have a chance to become immortal, remaining in the memories of descendants, in their recognition and glory after physical death.

But these are all "earthly forms" of human greatness, unable not only to achieve, but even to approach the transcendental. True greatness can be achieved only by loving the God. Although this love is difficult. Human reason (Kierkegaard calls it "earthly reason") serving as a reliable support for the individual in earthly life, is not suitable here, becoming an insurmountable obstacle on the way. The paradox (a term found among many theologians and writers, both medieval and modern) of Abraham is that he "... was great in wisdom, whose secret was in stupidity, great in the hope that looked like madness, great in that love that is self-hatred" [1, 16]. The Christian tradition, recognizing the primacy of faith, pushes the rational into the background.

Refusing to obey the dictates of reason, stubbornly demanding to refrain from the planned, Abraham turned to faith and set off on his tragic path. But having distanced ourselves from the rational, armed only with faith, blind human faith, there is a serious danger of straying from the righteous path and being under delusion, destructive precisely because it cannot be realized as such. Strengthening and persisting in his delusion, the human is prepared for only one fate - an increasing distance from the Truth and, as a consequence, eternal death, that is, non-being.

The order given to Abraham is monstrous, the result of its execution is quite clear and predictable. But still he continues to believe "by the power of absurdity" when all other arguments have already been exhausted. To lose the basis of your being, your identity, in order to then, through the absurd, regain your humanity, but already united with the divine. This is the fundamental difference between Christianity and previous religious and philosophical concepts.

It is impossible to understand Abraham's position in this situation not only through worldly ethics in particular, but also from the standpoint of philosophy as a science in general. This paradox is insoluble with logical tools. To solve it, another, not a philosophical language is needed, "for in this temporality, God and I cannot talk to each other, we have no common language" [1, 30].

The lack of faith allows the performance of an act of bravery similar to that of Abraham, but the result in this case turns out to be completely different. At the same time, it is impossible to go beyond the immanent and rise above it. The subject in this situation, making a logical circle, is only able to "find himself," and nothing more. Without exalted love and sufficient faith, the act of bravery becomes a crime.

Faith comprehended through absurdity and paradox, the essence of which is

understood and accepted individually - is the basis of true heroism. At the same time, as the thinker notes, the completion of this process, the achievement of a certain highest point is impossible. Actually, the human is not transmitted at the biological level as instincts, it has no "genetic memory". Therefore, each generation, coming into this world, is forced to start comprehending the human from scratch, reproducing, in its own way, the task that faced its predecessors.

An individual striving to become a human being is doomed to search for the transcendent, to try to meet it. This is possible only through going beyond the immanent. Only by gaining a faith based on love, but not to the universal, but to the absolute, the divine, existing thanks to a passionate impulse and desire to know the truth, can one rise above biological conditioning and be a man, more precisely, a hero, or, more precisely, a Christian.

With the emergency of Christianity, fate, as something external, inexorable, impersonal and frightening, is leveled out and ceases to exist. All attention shifts from the external to the absolute, the situation changes dramatically. "Fate as the Fate of God is Providence," [4, 174] a new tradition proclaims. And if this is so, then death is no longer perceived as a departure into nothing, from now on it means the end of earthly suffering, the transition after a long journey towards the Creator.

Cultural traditions and customs change over time, and quite serious transformations can occur within one tradition. However, it should be remembered that it is culture that plays one of the main roles in the formation of personality. Neither philosophy nor religion can completely replace culture. Heroes and heroism continue to occupy an important place in it, serving as an inspiring example and guideline for a person of any age trying to join the cultural heritage or comprehend their place in this world.

The phenomenon of heroism has also undergone major changes throughout the history of human culture, but has by no means lost its relevance. Any phenomenon, if taken in context, and not strictly literally, can be viewed from two sides. Indeed, the postmodern has dealt with the metanarrative, leveled it. Although, on the other hand, it brought diversity to the cultural tradition, in which, no doubt, there is a place for a discourse about heroism and its place in the life of modern man. The unique character of culture lies not only in its importance for the formation of the subjective, it is a language understandable to people of various faiths, cultures, political, aesthetic, scientific and other views. It sets a general plan, a context in which a civilized dialogue is possible, in which everyone, who meaningfully and correctly expresses their point of view, will be heard and understood. Its space can claim universality in the modern world. At the same time, it is necessary to understand that this space should draw its foundations in the mythological, in a direct dialogue with philosophy, theology, sociology and politics.

References

1. *Kierkegaard Søren. Fear and awe. - Ed. 2nd, supplemented and corrected. - M. Cultural revolution, 2010. - 488 p.*
2. *Metamodernism. Historicity, Affect and Depth after Postmodernism / R. Van den Akker. - M. RIPOL classic, 2020. - 496 p.*
3. *Pavlov A.V. Post-postmodernism. How social and cultural theories explain our time. - M. Ed. case, 2021. - 560 p.*
4. *Sapronov P.A. The phenomenon of heroism. - Ed. 2nd, fix. and add. - SPb.: IC "Humanitarian Academy", 2005. - 512 p.*
5. *Khoruzhenko K.M. Culturology. Encyclopedic Dictionary. - Rostov-on-Don: ed. "Phoenix", 1997. - 640 p.*

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生于地狱的艺术
ART BORN IN HELL

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本文讨论了各种艺术流派，例如文学、音乐和绘画，包括图形，以及它们在第二次世界大战期间在集中营中的存在。当代艺术中对大屠杀和战争恐怖报道也被考虑在内。

关键词：集中营、艺术、历史价值。

Abstract. *This article discusses various genres of art, such as literature, music and painting, including graphics, their existence in concentration camps during the Second World War. The coverage of the Holocaust and the horrors of war in contemporary art is also considered.*

Keywords: *concentration camp, art, historical value.*

The relationship between history and art is undeniable. Art, which is a kind of marker of the reality around us, often reflects what worries society or the creator, who in turn always belong to a certain era at a particular moment in time. Also, art, performing one of its main functions, accumulates and transmits experience, important, unshakable values. Such, in our opinion, is the art that was born in the literal sense in hell - the art created in the conditions of concentration camps during the Second World War. In our work, we would like to consider both the stage of the birth of this art and its further influence on modern culture. The work will mainly highlight foreign creativity.

There are many definitions for the term "art", one way or another reflecting its essence. We would like to dwell on the following: "Art is a form of culture associated with the ability of the subject to the aesthetic development of the life world, its reproduction in a figurative and symbolic manner, based on the resources of creative imagination" [1; p.79]. In the context of the topic of our work, we would

like to analyze this definition in more detail.

The "life world", which is the object of aesthetic development, for the prisoners was limited to the barbed wire of the concentration camp fence. The concentration camp became a gray, painful, deadly reality for the captives. It could be concluded that the aesthetic understanding of such a life world is practically impossible. Especially when, for example, such an art form as music is used to deprive prisoners of the ability to think, their cultural identity, and in addition, submission to Nazi ideology. We have taken this information from the "Music of the Holocaust" website [4], which is a collection of articles by a research group of authors. The overall concept for the site was developed by Dr. Shirley Gilbert, Lecturer in International Relations at the University of Southampton, where she teaches courses in contemporary Jewish and Holocaust history. Almost always, music was used for the purpose of humiliation, when, for example, religious prisoners were forced to sing religious songs, that is, songs that were of great importance to them. During the performance of the songs, people who did not know the lyrics or who sang "not loud enough" were subjected to violence. Often the music drowned out the sounds of torture, and often acted as torture itself. For example, in the article "Music on order" [4], one can read information about the Dachau camp, where Richard Wagner's operas were played through the loudspeaker system in order to stun the prisoners. In Buchenwald, for example, music was turned on at night, thus depriving the prisoners of the sleep they lacked.

Also known are the so-called camp orchestras - musical ensembles consisting of prisoners. Their task was to entertain the guards and the camp administration, to perform at SS evenings, but the main purpose of their creation was to escort forced labor, meet work detachments at the camp gates and accompany executions, executions, selection procedures [4]. The presence of an orchestra in a concentration camp was considered by the Nazis "a sign of an exemplary camp structure." And although the imprisoned musicians in the camps were given special indulgences, and sometimes even privileges, one can only guess about their moral and spiritual state. In addition, often such prisoners became outcasts among other prisoners, they were envied and branded as "traitors".

It is difficult to imagine that in the conditions of a concentration camp "reliance on the resources of creative imagination" is generally possible, because where does this resource come from when the physical and moral condition of the prisoners does not even meet the minimum standard, given the constant pressure and oppression? However, things were quite different. Art remained a lifeline, a different reality from which one could draw strength. "Excuse me - art in a concentration camp? Is it possible? Yes, but, of course, it depends on what you call art" [8; p.], – Viktor Frankl, psychologist, founder of logotherapy, former prisoner of the Theresienstadt and Auschwitz concentration camps, wrote in his work "Trotzdem

Ja zum Leben sagen". Indeed, art serves as a kind of compensation for the lack of something in life. What a person lacks, he recreates in art [1; p. 89]. The power of the imagination, the very resource on which art relies, is no less important. Here is what Edith Eva Eger, a former prisoner of the Auschwitz concentration camp and a practicing psychologist, writes in her book "The Choice: Embrace The Possible" about the power of imagination in a concentration camp: "I remember that even when we were starving, we were feasting <...>. In our heads, we had celebrations every hour, fighting over how much paprika to put in Hungarian chicken paprikash <...>. What we created in our imagination somehow reinforced our strength" [10; p. 65–66].

As we can see, a special direction of literature, one of the main types of art, was also born in the camp. Texts that tell about the realities of concentration camps are included in a large and original camp genre. Undoubtedly, we find the origins of this special type of literary creativity back in the XIX century in Russian hard labor literature by such writers as F. M. Dostoevsky and A. P. Chekhov in the works "Notes from the House of the Dead" and "Sakhalin Island" [3; p. 221]. But this genre was especially developed during the Second World War. One of the most famous works that appeared during this period is the novel "Der siebte Kreuz by Anna Seghers". Also included is the documentary novel "Die Prüfung" by Willy Bredel, who worked on the work in the early Fuhlsbüttel concentration camp during his imprisonment in 1933 and was only able to publish the work after his release, in 1934 in London. The German publicist and sociologist Eugen Kogon, like Bredel, was able to publish his work "Der SS-Staat. Das System der deutschen Konzentrationslager" only after liberation, in 1946. From 1939 to 1945 Kogon was a prisoner of the Buchenwald concentration camp. His work was one of the first studies of the social structure of the camps and has not lost its significance to this day.

After the war, the topic remained relevant, received new understanding. Such works as the novel "Der Funke Leben" by Erich Maria Remarque, the already mentioned work "Trotzdem Ja zum Leben sagen" by Viktor Frankl, the autobiographical novel "Nackt unter Wölfen" by Bruno Apitz, the story by Karl Mundstock "Die Sonne in der Mitternacht", the novel "Der Vorleser" by Bernhard Schlink is one of the later representatives. An example of research literature is the work of Hermann Langbein "...nicht wie die Schläfe zur Schlachtbank: Widerstand in der nationalsozialistischen Konzentrationslagern". One of the significant works of the post-war period was the documentary play "Die Ermittlung" by Peter Weiss, which is still staged to this day.

Music has also become one of the saving sources for the prisoners. The camp musicians could and did play in front of their comrades with the permission of the camp guards. Music supported the prisoners, helped them to resist psychological

pressure, relieved pain, supported the strength in them to resist [4]. Here is what Viktor Frankl writes about his experience: "Sometimes from time to time, something like a variety concert was arranged. They cleaned up some barracks, dragged a couple of benches there, made up a "program". And in the evening, <...> kapos came here, camp workers who were not part of the usual teams. They came <...> in order to <...> find at least a little distraction, to forget. <...> And imagine, it helped! It helped so much that <...> ordinary prisoners, despite all their fatigue, even risking missing their soup, came here" [8; p. 80–81]. Most often, prisoners composed new words to already known and popular song motifs, filling their poems with a description of camp life, experiences, hopes and fears. In the early days of concentration camps, camp hymns also originated. The most famous first camp hymn - "Moorsoldatenlied", was also written by the prisoners. Unlike other hymns that appeared later, this one was not written by order of the SS [4]. There was no special need for camp hymns until 1936, when the camp authorities began to insist on their appearance in order to increase their prestige and the prestige of the camp. As a rule, the names of the hymns reflected the place in which they were written: "Buchenwaldlied", "Sachsenhausenlied", "Treblinkalied", etc. Almost the only song in the title of which the place was emphasized, which was characteristic mainly of hymns commissioned by the SS, "Dachuslied", written by the poet Jura Seufer and composer Herbert Zipper in 1938, was of a protest, condemning character, quickly spread among the prisoners and became famous far outside of Germany, like the previously mentioned song "Moorsoldatenlied".

With the fine arts, the situation was much more complicated, because paper, let alone canvas and paints, was a real rarity in the camp. The prisoners drew on whatever they had to: a tarpaulin, a mattress cover, a box lid. However, this did not prevent the canvases from being born. The main task of these works is historical memory, its preservation and transmission. So, at the beginning of 2016, the German Museum of History (Deutsches Historisches Museum) organized the exhibition "Kunst aus dem Holocaust", consisting of paintings painted in various concentration camps, labor camps and ghettos. Many of these artists ended up being tortured, killed, or poisoned in the gas chamber. You can see how the genre and content of the paintings differ: from portraits to landscapes, from harsh and cruel reality to calm, hopeful paintings. People lived through hardships and tragedies in different ways: someone filled in art the hope, freedom, peace that was missing in reality, and someone lived through their trauma, depicting a gloomy and cold world around, horrors, death. Some of the paintings are a reflection of personal experiences, while others are almost documentary.

The painting by Karl Bodek and Kurt Loew shows a yellow butterfly perched on barbed wire in the foreground. The yellow butterfly, which is located against the backdrop of the gloomy buildings of the camp, is a symbol of hope that has

not yet died out for salvation. Here we can notice just that very filling of what is missing in life through art. Some artists, although they painted the cruel reality around them, expressed their opposition and struggle through barely noticeable symbols. For example, a black-and-white painting by Leo Haas depicts a moving column of prisoners. In the left corner of the picture, on the gates of the ghetto, you can see the letter "V", meaning resistance, the struggle against what is happening. Leo Haas, who was in the Theresienstadt camp, was assigned to the construction department, but he used the materials given out for sketching the drawings in a different way. After his release, nearly 500 of the artist's works were used as evidence in war criminal trials. Here is what Haas himself says about why he painted: "Das habe ich deswegen getan, weil es eigentlich mein ganzer Sinn war,... in allen Lagern... Zeugenschaft abzulegen... und gewissermaßen Beweisstücke zu schaffen. Ich habe auch... fast nie das Bewusstsein gehabt, ich mache Kunst, ich wollte nur Anklagestücke schaffen" [13]. After the war, the artist continued to create and in 1947 he created the engraving "Terezin" as a lived through experience.

This example is not the only one of its kind. The work of another artist, Yehuda Bacon, was also used as evidence in court. He got into the camp as a very curious child. He and a few other children were put on a team of couriers, and one cold day the overseer invited them to warm themselves by the crematorium ovens. After his release, Yehuda Bacon recreated in his works what he saw with his own eyes: gas chambers, furnaces, and other objects. An interview with him can be found on the website of the Yad Vashem Holocaust memorial complex [2]. Here is what he says, answering the question of what exactly he painted in Auschwitz: "I drew mainly in Fredy Hirsch's barrack at the "Family Camp". I drew what we saw: the camp near us, how the dead were carried... I was very curious. The first time I looked, I noticed there were no holes in the showerheads. I walked there with the Sonderkommando. I got a guided tour and asked what each thing was for... and immediately after liberation in 1945, I reconstructed the gas chambers and the crematoria. I had an urge to remember it all exactly as it was. The drawings were used in the David Irving Trial. They perfectly matched the drawings they found at the SS's technical department" [2].

A collection of paintings on the subject under study can also be found in various foreign museums. For example, in the Imperial War Museum in London [14]. Almost all of these works were written by former prisoners of various concentration camps in approximately the same period - in 1945, after the end of the war. Some works were written later and became a kind of reflection of the authors on their past, on the events experienced and seen, as well as the work of other artists. In their paintings, the spiritual wound is still fresh, not healed by anything. The paintings are mostly gloomy, dark and dull colors predominate in the color scheme, the plot is painfully connected with reality and already bears little resem-

blance to the carefree butterfly of Bodek and Lev.

Now the theme of concentration camp art in its various manifestations is still relevant. The genre of camp literature is still developing, because works devoted to this difficult topic are still being written today. For example, the already mentioned work by Edith Eger "The Choice: Embrace The Possible", which combines both the genre of camp and motivational literature. In addition, Thomas Keneally "Schindler's List", John Boyle "The Boy In The Stripped Pajama", Morris Heather "The Tattooist of Auschwitz", Eva Schloss "After Auschwitz", Jan Thomas Gross "Zlote zniva", Jeremy Dronfield "The Boy Who Followed His Father Into Auschwitz" and others. In addition to works of art, there is also research literature, such as the work of Gudrun Schwarz "Die nationalsozialistischen Lager". Works of the camp genre rarely leave readers indifferent, raising difficult but important topics again and again. Many of these books become bestsellers, capturing the hearts of millions of readers with their stories.

Cinema has also not left the heavy themes of the war aside, and that is why there are films such as "The Pianist", "The Zookeeper's Wife", film adaptations of the novels "Der Vorleser", "Schindler's List" and "The Boy In The Stripped Pajama" as well as many documentaries dedicated to the war in general and concentration camps and the Holocaust in particular [12]. Unfortunately, the volume of the article does not allow us to dwell on the topic of cinematography in more detail.

Modern fine art also sometimes refers to terrible historical events. The German painter Gerhard Richter painted four canvases in 2014 [7], strongly impressed by photographs from the Birkenau camp, secretly taken by one of the prisoners. These canvases, which are abstractions dominated by black, gray and white, now hang near the western entrance to the Berlin Reichstag. Prior to that, in 2005, a memorial installation to the victims of the Holocaust was installed in Budapest on the Danube embankment - 60 pairs of men's, women's and children's shoes cast from cast iron. The idea of director Ken Tagay was brought to life by sculptor Gyula Power.

The musical genre is significantly inferior to the rest. Now it is quite difficult to find performers who touch on such complex and heavy topics in their songs.

Art, created in terrible, inhuman conditions, has become one of the markers of the historical era, although long gone, but still exerting its influence on culture and society. This art is a kind of monument to universal values that should never be forgotten. However, it is difficult to assess its real impact on the minds of people, because it is rather intimate, not for everyone. It seems that people, having seen and felt the pledged message, will change for the better, and the mistakes of the past will never be repeated. Unfortunately, such utopian fantasies are not destined to come true. Yehuda Bacon in his memoirs said: "As a boy I thought: "I will tell them what I saw, in the hope that people will change for the better." But people

didn't change and didn't even want to know. Much later I understood the meaning of suffering. It can make sense if it changes you for the better" [9; p. 306]. Do not forget that art is a complex, metaphorical language, with its own entry threshold: "Artistic space is permeated with various boundaries <...>. The ability to overcome this boundary between one's perception of the world and the artist's perception is directly related to the mobility of a person's inner world, his ability to respond to external influences and change" [1; p. 83–84]. Not all people want to deal with such topics, not all people can delve into the topic. Which, of course, is very unfortunate.

References

1. Bystrova T. Yu. *Culturology*. – Yekaterinburg: Ural Publishing House, 2014. – 192 P.
2. *Holocaust memorial complex Yad Vashem. Interview with Yehuda Bacon*. [Electronic resource]. URL: <https://www.yadvashem.org/articles/interviews/yehuda-bacon> (appeal date: 15.02.2022).
3. Marsenich Z. Zh., Narbut E. V. *Stylistic features of the lexico-semantic field "camp" in the Russian language*. // *Linguistics, translation studies and methods of teaching foreign languages: current problems and prospects: a collection of materials*. – Oryol : I. S. Turgenev OSU, 2020. – P. 221–230.
4. *Music during the Holocaust*. [Electronic resource]. URL: <https://holocaustmusic.ort.org/> (Appeal date: 12.02.2022)
5. Narbut E. V. *Original, donor text, translation: interaction problems (on the basis of translations of E. M. Remarque's novel "The Spark of Life" into Russian): diss. ... cand. philol. sci.* – Magadan. 2007. – 283 P.
6. Semenova A. N., Tarasova M. V. *Art and history: the essence of mutual influence* // *International Journal of Experimental Education*. – 2011. – № 8. – P. 28–28;
7. *Gerhard Richter series on the Holocaust*. [Electronic resource]. URL: <https://www.theartnewspaper.ru/posts/4868/> (appeal date: 20.02.2022).
8. Frankl Victor. *Psychologist in a concentration camp. With faith in life...* – Moscow: Algorithm, 2021. – 320 P.
9. Frankl Victor. *Man in search of meaning*. – M.: Progress, 1990. – 386 P.
10. Eger Edith Eva. *Choice: about the freedom and inner strength of man*. – M.: Mann, Ivanov and Ferber, 2020. – 334 P.
11. Adamskich Karolina. *Echoes of the Holocaust in Leonard Cohen's art* // *Scripta Neophilologica Posnaniensia*. – 2018. – 18 volume. – P. 279–291.

12. Corell Catrin. *Der Holocaust als Herausforderung für den Film. Dissertation an der Universität Mannheim.* – Bielefeld: Transcript Verlag, – 2009. – 521 S.

13. Deutsches Historisches Museum. *Kunst aus dem Holocaust.* [Electronic resource]. URL: <https://www.dhm.de/ausstellungen/2016/kunst-aus-dem-holocaust/kuenstler-werke/> (appeal date: 1.03.2022).

14. Imperial War Museum. [Electronic resource]. URL: <https://www.iwm.org.uk/history/artists-responses-to-the-holocaust/> (appeal date: 1.03.2022).

15. Jürgen Kaumkötter. *Der Tod hat nicht das letzte Wort.* – Köln: Verlag Kiepenheuer und Witsch GmbH, 2015. – 384 P.

16. Postlep Natascha. „Kulturlager“ Theresienstadt? *Historischer Ort im Spannungsfeld von geschichtlicher Realität und stilisierter Präsentation. Inauguraldissertation zur Erlangung des Grades eines Doktors der Philosophie.* 2010. – 393 P.

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在格拉巴艺术保护中心保存以纸莎草为基础制作的中国出口水彩画
**CONSERVATION OF CHINESE EXPORT WATERCOLOURS MADE
ON THE BASE OF THE TETRAPANAX PAPYRIFER PLANT IN THE
GRABAR ART CONSERVATION CENTRE**

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该研究的主题是修复从俄罗斯博物馆收藏的四合香纸莎草植物韧皮上制作的中国出口水彩画。对世界和国内实践中修复这些物品的现有方法的分析，使开发作者的工作方法成为可能。

关键词：中国出口水彩画、图形、修复、全俄艺术研究和 Grabar 艺术保护中心、纸莎草纸、中国艺术、中国画。

Abstract. *The subject of the study is the restoration of Chinese export watercolors made on the base of the Tetrapanax papyrifer plant from the collections of Russian museums. The analysis of existing methods for the restoration of these objects in world and domestic practice made it possible to develop an author's methodology for carrying out work.*

Keywords: *Chinese export watercolors, graphics, restoration, All-Russian Artistic Research and Grabar art conservation Centre, Tetrapanax papyrifer, Chinese art, Chinese painting.*

The graphic restoration department of the Grabar art conservation Center first encountered the need to carry out restoration work with Chinese export watercolors back in the late 1960s - a large collection (39 items) came from the collection of the Poltava Art Museum. The base was qualified by experts as a paper "characterized by softness, airiness, friability and at the same time unusual brittleness." After studying the structure of the base through a microscope and a binocular magnifier, it was possible to establish that its structure is spongy and does not have fibers, which gave reason to assume that it was made from the core of some plant, presumably from the Araliev family. In order to clarify the name of the plant, a request was sent to the Botanical Garden of Moscow State University, in the response received it was reported that it was "rice paper made from the core of a Chinese tree - paper phonia or paper tetrapanax". The name of

the paper caused bewilderment among the specialists of the department “if this paper is called rice paper, then what is the name of the one that has long been accustomed to be called rice paper, on which, in particular, the mentioned Chinese drawings were pasted and which differs sharply in its appearance and structure from this one.” After a thorough study of literary sources, the restorers came to the conclusion that this paper has nothing to do with rice, and sometimes the name “rice paper” is mistakenly extended to all types of the basis of Chinese painting. The drawings, obviously, were made on the bast of the *Tetrapanax papyrifer* plant, the details of the method of manufacturing this base could not be clarified at that time.

So how were the charming, colorful pictures depicting the flora and fauna of China, traditional crafts and the life of the local population actually made? One of the series of miniatures, now in the collection of the Royal Botanic Gardens in Kew, illustrates the production process in detail. The plant *Tetrapanax papyrifer* from the Araliaceae family was grown in plantations. At the age of two to three years, when the wood was still soft, and the length reached 150-180 cm, it was cut, the branches were cleaned, and then soaked in water. Next, the trunk was cut into 12-18 parts, and the swollen core tore through the rough bark and was easily released. In the hands of the master was a snow-white bast, which had to be immediately dried in the sun for several days, otherwise it would turn yellow. Next, the bast was cut into small cylinders, which were untwisted layer by layer with a razor-sharp knife. Scrolls 140-150 cm long were obtained. The first 10-12 cm of the scroll had grooves, jagged and brown spots, these defects were then cut off. A virtuoso knife was required from the artisan in order to obtain a white sheet without cuts, of uniform thickness. Learning this art took at least a year.

In his fundamental work devoted to a comprehensive study of Chinese export miniatures, I. Williams mentions that a collective approach was often used to create an image: “one artist painted, for example, trees and everything connected with them, another - figures of people, while one could draw only legs, and the other - only hands, someone else painted at home, and so on. Thus, each in his field achieved a high perfection of performance, bordering on automatism. This is especially true of the final stage of execution, the elaboration of the finest details. But at the same time, none of the masters alone could, independently from beginning to end, create such watercolors. When creating a composition, artisans often used a print from a wooden board or drew an image from printed samples, combining details and shapes¹.

The dyes used were traditional for Chinese painting, mostly mineral. The cellular structure of the bast absorbed the pigment well, it did not spread and laid down in a dense layer, slightly protruding above the surface. Many watercolors still give

¹ Ifan Williams Created in Canton Chinese Export Watercolours on pith//Trans.&ed.by Ching May Bo

the impression of a kind of "hovering" image above the plane of the sheet. This effect was enhanced by highlighting faces and hands with a thick layer of white on the reverse side.

Handicraft production, oriented towards foreign trade, hardly implied concern for the long-term storage of miniatures. Bast *Tetrapanax papyrifer*, like any natural material, is extremely sensitive to changes in temperature and moisture. Over time, it becomes brittle and brittle, like an eggshell, and is ready to crumble from any careless touch. Paints retain their brightness well only when stored in folders. Framed, under the influence of light, they quickly fade. Moreover, cracks in the base appear along the contour of the impasto application of pigments and along the borders of the strips of the silk mount.

In general, since the 1970s, interest in the restoration and study of Chinese export watercolors has increased significantly both in domestic², and foreign literature. The first monographs appeared devoted to the peculiarities of their performance and design, the classifications of the plot and the centers of production. Later, interest in this topic arose among the professional museum community. So the researcher and collector I. Williams in 2001 donated a collection of miniatures he collected to the Guangzhou Art Museum. It should be noted that up to this point, none of the state collections of the city, which was once their largest producer and exporter, did not have any significant collection. The reason for this was the extremely dismissive attitude towards this craft that existed among Chinese researchers, since it was focused exclusively on export.

Guangzhou has been the largest center for the production of export goods since the middle of the XVIII century. The city was flooded with foreigners, many of whom dreamed of taking away a local souvenir as a memory of their stay in an exotic country. Silk and porcelain were too expensive for ordinary sailors and officials, monochrome painting is not always clear. Then, under the influence of growing demand, many types of artistic crafts aimed at foreigners arose, including watercolours on the bast of the *Tetrapanax payprifer* plant. The greyish-white velvety base of the miniatures was a bit like the surface of expensive Chinese porcelain or silk, the bright mineral dyes used to make the image perfectly conveyed the exotic local flavor. Often watercolors were sold or made to order in whole series and made up albums - flowers, herbs, animals, fish, crafts, officials, boats... Each drawing was pasted in an album on a sheet of rice paper using blue silk strips. Small-sized drawings were also sold in transparent glass boxes, pasted over with silk at the seams. The production volumes of miniatures grew every

2 Among domestic authors, the article by E.A. Tseshinskaya – a researcher at the Rybinsk Museum-Reserve. The author conducts a detailed analysis of the existing literature on this issue, describes in detail the base production technology, provides an overview of existing domestic and Western European collections, and also publishes export watercolors from the museum's collection, providing them with a detailed description and attribution.

year, the skill level of performers in some production centers reached significant heights. First of all, this is evidenced by the presence of red author's stamps on the back, which today are the only sign that allows you to identify the most significant craft workshops. But the heyday of this new type of craft was extremely short-lived, already in the 1850s it was almost completely supplanted by photography, and by the 60s production had ceased with rare exceptions, due to the loss of Guangzhou's monopoly on foreign trade.

As for the experience of restoration of miniatures, at the moment there are several methods in domestic and foreign practice. One of the first was developed by the staff of the Grabar art Conservation Center graphics department during the restoration of a collection of miniatures from the Poltava Museum. The 1970 report lacks a detailed description of all the stages of miniature restoration, as they are "characteristic of the restoration of graphic works in general", focusing on the process of duplication, which is described as "completely natural and undeniable in this case". The restorers chose print paper as a duplicating basis. The next step after duplication was the replacement process. The method of topping up with paper pulp, as well as the overlay method with preliminary thinning of the edges, did not give positive results. It was decided to fill in with material identical to the author's "end to end method", since the department had some of its stock, acquired by E.A. Kostikova, head of the graphics restoration department in China. In conclusion, the report mentions that "the special non-fibrous structure of the paper still does not give the usual effect of a thorough replacement of losses." Apparently, the lack of a result that satisfies the demanding eye of the restorer was the reason that for many years the graphic restoration department did not deal with Chinese export watercolors. However, the need to develop this direction did not lose its relevance, in particular, in 2010, the department received two watercolors from the collection of the State Literary Museum and six miniatures from the State Museum of Fine Arts of the Republic of Tatarstan in 2011. To carry out this complex work, a leading specialist in the restoration of East Asian art from the State Museum of the East Yu.S. Berezin was invited. Based on his own many years of experience with export watercolors, Yu.S. Berezin developed an author's restoration technique, which includes the process of washing the base on a filter paper pillow. This measure made it possible to rid the works of decay products and return the original grayish-white tint to the base. Subsequent duplication was carried out on restoration paper by stretching, and the number of duplicating layers and paper density varied depending on the degree of destruction of the monument. Compensation for losses was carried out by a combined method - in some places the bast of the tetrapanax plant was used, and for large losses several layers of Japanese paper were used. The results of the work done were presented at the anniversary exhibitions of the Center - "90 years of Grabar art Conservation

Center" in 2008 and "95 years of scientific restoration: discoveries and everyday life" in 2013.

In 2000, specialists from the State Hermitage presented a report summarizing their experience with works made on "rice paper"³. The experiments carried out allowed them to note that when moisture gets on the surface of tetrapanax, the fibers are deformed and shrink, so they exclude water treatment of the sheets. In their research, they suggested using wheat starch glue. To straighten the surface, the so-called sandwich method was used - a sheet is placed between layers of Hollitex, Gore-tex and wet filter paper. Specialists from the St. Petersburg branch of the Institute of Oriental Studies of the Russian Academy of Sciences also suggest using wheat starch glue when working with watercolors and abandoning an aqueous solution of Klucel G cellulose ether due to the danger of yellowing over time⁴.

As for the experience of restoration of miniatures abroad, one of the first, in 1998, published an article on this topic by E. Nebel N. Stiebel - employees of the Cologne Institute of Natural Sciences⁵. In their work, they propose to chemically treat uneven yellowing of the base, as well as various stains, with a 14% hydrogen peroxide solution.

Of particular note is the technique published by specialists from the Smithsonian National Museum of Natural History J.G. Hold (Jane Girod Hold) and M. Lebvoll (Murray Lebwohl). They suggest using paper with a 45 degree grain direction for duplication in order to avoid twisting the author's base after drying. As an adhesive, they used Klucel G, pre-applied to the surface of duplicating paper, activated after spraying ethanol.

Having summed up the experience of domestic and foreign colleagues, the specialists of the graphics restoration department of the Grabar art Conservation Center managed to develop their own method of working with watercolors.

As a rule, watercolors are stored in museum collections in albums or in the form of scattered sheets, but with the preservation of the author's mount. They are attached along the perimeter to a substrate made of Chinese huang paper. framed with strips of blue silk. To carry out the entire complex of necessary restoration processes,

dismantling is required. A 4% solution of methylcellulose (MC 3000) is applied to 3 E.G. Shishkova, O.V. Mashneva, A.V. Degtev, K.F. Samosyuk. Restoration of the Chinese Album of Paintings of Genre Scenes Made in the Technique of Glue Painting on "rice paper" // Conservation and Restoration of Museum Treasures on Paper and Parchment. State. Historical Museum. November 21-23, 2000. Reports. P.52

4 N.V. Stepanova, L.I. Kryakina, Yu.G. Archakova, I.N. Kuleshova. Experience in the study and restoration of export Chinese paintings on paper tetrapanax from the collection of the art fund of the St. Petersburg branch of the Institute of Oriental Studies of the Russian Academy of Sciences// Written monuments of the East. The Russian Academy of Sciences. 2(7) autumn-winter 2007 P. 289-297

5 Eva-Katharina Nebel, Nicol Stiebel. Chinesische Tsuso-Malereien. Die restaurierung und konservierung von objekten und Malereinen auf Markpapier/1998.

the places where the silk frame is attached to the substrate, which easily penetrates through the silk and causes the adhesive film of the mounting adhesive to swell, after which it is removed with a scalpel and cotton swabs. After dismantling, on the reverse side of the silk ribbons, it is clearly seen that they are duplicated on Kozo-type paper dyed in the same color. To finally get rid of the old adhesive film, silk strips must be washed in distilled water and placed in a press.

With a sufficient amount of moisture, the tetrapanax bast is quite soft and plastic, but when overdried, it becomes extremely fragile and brittle. A 4% alcohol solution of PEG (polyethylene glycol 400) was used to plasticize the base. A cotton swab was moistened in the solution, after which it was carefully wrung out and the surface of the base was delicately rolled from the reverse side, bypassing the areas where white was applied. The sheet was left under the yoke of several cloths for the night. The procedure can be carried out several times. The first experiments on plasticization were carried out on a prototype purchased by restorers at an auction. Leading Specialist of the Department of Physical and Chemical Research of the Center A. Ya. Mazina took macro shots of the fragment before and after processing, which showed that the use of PEG did not lead to deformation of the tubular fibers. To weaken stains of various origins, a 3% solution of hydrogen peroxide was used, followed by treatment of the areas of application with an alcohol solution. The treatment can be repeated several times until a neutral stain color is achieved. The most time-consuming in the case of working with watercolors is the process of replenishing the loss of the skeleton. As practice shows, in the case of large losses, cracks and faults, it is desirable to duplicate the base. Spot gluing, without a general strengthening in this case, leads to an uneven change in the density of the base, and changes the hygroscopic properties of the material unevenly. Experiments with a duplicate composition were also carried out on a prototype. Half of the cracks and breaks on it were glued with equal-strength Japanese paper 6 g/m with strips 0.5 cm thick of starch glue, the other half with the same strips, but with Klucel G glue. Two years later, in some places of reinforced cracks and glued fractures, a pronounced deformation occurred, it should be noted that this applies to samples with both types of adhesive used and stored in conditions appropriate for graphic works. There was no color change in any of the adhesive films - at the moment the prototype is seven years old. Moreover, in the case of pronounced destruction, as, for example, in the case of watercolors from the Vologda Art Gallery, which were glued to a wrapping paper substrate using silicate glue, duplication allows the fragments to be combined as carefully as possible. After removing the adhesive composition, neutralizing its destructive effect and dismantling the substrate, the restorer had to deal with 38 fragments. First, the largest parts of the image were glued together, after which duplication was carried out on Japanese restoration paper with a density of 9 g/m by stretching. Then,

small fragments of the image were adjusted in place and repeated duplication was carried out on restoration paper 6 g/m. Compensation for losses was carried out in several stages. First, the tracing papers were removed from the lost fragments and they were cut out of Japanese Kizuki Kozu paper 9 g/m. To achieve the desired thickness of one layer of paper was not enough. Due to the uneven density of the author's base, in some areas it was necessary to build up to three layers. The last layer was cut from 6g/m Japanese Kizuki Kozu paper with a wet brush. The paper fibers were carefully spread around the perimeter. After gluing at the place of loss, they slightly captured the author's base, blocking the place of the connecting seam, additionally strengthening it and making it less noticeable. Pronounced cracks, the edges of which cannot be combined, were filled with Japanese paper fibers mixed with wheat starch glue.

With a large number of losses, the work was carried out in several stages. To avoid the occurrence of deformation, intermediate straightening of the sheet was carried out according to the Hermitage method. The sheet was placed between layers of holtex and wet filter paper, after reaching the required degree of moisture, it was transferred to the cloth and pressed with a board.

The completed fragments were tinted in watercolor with the addition of Chinese white lead. In agreement with the museum, the image was reconstructed in some areas.

In case of good preservation of the author's sheet, the bases of watercolors can be mounted on it with the help of paws. In this case, the silk frame is attached to the same base without touching the image. In case of loss of the author's substrate or impossibility to save it (items from the Astrakhan Art Gallery named after P.M. Dogadin were exposed to strong moisture, the substrate was heavily stained with spreading pigments), it is convenient to mount on a substrate made of acid-free cardboard. This will provide additional safety from the occurrence of mechanical damage, since the base, even after duplication, remains extremely fragile and, if the movement is unsuccessful, cracks and breaks may occur again. In this case, the framing can also be mounted on the passe-partout window, leaving the sheet fixed only by the tabs and opening access for researchers to the reverse side of the image. This is important if there are author's red stamps on the reverse side.

The Russian museum collections contain quite a lot of Chinese export miniatures, both collected in albums and in the form of scattered sheets from series. For the above reasons, the vast majority of them require conservation and restoration measures. Specialists of the Grabar art Conservation Center helped preserve watercolors for many museum collections, including the State Museum of Fine Arts of the Republic of Tatarstan, the State Literary Museum, the Astrakhan Art Gallery named after P.M. Dogadin, Vologda Regional Art Gallery, Rybinsk State Historical, Architectural and Art Museum Reserve. And, despite the great practical

experience gathered by different generations of graphic restorers, working with them is still very difficult. The extremely fragile base requires special delicacy during any restoration operation, from dismantling to filling in losses.

Chinese export watercolors are rarely seen in the exposition space of Russian museums, mainly for fear of additional damage, they are kept in funds. Until recently, the same situation was in the world museum community, but in the last ten years, interest in them has increased markedly, which can be judged with confidence by a series of exhibitions in scientific and museum organizations, among which we should mention the Guangzhou Museum, the National Museum of Anthropology in Madrid (2006), the Art Society of New York (2008), the Fitzwilliam Museum in Cambridge (2008), the Oriental Museum in Durham (2010), the Grabar art Conservation Center (2021).

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新蝶呤作为肺结节病炎症活动的潜在标志物
**NEOPTERIN AS A POTENTIAL MARKER OF INFLAMMATORY
ACTIVITY IN PULMONARY SARCOIDOSIS**

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结节病是一种病因不明的炎症性肉芽肿病。为了评估炎症过程的过程，有必要确定疾病活动的标准。在临床实践中，为此目的，经常使用外周血血清中新蝶呤含量的测定。本文介绍了有关评估血清新蝶呤测定作为肺结节病炎症过程活动的实验室标志物的可靠性的数据。对111例不同影像学阶段的肺结节病患者进行支气管灌洗液淋巴细胞数和外周血血清中新蝶呤含量的测定。在分析结果时，注意到血清新蝶呤水平与支气管灌洗液中的淋巴细胞数量之间存在正相关，并且新蝶呤水平与疾病的放射学阶段之间存在正相关关系。同时，在40%的疾病进展患者中，血清新蝶呤水平在正常范围内。根据获得的数据，可以得出结论，监测外周血血清中的新蝶呤水平并不是评估呼吸系统结节病炎症活动的可靠工具。

关键词：结节病，新蝶呤，炎症活性

Abstract. *Sarcoidosis is an inflammatory granulomatous disease of unknown etiology. To assess the course of the inflammatory process, it is necessary to determine the criteria for the activity of the disease. In clinical practice, for this purpose, the determination of the content of neopterin in the serum of peripheral blood is often used. This article presents data concerning the assessment of the reliability of the determination of serum neopterin as a laboratory marker of the activity of the inflammatory process in pulmonary sarcoidosis. In 111 patients with pulmonary sarcoidosis with different radiological stages of the disease, the number of lymphocytes in the bronchial lavage and the content of neopterin in the serum of peripheral blood were determined. When analyzing the results, a positive correlation was noted between the level of serum neopterin and the number of lymphocytes in bronchial lavage, as well as the level of neopterin and the radiological stage of the disease. At the same time, in 40% of patients with disease progression, the serum neopterin level was within the normal range. Based on the data obtained, it was concluded that monitoring the level of neopterin in the serum of peripheral blood is not a reliable tool for assessing the activity of inflammation in sarcoidosis of the respiratory system.*

Keywords: *sarcoidosis, neopterin, activity of inflammation*

Introduction

Sarcoidosis is a multisystem disease of unknown etiology, the morphological substrate of which is noncaseating epithelial cell granuloma [1]. In 80-90% of cases, the lungs and intrathoracic lymph nodes are affected, and generalization of the process is often found [2-4]. The nature of the course and features of the clinical manifestations of sarcoidosis are determined by its localization and the inflammatory activity of the process. The literature data concerning the immunological mechanisms of sarcoidosis are rather contradictory, with the main attention being paid to the T-cell link [1, 3, 5- 7]. Despite the development of radiation diagnostic methods, the search for reliable laboratory criteria that allow assessing the activity of the disease and predicting its course is still relevant. The most informative is the study of bronchial lavage, but technically it is not always feasible. One of the most well-known serum markers is angiotensin-converting enzyme, however, this test has low sensitivity, and at present it is not recommended for routine clinical practice. Quite a lot of works are devoted to gamma-interferon, soluble interleukin-2 receptor, neopterin, as well as various subpopulations of lymphocytes[2,5,6, 8].

The aim: to assess the reliability of the determination of neopterin in the serum of peripheral blood as a laboratory marker of the activity of the inflammatory process in pulmonary sarcoidosis.

Materials and methods

The study included 111 nonsmoking patients with pulmonary sarcoidosis (98 women and 13 men aged 30 to 68 years, mean age 47.6 years). In 12 (10.8%) patients, further examination revealed Löfgren's syndrome. All patients underwent computed tomography of the lungs and organs of the mediastinum, as well as cytological examination of bronchial lavage (BL) with counting lymphocytes. Determination of the level of neopterin in the serum of peripheral blood was carried out by the method of enzyme-linked immunosorbent assay on a test system from IBL (Austria).

Results

Analysis of the results obtained revealed the presence of a direct correlation between the number of lymphocytes in the BL and the level of serum neopterin ($r = 0.26$, $p = 0.027$). At the same time, there was no significant change in the number of lymphocytes in the BL with an increase in X-ray changes.

When comparing the level of serum neopterin with the X-ray picture, the following data were obtained. The first X-ray stage of the disease was in 39 patients, the content of neopterin in this group was 9.0 nmol / L (7.0-4.4). The second stage - in 57 patients, the third - in 15 patients. The content of neopterin in these groups, respectively, was 16.0 (11.5-22.3) and 10.2 (4.7-21.0) ($p = 0.01$ in comparison with the first stage).

Discussion

Neopterin (2-amino-4-hydroxy-6- (D-erythro-1', 2', 3'-trihydroxypropyl) belongs to the compounds of the pteridine class. Despite numerous studies, its biological role has not yet been fully elucidated. Physiological the concentrations of neopterin and its derivatives are low, in the blood serum they do not exceed 10 nM / L. Small fluctuations may occur depending on age, race, smoking, physiological state.

The main interest in neopterin is associated with the fact that it is a marker of cellular immunity activation. In pathological conditions associated with the activation of the immune system, the concentration of serum neopterin can reach 100-250 nM / L [8].

The main sources of neopterin are monocytes, macrophages, dendritic and endothelial cells activated by interferon- gamma (γ -IFN). The amount of synthesized neopterin is directly proportional to the amount of γ -IFN, which is produced by activated T-lymphocytes (mainly, this is a subpopulation of type I T-helpers). Under the influence of γ -IFN, the GTP CH-I enzyme is activated in macrophages and lymphocytes and also indirectly indicates an increase in alpha interferon.

The scientific literature discusses the clinical feasibility of determining neopterin in biological fluids. As it turned out, neopterin is involved in the pathogenesis of many diseases associated with the activation of the cellular link of immunity. An increase in its concentration is correlated with changes in gamma-interferon and tumor necrosis factor-alpha and is associated with a systemic inflammatory response. It was found that there is a direct correlation between hyperproduction of neopterin and the activating effect of the above cytokines on the metabolism of immune cells [8,9]

Neopterin, produced by alveolar macrophages, is involved in the pathogenesis of sarcoidosis and other interstitial lung diseases. It enhances the processes of transcription of various pro-inflammatory cytokines in cells participating in the inflammatory process. An increase in the level of neopterin was found not only in the peripheral blood serum, but also in the BALF. The amount of synthesized neopterin also correlates with other indicators of the activity of the inflammatory process: reactive oxygen species produced by alveolar macrophages, proinflammatory cytokines, etc. [5, 8].

In this study, it was possible to confirm the relationship between serum neopterin level and the radiographic stage of sarcoidosis. At the 1st stage, when the lesion of the pulmonary parenchyma is minimal, this indicator remained within the normal range. The increase in the concentration of neopterin at the 2nd stage can be explained by an increase in the number of epithelioid cell granulomas in the lung tissue. The disappearance of hilar lymphadenopathy with persisting changes in the pulmonary pattern, which is characteristic of the 3rd stage, was accom-

panied by a tendency towards a decrease in the level of neopterin. At the same time, in 6 out of 15 (40%) patients with nonspecific symptoms of inflammation (subfebrile fever, arthralgia, weight loss), increased acute phase proteins (CRP, fibrinogen), radiological signs of disease progression, the content of neopterin did not exceed normal values.

Conclusion

Neopterin is described as a marker of cellular immunity activation in various pathologies. Determination of its concentration is especially important in the case of a cytotoxic immune response, which is characteristic, in particular, for granulomatous processes.

According to data mentioned above, the content of neopterin in the serum of peripheral blood mainly coincides with the X-ray stage of sarcoidosis of the respiratory system, but does not always coincide with the degree of inflammatory activity. Therefore, laboratory monitoring of this marker cannot be a reliable criterion for assessing the dynamics of the inflammatory process in sarcoidosis.

References

1. Dmitrieva L.I., Stepanyan I.E. *Sarkoidoz organov dyhaniya: voprosy etiologii, patogeneza, klassifikaciya, rentgenodiagnostika* // *Voprosy rentgenol. radiol.* - 1998. - №4. - S.33-39.
2. Ses' T.P. *Osobennosti vospalitel'nogo processa pri sarkoidoze legkih//Citokiny i vospalenie* – 2002. - №3.-P.3-6.
3. Stepanyan I.E., Ozerova L.V. *Sarkoidoz organov dyhaniya* // *Russkij medicinskij zhurnal* – 1998. – v.6. - №4. – S.221-227.
4. Cuchalin A.G., red. *Sarkoidoz. Uchebno-metodicheskoe posobie dlya slushatelej poslevuzovskogo i dopolnitel'nogo professional'nogo obrazovaniya* // *Kazan':KGMU.* – 2010. – 58 p.
5. Bargagli E., Mazzi A., Rottoli P. *Markers of inflammation in sarcoidosis: blood, urine, BAL, sputum and exhaled gas.*// *Clin.Chest Med.* – 2008. – v.29(3). – P.445-458.
6. Gerke A.K., Hunninghake G. *The immunology of sarcoidosis* // *Clin. Chest Med.* – 2008. – v.29(3). – P.379-390.
7. Semenzato G., Maschio N., Agostini C. *Immune mechanisms in interstitial lung disease* // *Allergy* – 2000. – v.55(2). – P.1103-1120.
8. Wachter H., Fuchs D., Hausen A., Reibnegger G., Werner E.R. *Neopterin as marker for activation of cellular immunity: immunologic, basis and clinical application* // *Adv. Clin. Chem.* – 1998. – v.27. – P.81-141.
9. Sviridova E.A., Telegina T.A. *Neopterin and its reduced forms:biological role and involvement in cellular immunity* // *Advances in biological chemistry.* – 2005.– v.45. - P.355-390.

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植物应激反应的计算机分析：基因网络和转录调控
**COMPUTER ANALYSIS OF PLANT STRESS RESPONSE: GENE
NETWORKS AND TRANSCRIPTIONAL REGULATION**

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在分子水平上研究植物对病原体引起的外部胁迫的抵抗力的根本问题需要基于生物信息学方法的新的跨学科方法，对测序数据进行分析，这反过来又涉及开发专门的计算机工具。我们考虑了基于高通量基因组测序数据的植物基因网络建模计算机程序开发的几个领域，包括植物病原体测序（宏基因组）、电子植物生物信息学资源的创建、基因组结构研究和模式植物的进化应对环境压力，解决农业生物技术问题。已经研究了模式植物基因组中的转录因子结合位点簇。研究表明，在所研究的基因组中存在非随机的结合位点簇。已经详细检查了拟南芥基因组中的簇，包括对压力的反应。由于调控基因网络的特性，已经提出了一个关于基因组中结合位点簇分布的一般性质的假设，该假设由不同转录因子的数量决定。植物基因组结构研究的目的是以俄罗斯南部的几种作物模型为例。

关键词：生物信息学，农业生物学，植物胁迫响应，基因网络，基因表达调控，测序数据分析

Abstract. *The fundamental problem of research of plant resistance to external stress caused by pathogens at molecular level requires new interdisciplinary*

methods based on bioinformatics approaches, analysis of sequencing data, which in turn involves the development of specialized computer tools. We consider several fields of computer programs development for modeling plant gene networks, based on high-throughput genomic sequencing data, including plant pathogen sequencing (metagenome), creation of electronic plant bioinformatics resources, study of genome structure and evolution of model plants in terms of response to environmental stresses, to solve agrobiotechnological problems. Clusters of transcription factor binding sites in the genomes of model plants have been studied. The existence of non-random clusters of binding sites in the genomes studied has been shown. Clusters in the genome of *Arabidopsis thaliana*, including the response to stress, have been examined in detail. A hypothesis on the general nature of the distribution of clusters of binding sites in the genome by the number of different transcription factors, due to the properties of the regulatory gene network, has been proposed. The objectives of the study of plant genome structure are developed using several crop models of southern Russia as an example.

Keywords: bioinformatics, agrobiolgy, plant response to stress, gene networks, regulation of gene expression, sequencing data analysis

Introduction

System-biological modeling of agricultural plant development is extremely relevant at the present time, including in connection with comprehensive research on climate change, the need to ensure food security. The relevance of the research is related to the fact that up to 40% of the agricultural yield is lost annually due to pathogens and pests, while there is a need for sustainable provision of the population with quality food. The practical orientation of the research is to expand the areas of scientific activity to the interdisciplinary areas of agrobiolgy and computer science (Orlov et al., 2020). Modern bioinformatics approaches, the application of genomic and post-genomic technologies, are at the forefront of world science. The very scientific direction of computer modeling of plant stress tolerance is interdisciplinary, located at the intersection of agrobiolgy, computer technology, and mathematical modeling methods (Chen et al., 2017). Such research corresponds to the priority directions of the Strategy of scientific and technical development of the Russian Federation in terms of transition to highly productive and environmentally friendly agro- and aquaculture, development and implementation of systems of rational application of chemical and biological protection of agricultural plants. At the same time, computer modeling corresponds to the general trend of digitalization, the transition to advanced digital, intelligent production technologies, the creation of systems for processing large amounts of data, machine learning and artificial intelligence. The objectives are to study model plant genomes, primarily *Arabidopsis thaliana*, in which genomic regulation has been studied in

detail experimentally.

From an applied point of view, understanding the molecular mechanisms of plant response to changing environmental conditions, drought, presence of heavy metals and other elements is important for plant protection, including grain crops. Plants adapt to their environment in the process of evolution, but living conditions do not remain unchanged. In some years, changes in environmental factors are so significant that they cause the plant to mobilize all of its adaptation resources, which leads to an increase in its resistance (Samarina et al., 2020). These challenges have become particularly important due to climate change, rising temperatures, and cyclical precipitation in recent years, which has received increasing attention from the scientific community. Agriculture is the most affected by ongoing climate change - in particular, a temperature increase of one degree in Russia could shift the zone of intensive crop production northward by 300 km. Climatic changes can cause a number of new aspects in the relationship between plants, phytopathogens and other components of the pathogenesis system.

Research on molecular mechanisms of adaptation is important to improve plant productivity, yield, and utility (Gorshkov et al., 2019). In collaboration with the Subtropical Research Center of the Russian Academy of Sciences (<https://www.vniisubtrop.ru/>), a number of studies on the cold tolerance of the tea plant have been conducted (Samarina et al., 2020).

Models of plant stress response

We present mathematical and computer models as part of a project at the Agrarian and Technological Institute of PFUR (Peoples' Friendship University of Russia), devoted to the development of bioinformatics approaches to plant responses to external stressors at the molecular level. Current bioinformatics approaches, the application of genomic technologies are at the forefront of world science (Wang et al., 2021). In general, systems-biological modeling of crops and agriculturally important plants is very relevant at the present time, including the complex research on climate change.

Plant genomic and transcriptomic data in terms of volume, complexity of structure, and distribution across unrelated international databases represent Big Data, and bioinformatics methods for processing them, searching for selection markers refer to machine learning (Chen et al., 2017).

The rapid development of sequencing, post-genomic and omics technologies has given new knowledge about the structure of the genome and has given impetus to research on plant stress tolerance. The ability to protect against adverse environmental factors is an obligatory feature of any organism, constantly improved in the course of evolution. The ways to protect plants from damaging and destructive factors can vary from metabolic mechanisms to anatomo-morphological adapta-

tions (prickles, leaf pubescence, etc.), but have their own molecular mechanisms of signal transmission at the cell level, gene response. Systems-biological modeling of processes in a living cell allows us to find points of influence on plant growth in order to increase yield and stress tolerance.

An important area of work is the study of plant-microbial interactions (plant microbiome) using data from high-throughput genomic sequencing, including metagenome sequencing. The available data on the plant microbiome composition (roots, leaves, soil microbiome) and functional state allow application of Machine Learning, Artificial Intelligence (ML and AI) technologies for assessment of physiological state of the model plant. These issues were discussed at the RAS Interdisciplinary Seminar "Algebraic Biology and Systems Theory", Scientific Council of the RAS Presidium (<https://scmai.ru/>, video records are available at <https://www.youtube.com/channel/UC8JLsuRzzPsRiHwrwEjMctw>).

Applications will refer to the analysis of network interactions (gene networks) linking both plant genes and metabolites and plant microbiome genes. Practical applications will be in the study of tea, citrus, and grain crops. Bioinformatics approaches will focus on the potato genome. Existing leads relate to the study of tea plant genes *Camellia sinensis* (Samarina et al., 2020), models of *Arabidopsis* development and evolution, and the study of antisense transcripts in plant genomes.

The methodological basis of the work will be the development of computer programs for the analysis of sequencing data, including the task of processing DNA reads, the creation of electronic resources and data-free plants. The work is carried out in international collaboration with research teams in India (Bharathiar University, <https://b-u.ac.in/>), Germany (Bielefeld University, <https://bibiserv.cebitec.uni-bielefeld.de/>), Iran (Yazd University, <https://yazd.ac.ir/en>, where an international conference on genetics was held in late 2021) and China (Zhejiang University and Huazhong Agricultural University) (Xie et al, 2021, Xiao et al., 2022), with whom there have been previous collaborations and substantial backlogs in bioinformatics (Wang et al., 2017). Previously developed algorithms to estimate the complexity and entropy of DNA sequences (Orlov et al., 2006) are used, including for the isolation of specific regions of plant pathogenic viruses.

Transcriptional regulation of gene expression

Scientific approaches are based on bioinformatics methods, processing genomic and transcriptomic data on DNA sequences and their pathogens. To analyze plant genome structure and search for genomic markers, our project will use high-throughput sequencing data analysis programs (determination of transcription factor binding sites using ChIP-seq and ChIA-PET technologies) (Dergilev et al 2021; Xiao et al., 2021).

Development of high-throughput genomic sequencing technologies, includ-

ing chromatin immunoprecipitation followed by ChIP-seq sequencing, allows genome-wide investigation of transcription factor binding sites (Subkhankulova et al., 2021). The growing amount of data on experimentally determined binding sites allows us to set qualitatively new goals of determining the parameters of gene expression regulation by transcription factors, determining their target genes, and reconstructing gene regulatory networks in model organisms. Thus, the development of new software tools for analyzing the binding sites of transcription factors, their mutual arrangement in DNA sequences, clustering in the genome, with visualization capabilities and statistical estimates of the probability of such clusters is becoming urgent. There are new challenges in identifying and functionally describing distal regulatory regions of genes based on ChIP-seq data.

The presence of non-random clusters of transcription factor binding sites identified by ChIP-seq data in mammalian genomes was previously shown, particularly in embryonic stem cells (Dergilev et al., 2016, Tsukanov et al., 2018). Such clusters of sites correspond to regulatory regions of genes and can be used to predict promoters and enhancers, to annotate function of transcription factor target genes. Plant genomes remain an understudied subject of study using ChIP-seq technology, although they possess complex mechanisms of transcriptional regulation of gene expression and response to external stresses mediated by transcription factors. This work presents a new software tool and its application to analyze transcription factor binding sites in several evolutionarily distant model plant organisms (Dergilev et al., 2021). Statistical estimates of the occurrence of clusters of binding sites in model plant genomes are given and their size distribution is plotted.

The study of transcription regulation based on the most complete genomic data is one of the most important trends in bioinformatics. The volume of data on gene expression and binding sites from sequencing technologies such as ChIP-seq, BS-seq, DNaseI-seq, ATAC-seq, NOMe-seq, RNA-seq continues to grow (Xie et al., 2021, Xiao et al., 2022). The growing amount of data on experimentally determined binding sites allows us to set qualitatively new tasks of determining the parameters of gene expression regulation, determining the target genes of transcription factors, and reconstructing the regulatory gene networks (Chen et al., 2017). Currently, available site detection technologies, such as ChIP-seq, allow experimental determination of all binding sites of a given transcription factor in the genome. New challenges arise in determining the co-location of the sites of different transcriptional protein factors. It is known that there are cooperative effects of regulation when different transcription factors simultaneously bind to DNA in protein complexes. Accordingly, it is necessary to develop programs and methods of sequencing data analysis for data processing and evaluation of cooperative effects of transcription factor binding.

The co-location of the binding sites of two or more factors in the promoter region of a gene indicates the cooperative regulation of expression, which may be reciprocal - two factors bind in the promoter regions of each other's genes and mutually regulate each other's expression.

The set of binding sites can be used to reconstruct the gene regulatory network, which can be quite complex - there is a known example of mutual regulation of several pluripotency factors in embryonic stem cells. Individual dynamic models of regulatory gene networks have also been developed (Tsukanov et al., 2018).

To investigate clusters of binding sites in plant genomes, data in the form of BED files were downloaded from databases (Dergilev et al 2021):

NCBI (<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE24568>),

PlantTFDB (<http://planttfdb.cbi.pku.edu.cn/index.php?sp=Ath>),

PlantRegMap (http://plantregmap.cbi.pku.edu.cn/binding_site_prediction.php).

We used peak coordinates of 28 transcription factors for *Arabidopsis thaliana* (flowering plant), 18 factors for *Physcomitrella patens* (moss), and 8 factors for *Chlamydomonas reinhardtii* (green algae, plant).

The results of using computer scripts to analyze ChIP-seq data, calculate clusters, and visualize them in the form of heat maps are presented (Dergilev et al., 2016). In (Dergilev et al 2021), we used peaks of genomic ChIP-seq transcription factor binding profiles to study three plants - *Arabidopsis thaliana*, *Physcomitrella patens*, and *Chlamydomonas reinhardtii*.

We have developed a set of scripts in Python for computer analysis of clusters of transcription factor binding sites with a graphical shell, implemented in the Qt5 environment. For full use of the program additional software is required: the installed interpreter of language Python versions 3.5, programming environment R versions (not lower than 3.4.1), Git Bash (for Windows).

The existence of non-random clusters of binding sites in all plant genomes studied was shown; clusters in the *Arabidopsis thaliana* genome were examined in detail. It was shown that the LFY factor responsible for flower growth in plants tends to occur most frequently in the *Arabidopsis thaliana* genome among all others, while the factors of SRS group are the least expressed. In the genome of *Physcomitrella patens*, factor LFY is again quantitatively ranked first, while factor G2, which participates in the cell cycle and influences cell differentiation, is found less frequently than others. It is also interesting to note that the LFY factor tends to occur most frequently among all the others, but weakly correlates with the other factors. Previously, the interaction between GATA and the C/EBP family of transcription factors (which includes the bZIP factor discussed in this work and some others) was known. It was noted that C/EBP interacts with the CCAAT-box motif in the promoters of several genes. They are characterized by a highly conserved basic leucine zipper (bZIP) domain at the C-terminus. In general, it can be noted

that the evolutionarily older factors GATA and MYB are represented in the site clusters in all the plant species studied.

The hypothesis of the general nature of the distribution of binding site clusters in the genome by the number of different transcription factors due to the structure of the regulatory gene network is suggested. A method for searching for regulatory regions based on the statistics of binding site distribution in plant genomes is proposed; computer tools for such analysis and visualization are presented (Dergilev et al., 2021).

Plant gene networks and continuing research

In general, the task of co-regulation has not been sufficiently studied. For plant genomes, such studies are presented in separate databases. To model gene networks - complexes of interacting macromolecules in a plant cell - the network approach, STRING-DB tools, KEGG Pathways will be used (Orlov et al., 2021). To assess the physiological state of the cell, system modeling methods (substance flow in the cell) will be used (Zakhartsev et al., 2016).

The rapid development of sequencing, post-genomic and omics technologies has given new knowledge about the structure of the genome, giving impetus to the research of plant stress tolerance (Wang et al., 2017). The ability to protect against adverse environmental factors is an obligatory property of any organism, constantly improved during evolution. The ways to protect plants from damaging and destructive factors can range from metabolic mechanisms to anatomo-morphological adaptations, but have their own molecular signal transduction mechanisms at the cellular level, gene response. Systems-biological modeling of processes in a living cell allows us to find points of influence on plant growth in order to increase yield and stress tolerance (Samarina et al., 2020). In this work (Samarina et al., 2020), 45 stress-inducible candidate genes related to cold and drought response in tea plants were identified based on a comprehensive homologue detection method. 9 of these were characterized only in the recent works. Gene network analysis revealed increased expression in the bHLH cluster of ICE1-related factors, HSP70/BAM5-related genes (hexokinase, galactinol synthase, SnRK complex, etc.), indicating their possible co-expression. Recent work (Samarina et al., 2022) identified genetic markers of cold tolerance of *Diospyros lotus* (persimmon) plant. The results obtained allow us to better understand the adaptive mechanisms in *D. lotus* under extreme conditions and will be important for further expansion of persimmon cultivation in colder regions.

An important area of work is the study of plant-microbial interactions (plant microbiome) using high-throughput genomic sequencing data, including metagenome sequencing. Organizations, conferences, and Schools of Young Scientists in Plant Systems Biology and Bioinformatics (Orlov and Bakulina, 2018; Orlov et

al., 2020; Orlov, 2019), see also the Plangen-2021 conference (<https://conf.icgbio.ru/plantgen2021/en/>) in Novosibirsk.

A special issue of the *International Journal of Molecular Sciences* on Plant Genomics and Bioinformatics, "Plant Biology and Biotechnology: Focus on Genomics and Bioinformatics" (https://www.mdpi.com/journal/ijms/special_issues/Plant_Biotechnology), has been organized. The issue focuses on the study of plant responses to stress. In 2021 the publication of special issues on bioinformatics of gene expression regulation in model organisms in MDPI *Life* (Orlov, Anashkina, 2021), *Frontiers in genetics* (Orlov et al., 2021b) (see the thematic issue 'Bioinformatics of Genome Regulation' - <https://www.frontiersin.org/research-topics/17947/bioinformatics-of-genome-regulation-volume-ii>) was completed. In 2022 the next conference on Bioinformatics and Systems Biology BGRS\SB-2022 (<https://bgrssb.icgbio.ru/2022/>) will be held in Novosibirsk including sessions on computational plant biology ('Genetics, bioinformatics and systems biology of plants', 'Systems biology'). Thus, the topic of plant genome research, stress response continues to be relevant and in the focus of current interdisciplinary research.

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References

1. Chen M., Harrison A., Shanahan H., Orlov Y. *Biological Big Bytes: Integrative Analysis of Large Biological Datasets. Journal of Integrative Bioinformatics*, 2017; 14(3):20170052. DOI:10.1515/jib-2017-0052
2. Dergilev A.I., Orlova N.G., Dobrovolskaya O.B., Orlov Y.L. *Statistical estimates of transcription factor binding site clusters in plant genomes based on genome-wide data. Journal of Integrative Bioinformatics*. 2021; Vol. 18, P. 20200036. DOI:10.1515/jib-2020-0036
3. Dergilev A.I., Spitsina A.M., Chadaeva I.V., Svichkarev A.V., Naumenko F.M., Kulakova E.V., Vityaev E.E., Chen M., Orlov Y.L. *Computer analysis of colocalization of the TFs' binding sites in the genome according to the ChIP-seq data. Russian Journal of Genetics: Applied Research*. 2017; 7(5):513-522 DOI 10.18699/VJ16.194

4. Gorshkov V.M., Samarina L.S., Kulyan R.V., Malyarovskaya V.I., Ryndin A.V., Rakhmangulov R.S., Orlov Y.L. Challenges of *in vitro* conservation of Citrus germplasm resources. *Vavilov journal of genetics and breeding* 2019; 23(1):24-28. DOI 10.18699/VJ19.457 (In Russian)
5. Orlov Y.L. 5-th international scientific conference of “plant genetics, genomics, bioinformatics, and biotechnology” (24 -29 June 2019, Novosibirsk, Russia). *Journal of Food Quality and Hazards Control*. 2019; 6(1): 41-41. DOI:10.18502/jfqhc.6.1.458
6. Orlov Y.L., Bakulina A.Yu Development of Education in Bioinformatics Based on Student Conferences ISSC-2018, School of Molecular Modeling and Hackathon in Novosibirsk. *Vestnik Novosibirsk State University. Series: Information Technologies* 2018; 16(3):5-6 (in Russian)
7. Orlov Y.L., Anashkina A.A. Life: Computational Genomics Applications in Life Sciences. *Life* 2021a; 11, 1211. DOI:10.3390/life1111211
8. Orlov Y.L., Anashkina A.A., Tatarinova T.V., Baranova A.V. Editorial: Bioinformatics of Genome Regulation, Volume II. *Frontiers in Genetics*, 2021a; 12, 2234 DOI:10.3389/fgene.2021.795257
9. Orlov Y.L., Galieva A.G., Orlova N.G., Ivanova E.N., Mozyleva Y.A., Anashkina A.A. Reconstruction of gene network associated with Parkinson disease for gene targets search. *Biomeditsinskaya khimiya*, 2021b; 67(3), 222-230. DOI:10.18097/PBMC20216703222
10. Orlov Y.L., Ignatov A.N., Galieva E.R., Dobrovolskaya O.B. Microbiology research at the systems biology and bioinformatics - 2019 (SBB-2019) school. *BMC Microbiology*. 2020; 20(Suppl 2):348 (2020). DOI:10.1186/s12866-020-02038-5
11. Orlov Y.L., Te Boekhorst R., Abnizova I.I. Statistical measures of the structure of genomic sequences: entropy, complexity, and position information. *J Bioinform Comput Biol*. 2006; 4:523-36. DOI:S0219720006001801
12. Samarina L.S., Bobrovskikh A.V., Doroshkov A.V., Malyukova L.S., Matskiv A.O., Rakhmangulov R.S., Koninskaya N.G., Malyarovskaya V.I., Tong W. Xia E., Manakhova K.M., Ryndin A.V., Orlov Y.L. Comparative expression analysis of stress-inducible candidate genes in response to cold and drought in tea plant (*Camellia sinensis* (L.) Kuntze) *Front. Genet.* 2020. 11:611283.
13. Samarina LS, Malyarovskaya VI, Rakhmangulov RS, Koninskaya NG, Matskiv AO, Shkhalakhova RM, Orlov YL, Tsaturyan GA, Shurkina ES, Gvasaliya MV, Kuleshov AS, Ryndin AV. Population Analysis of *Diospyros lotus* in the North-western Caucasus Based on Leaf Morphology and Multilocus DNA Markers. *Int J Mol Sci.* 2022;23(4):2192. DOI:10.3390/ijms23042192.
14. Subkhankulova T., Naumenko F., Tolmachov O.E., Orlov Y.L. Novel ChIP-seq simulating program with superior versatility: isChIP. *Briefings in Bio-*

informatics. 2021; 22(4):bbaa352. DOI:10.1093/bib/bbaa352

15. Tsukanov A.V., Orlova N.G., Dergilev A.I., Orlov Y.L. Programs for Statistical Analysis, Clusterization and Visualization of Genome Distribution of Transcription Factor Binding Sites *Vestnik Novosibirsk State University. Series: Information Technologies* 2018; 16(3):51-63. (In Russian)

16. Wang J., Meng X., Dobrovolskaya O.B., Orlov Y.L., Chen M. Non-coding RNAs and Their Roles in Stress Response in Plants. *Genomics Proteomics Bioinformatics*. 2017; 15(5):301-312. DOI:10.1016/j.gpb.2017.01.007.

17. Wang J., Orlov Y.L., Li X., Zhou Y., Liu Y., Yuan C., Chen M. In situ dissecting the evolution of gene duplication with different histone modification patterns based on high-throughput data analysis in *Arabidopsis thaliana*. *PeerJ*. 2021. 9:e10426

18. Xiao Q., Huang X., Zhang Y., Xu W., Yang Y., Zhang Q., Hu Z., Xing F., Sun Q., Li G., Li X. The landscape of promoter-centred RNA-DNA interactions in rice. *Nat Plants*. 2022; 8(2):157-170. DOI:10.1038/s41477-021-01089-4

19. Xie L., Liu M., Zhao L., Cao K., Wang P., Xu W., Sung W.K., Li X., Li G. RiceENCODE: A comprehensive epigenomic database as a rice Encyclopedia of DNA Elements. *Mol Plant*. 2021; 14(10):1604-1606. DOI:10.1016/j.molp.2021.08.018.

20. Zakhartsev M., Medvedeva I., Orlov Y., Akberdin I., Krebs O., Schulze W.X. Metabolic model of central carbon and energy metabolisms of growing *Arabidopsis thaliana* in relation to sucrose translocation. *BMC Plant Biology*. 2016; 16:262. DOI:10.1186/s12870-016-0868-3

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科雷马河下游鸟类学研究史
**HISTORY OF ORNITHOLOGICAL RESEARCH IN THE LOWER
REACHES OF THE KOLYMA**

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描述了俄罗斯东北部科雷马河下游的鸟类学研究故事。列出了从 1800 年代到新星日在该地区工作的主要鸟类学家。提到了一些关于几种鸟类繁殖和生态发现故事的历史事实。

关键词：鸟类区系，物种，低科雷马，鸟类收藏，阿拉泽亚河

Abstract. *The story of ornithological research at the low reaches of Kolyma River, North-Eastern Russia, is described. The main ornithologists worked in the region from 1800-s to nova days are listed. Some history facts about several bird species breeding and ecology discovery stories are mentioned.*

Keywords: *bird fauna, species, Low Kolyma, ornithological collection, Alazeya River.*

The peculiarity of the landscape conditions, their complex mosaic and vast spaces determine the richness of the bird fauna of the lower reaches of the Kolyma. One of the three most important foci of biological, and in particular, ornithology fauna, diversity and endemism in Northeast Asia has developed here (Andreev, 1995). This circumstance has long attracted the attention of naturalists. Since the end of the XIX century, the lower reaches of the Kolyma have been repeatedly explored by naturalists and the history of ornithological research is divided into several periods: pioneer (1905-1918), route (1957-1959), stationary and air accounting (1977-1995), the latest (2005-2013) (Andreev et al., 2015a).

It should be noted that the first collections of birds in Kolyma were made by the expedition of Ivan Dementievich Chersky in 1892 (Vorobyov, 1963), but

they mainly concerned the middle current. Ivan Dementievich died of tuberculosis on June 25 (July 7), 1892, without realizing his plan of research of the Lower Kolyma, about which he wrote in his letter to the Imperial Academy of Sciences "... the upcoming route for the summer of the current 1892 was decided in this way: a) following the opening of the river (in the last days of May), I will begin sailing along the Kolyma to Nizhne-Kolymsk; b) from there, in view of significant and private unrest that could delay the expedition, I have to go by land (on horseback) to the coast of the Arctic Ocean near Bear Cape and back to Nizhne-Kolymsk..." (Chersky, 1893, p. 35). At the Middle Kolyma, he collected a collection of birds, which he reported in a letter dated February 6, 1982. F.D. Pleske said that there were, however, only 116 of them, and next year he wants to triple this number (Chersky, 1956). Fulfilling her husband's will, Mavra Pavlovna Cherskaya completed an expedition to Nizhnekolymsk, but the collection of birds, judging by the absence of references, was not carried out.

A detailed study of the birds of the Lower Kolyma basin began in 1905, when an expedition led by Sergei Alexandrovich Buturlin visited the middle regions in the spring, and "... on April 11, after receiving a message about severe hunger among the nomadic population of the lower Kolyma, he immediately went to Nizhnekolymsk by dog sled, where he arrived after three days of non-stop driving and traveled to many villages, Even and Chukchi camps at the mouth of the Kolyma, having traveled more than 500 versts and delivering flour, netting material, gunpowder, lead" (https://s-museum.mag.muzkult.ru/gaz_stat_rai-obl20). He spent the summer of 1905 in the mouth of the Kolyma, getting acquainted with the problems of fishing and engaged in research of the animal world. He owns the discovery in the mouth of the Kolyma, the nesting sites of the pink gull, for which he made observations and published the article "Nesting of the pink gull" (1905). Based on the obtained materials, Sergey Alexandrovich also published a large article on hunting and commercial birds of the lower reaches of the Kolyma (1906), found out the composition of endemic subspecies in northeastern Siberia and described a number of them for the first time, finally gave the first zoogeographic sketch of the distribution of birds in northeastern Siberia (Dementiev, 1938). It should also be emphasized that studying the birds of the region, Buturlin found that the border of their distribution in the Arctic is much north of the previously assumed one and corresponds to the border of their distribution in the European north.

Then the lower reaches of the Kolyma were visited by the Norwegian Johan Koren, who traveled here twice. Quite detailed information about these expeditions is given in the article by Artyukhin Yu.B. and Shergalin E.E. (2013, pp. 3234-3235) "... In 1911, in September, having reached the mouth of the Kolyma, Koren decided to sail up the river and having overcome 150 km, on September 19

the ship came to Nizhnekolymsk - the final destination of the journey, where the expedition stayed for the winter. In February, he made a trip to Srednekolymsk, having covered more than a thousand kilometers on dog sleds and Yakut horses.

As soon as the river was free of ice, the expedition set off on its way back. We started on June 21, on the 25th we made the first stop in the Kolyma Delta near the village of Sukharnoye in the places where Buturlin discovered the breeding grounds of Ross's gulls to the world in 1905. For several days, Koren explored island after island by boat, but despite a thorough search, it was not possible to find gulls. As a result of this trip, Koren himself published only brief naturalistic and ethnographic notes in Norwegian (The Root of 1914). His collections and records of birds were processed by Thayer and an employee of the Harvard Museum Outram Bangs and were published in 1914 in the article "Notes on birds and mammals of the Arctic coast of Siberia" (Thayer, Bangs, 1914). The ornithological collection collected during a trip to Kolyma in 1911-1912 included 350 carcasses and hundreds of clutches (Wikan 2000, s. 165). Noteworthy are the first Asian discovery of the nest of the grey-cheeked thrush *Catharus minimus* near Nizhnekolymsk and the discovery of a new breeding site for the endemic of Northern Asia – the curlew sandpiper *Calidris ferruginea*, whose chicks Koren found east of Cape Bolshoy Baranov. The 2nd expedition of Johan Koren was organized in June 1914 on the schooner "Eagle". Arriving in Nizhnekolymsk at the end of August, the expedition prepared the vessel for wintering and then, before the onset of the polar night, surveyed the territory adjacent to the base. In a reply letter dated October 10, 1915 to the request of N.N. Gribanovsky, the chairman of Yakut Department of the Russian Geographical Society, (1915), Koren said that the main task of his expedition was to collect materials on paleontology, ornithology and geology for the National Museum of Natural History in Washington and ethnography items for the Harvard Museum. In a letter to Gribanovsky, Koren gave a list of birds from 118 taxa registered in northeast Asia during his two trips to Kolyma." During the second expedition, Koren collected 499 bird skins and 156 clutches. He died on his way home in Vladivostok, and in 1922 his collections were delivered to Norway by Amundsen, where they were stored untreated until the middle of last century. Only in 1954, the results of his work were published by Schaanning in the article "A contribution to the ornithology of Eastern Siberia". The most sensational among the collections of Koren was the world's discovery, the first found clutch of great knot *Calidris tenuirostris* (it was possible to repeat this find only in 1976).

In the period from 1918 to 1924, the expedition of the Norwegian, famous polar traveler and explorer Amundsen Roald wintered several times off the coast of Eastern Siberia, and its members conducted ornithological observations, in particular, in 1919, in the northern part of the Kolyma Delta and on the Bear Islands (Schaanning, 1928). The scientific director of this expedition, Sverdrup

Gorald, wrote: "After passing the Laptev Strait, we headed east. Dense ice was encountered between Kolyma and the Bear Islands... The expedition was forced to stay for the winter at the Chetyrehstolbovoye Island... Meteorological, magnetic, oceanographic observations were conducted, pilot balloons were launched into the stratosphere, the surroundings were explored, numerous recorders operated..."

An invaluable contribution to the study of ornithofauna in Lower Kolyma was made by an expedition led by Konstantin Vorobyov (1958), which in the spring and summer of 1957 studied birds in the lower reaches of the river in the Nizhnekolymsk area and covered a large area of the district, from the Lower Kolyma River in the east to the Chukochya River in the west. The main work took place in the tundra along the Low Konkova River, at 70°S (150 km north-west of Pokhodsk village) and found 60 species of birds, of which 31 species are very characteristic of the avifauna of the tundra. Of particular interest among the collected material are sandhill cranes *Grus canadensis* and long-billed dowitchers (*Limnodromus scolopaceus*, first found at the breeding ground in Yakutia. Vorobyov K.A. summarized all this in the monograph "Birds of Yakutia" (1963).

The second expedition of Konstantin Alexandrovich was carried out from May 12 to August 14, 1963 in the Low Alazeya River (Vorobyov, 1967). The motor-boat route along the river was started on June 17 from the village of Andryushkino and carried out to the Yuluybut Bayou with a visit to the Alazeya's tributaries Bolshoy Taamar, Maly Taamar, Kusagan-Attaakh and Ruturgin-Seene. In total, 72 species were encountered during this expedition, observations were made on the phenology of arrivals, the nesting life of many species was studied, information was obtained on the relative number of Anseriformes. The most important information was on the number of lesser white-fronted geese (common breeding geese at that time) and Baikal teal (characterized as numerous). In addition, interesting observations were made on the timing of the beginning of incubations, hatching of chicks, molting, etc. Later, Konstantin Alexandrovich in his article "Game birds of the north-east of Yakutia" (1965) noted "... the main conclusion that has to be made as a result of our work is a catastrophic reduction in the number of the main game species of geese and ducks in the tundra of Yakutia. A particularly sharp decline in the number of these birds has occurred in recent years. Local residents told us that along the large tributaries of the Alazeya River, only late 1950s, a huge number of molting geese were kept. In the summer of 1963, we met a very small number of them here. During the entire route, only about 900 geese of three species were observed. Taking into account the great length of our route and our visits to the most favorite geese tributaries of Alazeya River, this number must be recognized as extremely small." Further, he cites an extract from the report of Sidorov V.N. and Sokolov H.N, employees from Yakutia Branch of the USSR Academy of Sciences, who visited Alazeya in the same places in the summer of 1949 "... The

situation with game birds is completely different. Here we can definitely talk about an insufficient hunting. This is especially true for waterfowl. Our observations on the number of waterfowl (especially geese) indicate their great abundance and the unconditional possibility of a significant increase in hunting. Of particular interest are our observations of 1949, when we had the opportunity, going down the Alazeya River by boat from the taiga to the sea, to cross from south to north the entire breeding range of the hummingbird and the Lesser white-fronted geese. The total number of geese alone that we observed on Alazeya exceeded 100,000.

This account concerns only the Alazeya River, whereas numerous flocks of molting geese could also be observed on countless lakes scattered in the tundra on both sides of the river. A flock of geese, numbering 2-3 thousand individuals, met us several times daily when moving by boat. On Great Koshechaya River passing along the district border as well as on the Bludnaya and Hara-Yuryakh rivers already within the Allaikhovsky district, we also observed large flocks of molting geese. According to our observations in 1951, the area of the Chukochya and Konkovaya rivers, as well as Nerpichye Lake area is not as rich in geese as Alazeya River, however, even here we had to observe up to 1000 individuals of molting geese on lakes."

In 1959, Evgeny Pavlovich Spangenberg (1960) worked in the lower reaches of the Kolyma. During the stay at the mouth of the river, Evgeny Pavlovich and his colleagues made daily trips by dinghy and motorboat to various channels of the Kolyma Delta. So they managed to visit the western side of the river at the Cape Kamenny and Cape Darovitogo and visit the low reaches where are localities Kurishka, Glubokiy, Cape Troyan and Sukharny Island and the port of Ambarchik village. Describing his observations in the moss and coastal tundra, he pointed out that "... the species composition of birds here is quite diverse. These are tundra birds and typical inhabitants of the sea coast: Common ringed plover, Long-billed dowitcher, Spotted redshank, Temminck's stint, Pectoral sandpiper, Sharp-tailed sandpiper, Broad-billed sandpiper, Common snipe, Red phalarope, Pomarine jaeger, Parasitic jaeger, Long-tailed skua, Ross's gull, Sabine's gull, Common gull, Herring gull, Glaucous gull, Arctic tern, Yellow-billed loon, Arctic loon, Red-throated loon, Bewick's swan, White-fronted goose, Emperor goose, Snow goose, Bean goose, Brant, Baikal teal, Greater scaup, Long-tailed duck, American scoter, Common eider, King eider, Spectacled eider, Steller's eider, Red-breasted merganser, White-tailed eagle, Short-eared owl, Arctic redpoll, Lapland longspur, Snow bunting, White wagtail, Western yellow wagtail, Red-throated pipit. This zone is characterized with mass breeding of Broad-billed sandpipers, Phalaropes, Ross's gulls, Greater scaups, Bewick's swans and large geese concentrations in the breeding period. Only here, Yellow-billed loons, Sabine's gulls, Emperor geese, Snow geese, Brants and eiders (Common, Spectacled, Steller's and King) were

observed what gives the fauna a marine imprint" (1960, c.108-109). .

We find interesting information on Kolyma ornithofauna in the works of Vsevolod Dmitrievich Yakhontov (1952, 1957, 1979). In his popular science book "In the Land of Birds" (1979), he devoted an entire chapter about the birds of the tundra, which mainly tells about the birds he observed in Kolyma. Of course, the article by Vsevolod Dmitrievich on the waterfowl migration at Middle Kolyma is of interest, which helps in knowing the nature, arrival and departure dates of birds living north of the observation area (1957). The importance of such observations is stated by Vadim G. Krivosheev, who in his article "Migrations of birds and hunting for them during migration at Kolyma Valley" (1963, p.113) writes the following: ... "The specifics of the geographical location of the Kolyma Valley and the peculiarities of its landscapes naturally determine the bird concentration during migrations here, the formation of a typical migratory route, which is vital for the large population of migratory birds inhabiting the Kolyma-Alazeya tundra and the northern taiga in Kolyma Lowland."

Oleg Vasilyevich Egorov, who conducted aerial surveys in Kolymo-Alazeya tundra in 1963-66, took into account the birds along the way and passed the information to Alexander Alexandrovich Kischinsky. Based on these data and observations, Panchenko V.G., who worked in the Kolyma Delta on behalf of Alexander Alexandrovich, information on the avifauna of the Lower Kolyma (distribution and relative abundance, mainly of waterfowl) was included in the monograph "Avifauna of Northeast Asia: History and current state" (1988). In addition, his joint articles on Brant migration (Kishinsky, Vronsky, 1979) and the biology of the Spectacled eiders (Kishinsky, Flint, 1979) are very informative.

It should also be noted the work on the bird distribution in Lower Kolyma and some issues of bird biology by Perfiliev Vladimir Ivanovich (1965, 1972, 1976, 1987), who worked here first together with Vorobyov K.A., then independently. As a result of such work, observations were made on the change in the number of individual bird species, in particular swans (Perfiliev, 1987) and pipits (Degtyarev, Perfiliev, 1996). In his work "New data on the distribution of birds of north-eastern Yakutia" (1976), Vladimir Ivanovich notes "... The nests of Siberian crane and Ross's gull in the interfluvium of Alazeya and Kolyma rivers are of great interest. Finding nests of these and other species at a considerable distance from their known nesting sites indicates a possible increase in their breeding ranges and the presence of their known pulsations" (p.56).

For a long period, Andrey Grigoryevich Degtyarev worked in the Kolyma basin. Many articles have been published about the birds of this area and adjacent territories by himself and in collaboration with other authors, especially on representatives of the Anseriformes order (Degtyarev 1988, 1990, 1991, 1997, 2000 a, b, 2003, 2010; Labutin, Degtyarev, 1988; Degtyarev, Perfiliev, 1996; Degt-

yarev, Pozdnyakov, 1997; Degtyarev, Sleptsov, Troev, 1995, 1999, 2000, etc.). In the course of these studies, it was noted that the main stocks of geese here are concentrated in a 20-70-kilometer strip of tundra adjacent to the seashore and characterized by significant watering due to large (4-20 km²) lakes and a developed river network (Degtyarev, 2004) and the basins of the Chukochya, Galgvaam, Bolshaya and Malaya Kuropatochya rivers, where the density reaches 2.6-5 individuals per 10 km², are important for reproduction and molting of the White-fronted goose and Bean geese (Degtyarev, 1990, 1998). According to Degtyarev, the ducks in the coastal tundra are dominated with King, Steller's, Spectacled eiders and Long-tailed ducks, and significant concentrations of molting birds and foci of mass reproduction have been conserved here. Tundra is allocated between the mouths of Galgvaam and Kolyma Rivers (100-200/10 km²), as well as adjacent shallow waters, where flocks of molting Long-tailed ducks and eiders are observed annually, and according to long-term aerial and ground surveys conducted by Degtyarev and colleagues in the 90s of the last century in the Indigirka delta and the Yana-Indigirka-Kolyma tundra, the occurrence of ducks has not changed significantly (Degtyarev et al., 1985; 1986). Among the papers of Andrey Grigoryevich there are a number of articles specifically devoted to the biology of individual species as Bewick's swan (Degtyarev, 2010), Lesser White-fronted goose (Degtyarev, Perfiliev, 1996), Snow goose (Degtyarev, Pozdnyakoov, 1997), Brant (Degtyarev et al., 1995), Steller's eider (Degtyarev et al., 1995).

A significant contribution to the study of birds in Kolyma basin was made by the staff of the Institute of Biological Problems of the North (IBPN Far East Branch under Russian Academy of Sciences) Krechmar Arseniy Vasilyevich, Andreev Alexander Vladimirovich, Kondratiev Alexander Vladimirovich, Potapov Evgeny Roaldovich, etc. The long-term works they started in 1977 in the lower reaches of Kolyma became the basis of two fundamental works "Ecology and distribution of birds in North-East of USSR" (1978) and "Birds of the Northern Plains" (1991). Data on the distribution and biology of individual bird species can be found in the works of Kondratiev A.V. (1982, 1985, 1988), Andreev A.V. (1980, 1981, 1987), Krechmar A.V. (1979, 1982, 1986), etc. They have published a number of articles on Bewick's swans (Kretchmar, 1982a, b; Kondratiev A.Ya., 1984 1985; Kretchmar, Kondratiev, 1986), White-fronted goose and Tundra bean goose (Kretchmar, 1986, c; Kondratiev A. Ya., 1988; Andreev, 1993), ducks (Kretchmar, Artyukhov, 1979; Kretchmar, 1994, 1996, 2001, 2006; Kretchmar, Kondratiev, 1982; Kondratiev, 1988, 1989; Kondratiev, Zadorina, 1992). In 1993-1995, IBPN employees, together with the Institute of Evolutionary Morphology and Ecology of Animals (IEMEA RAS) and the Alaska Fish and Wildlife Service conducted joint Russian-American aerial surveys of waterfowl (Poyarkov et al., 2000). In the same years, in the Chukochya-Alazeya interfluvium by IBPN employ-

ees, members of the scientific society "Wetlands of the Eastern Palearctic" and the Japanese Association of Wild Geese Protection (JAWGP) capture and tagging of Arctic geese with colored collars were carried out (Kurechi et al., 1994, 1995; Andreev, 1997). During the preparation of this work, in 1990-1995, aerial survey work was carried out in the Primorsky strip and the continental part of the Nizhnekolymytsky district.

It is necessary to note separately the works of Evgeny Roaldovich Potapov, who is a world-famous specialist in birds of prey. He published with Sail R. as co-author the monographs on the Gyrfalcon (2005) and the Snow owl (2012), works on the ecology of the Kolyma Lowland Ruff-legged buzzard (1993, 1997), Peregrine falcon (1994), etc. Also, there are important review articles "Status of sea ducks in Northeast Asia" by Kondratiev A.V. (1997), Andreev A.V. "Monitoring of geese of Northern Asia" (1997), "Ornithofauna of the Low Kolyma tundra: long-term dynamics against the background of climatic changes" by Andreeva A.V., Kondratiev A.V. and Potapova E.R. (2015a, b). We should especially focus on the late paper, where is the comparing the results of previous years, there is a constant increase in the list of bird fauna due to the some species distribution and reports on vagrant birds as well as the expansion in the list of observation sites and the number of qualified observers, the spatial and quantitative expansion of rare or previously small numbered species was found, the range narrowing in a number of previously dominant species was noted, in parallel with the shift of the range boundaries of a number of tundra species to North, a general shift of species from more southern faunas towards the Arctic is observed" (Andreev et al., 2015b).

It is gratifying to note that at the beginning of July 2020, employees of Russia Bird Banding Center of the Institute of Ecology and Evolution named after A.N. Severtsov of the Russian Academy of Sciences (Moscow), Rosenfeld Sofia Borisovna and Kirtaev Georgy Valentinovich conducted aerial surveys of Arctic Ocean coastal tundra waterfowl from town Chersky to town Tiksi by aerial survey data of 30 years ago.

The authors of this report conducted the following studies in Low Kolyma:

1) in the period from 5 to 21 June 2008 Isaev A.P. within the framework of the ECORA project conducted boat routes along the Kolyma River (from Chersky to the villages of Kolymytsk and Pokhodsk), along the Omolon River (from the mouth – up 120 km), accounting hiking routes in the Khalarchin tundra, the vicinity of the village of Chersky and the village of Pokhodsk;

2) in the period July 12-August 9, 2017, Vladimirtseva M.V. conducted studies of the eastern part of the Alazey breeding center of the sterch *Grus leucogeranus* and other birds during the boat route from the village of Chersky to the mouth of the left tributary of the Kolyma River, the Chukochya Channels, then through the Kolyma Bay to the mouth of the Bolshaya Chukochya River with a stop at its trib-

utary, the Malaya Chukochya River, then along the coast of the East Siberian Sea to the mouth of the Malaya Partridge River, up the Malaya Partridge River along the coast from the sea to the mouth of the right tributary of the Alazeya River, the Logashkino channel, then up it and along the Alazeya River and back to the village of Chersky.

3) in the period from July 28 to August 20, 2021, employees of the Institute of Biological Problems of the Cryolithozone of the SB RAS, the Institute of Archeology and Ethnography of the SB RAS, the Arctic Research Center of the Academy of Sciences of the RS (Ya) AIC of the RS (Ya) Academy of Sciences, NP "Lena Pillars", the reserve "Bear Islands" conducted comprehensive biological and archaeological research on the mainland and island part of the reserve "Bear Islands". The field work covered areas of the coastal tundra of the mainland (the Chukochya River, the mouth of the Enyumchuvey, okr. oz. Vatapavaam and Agafonovgytkin) and two islands (Krestovsky and Chetyrehstolbovoy).

In general, the basin of the lower reaches of the Kolyma has been studied quite well in ornithological terms. However, despite more than a century of research, not all species have been studied in sufficient detail, dynamics and distribution patterns have not been studied, meanwhile, serious shifts in the number and distribution pattern of birds occur in the Kolyma River basin. In this regard, in order to have a more complete picture, it is necessary to strengthen studies of the avifauna of the area. In the future, there will be work to compile an inventory of rare and endangered animal species and species that play an important role in the functioning of ecosystems and are economically important for humans, indicating the nature of their stay and status, and to investigate the peculiarities of animal ecology using the example of model species.

References

1. Andreev A.V. *Bird fauna of Northeast Asia: a summary of the unique biodiversity and the priorities for conservation* // *Ibis*, 1995. – Vol. 137. – P. 195 – 197.
2. Andreev A.V. *To the study of the breeding biology of Great knot* // *Ornithology*. - 1980. - Vol. 15. - pp. 207-208. Andreev A.V. *Ecology of Bean goose Anser fabalis chicks growth in the Nizhnekolymsk tundra* // *Russian Ornithological Journal*. - 1993. - Vol. 2. - Issue 4. - pp. 443-456.
3. Andreev A.V. *Between permafrost and drifting ice: Ross's gull on Kolyma nests* // *Buturlinsky collection: materials of the II International. Buturlinsky readings*. - Ulyanovsk, 2006. - pp. 79-99.

4. Andreev A.V. *Monitoring of geese in northern Asia // Species diversity and status of populations of water birds of Northeast Asia*. - Magadan, 1997. - pp. 5-36.

5. Andreev A.V., Kondratiev A.V., Potapov E.R. *Ornithofauna of Nizhnekolymsk tundras: long-term dynamics against the background of climatic changes. Message 1. Dynamics of the composition of the Nizhnekolymsky avifauna in the XX century and the first decade of the XXI century*. // *Bulletin of Far East, RAS, 2015a, No. 1, pp. 49-59*

6. Andreev A.V., Kondratiev A.V., Potapov E.R. *Ornithofauna of the Nizhnekolymsk tundras: long-term dynamics against the background of climatic changes. Message 2. Status, distribution and abundance of indicator species // Bulletin of Far East, RAS, 2015b No. 2, pp. 57-68.*

7. Artyukhin Yu. b., E. E. Shergalin Johan Koren (1879-1919) – naturalist and collector of birds in North-East Asia and North-West of America // *Russian Ornithological Journal, 2013. - Volume 22. - Express 944. – P. 3225-3251.*

8. Buturlin, S. A., *Report of the Commissioner of the Ministry of internal Affairs of the provision in 1905, Kolyma and Okhotsk region*. - St. Petersburg, 1907. - 190 p.

9. Buturlin S.A. 1905. *Nesting grounds of the Ross's gull // Dog and rifle hunting 11/12: 41-65.*

10. Buturlin S. A. *Hunting birds of the lower reaches of the Kolyma // Dog and rifle hunting. - 1906.- 1.-pp. 12-13.*

11. Chersky I.D. *Unpublished articles, letters and diaries. Articles about I.D. Chersky and A.I. Chersky / Edited by S.V. Obruchev*. - Irkutsk. publishing house, 1956. - 370 p.

12. Chersky I.D. *Information about the expedition of the Imperial Academy of Sciences to explore the Kolyma, Indigirka and Yana regions. II. Stay in Verkhne-Kolymsk in the winter of 1891-92. A letter addressed to the associate professor of the Academy*

13. Degtyarev A. G., Perfiliev V. I. *Piskulka (Anser erythropus) in Yakutia // Kazarka, 1996. - No. 2. - pp. 113-124. Degtyarev 1988, Degtyarev A. G. Snow goose // Red Book of the Yakut ASSR. Rare and endangered animal species. - Novosibirsk : Nauka, 1987. - pp. 40-41.*

14. Degtyarev A.G. *Placement and number of geese in the north of Siberia // Resources of the Siberian animal world. - Novosibirsk: Nauka, 1990. - pp. 73-75.*

15. Degtyarev A.G., Labutin Yu.V. *Siberian crane Grus leucogeranus (Gruiformes, Gruidae) in Yakutia: habitat, migrations. Number // Zoological Journal, 1991. - Vol.70. - pp. 63-75. 1997, 2000 a,b,*

16. Degtyarev A.G. *Dynamics of the range and abundance of Sandhill crane in Yakutia // Inf. byull. RGZHE. - M., 2009. - Issue. 12. - 138 p.*

17. Degtyarev A. G. *Monitoring of Tundral swan in the tundra zone of Yakutia // Siberian Ecological Journal.*, 2010. -No. 1. - pp. 127-138.
18. Degtyarev A. G., Perfiliev V. I. *Lesser white-fronted geese (Anser erythropus) in Yakutia // Kazarka*, 1996. - No. 2. - pp. 113-124.
19. Degtyarev A. G., Pozdnyakov V. I. *New information on the distribution of Snow goose (Anser caerulescens) in Yakutia // Kazarka*, 1997. - No. 3. - pp. 252-254.
20. Degtyarev A. G., Sleptsov S. M., Troev S. N. *Brant (Branta bernicla) in the north-east of Yakutia // Byul. Working Group on Geese*, 1995. - No. 1. - pp. 81-86.
21. Degtyarev A. G., Sleptsov S. M., Troev S. P., Perfiliev V. I. *Distribution and biology of the Spectacled eider in Yakutia // Kazarka*, 2000. - No. 6. - pp. 283-294.
22. Degtyarev A.G., Sleptsov S.M., Troev S.P., Pierce D.M., Petersen M.R. *Status and biology of the Siberian gaga in Yakutia // Kazarka*, 1999. No. 5. pp. 249 - 262.
23. Dementiev G.P. *In memory of Sergei Alexandrovich Buturlin // Zool. journal.*, 1938. -Vol. 17. - Issue 6. - pp. 963-975.
24. Kischinsky A.A. *Ornithofauna of Northeast Asia: History and current state.* - M.: Nauka, 1988. - 288 p.
25. Kischinsky A.A., Vronsky N.V. *Migrations of Brant Branta bernicla (L.) // Migrations of birds of Eastern Europe and Northern Asia. Aistoobraznye- Plate-billed.* - Moscow:Nauka, 1979. -pp. 188-203.
26. Kishchinsky A.A., Flint V.E. *On the biology of Spectacled eider // Ecology and morphology of gag in the USSR.* - M.: Nauka, 1979. - pp 194-207.
27. Kondratiev A.V. *The Sabine's gull (a species essay) // The Red Book of the North of the Russian Far East.* - M., 1998. - pp. 179-180.
28. Kondratiev A.V. *Pacific eider (species essay) // Red Book of the North of the Russian Far East.* - M., 1998. - pp. 127-129.
29. Kondratiev A.V. *The Brant Branta bernicla nigricans (Lawrence, 1846) (species essay) // Red Book of the North of the Russian Far East.* - M.: Penta, 1998 b. - pp. 106-108.
30. Kondratiev A.Ya. *Biology of waders in the tundra of Northeast Asia.* - M.: Nauka, 1982. - 192 p.
31. Krechmar A.V. *Ecology of incubation of the whooper swan (Cygnus cygnus) in the extreme North-East of the area // Zool. journal.* - 1982. - Vol. 61. - Issue 9. - pp. 1385-1395.
32. Krechmar A.V. *Ecology of nesting of the white-fronted goose (Anser albifrons) in different parts of the range // Zool. journal.* - 1986b. - Vol. 65. - Issue 6. - pp. 889-900.
33. Kretchmar A.V. *Long-tailed duck (Aythya marila) and tufted duck (A. fuligyla) in Northeast Asia // Russian Ornithol. Journal.* - 1996. - No. 5. - pp.

101-115.

34. Kretchmar A.V. *Baikal teal Anas formosa (Georgi, 1775), a species sketch // Red Book of the North of the Russian Far East: animals.* - M.: Penta, 1998. - pp. 122-124.

35. Kretchmar A.V. *Common teal (Anas crecca) in Northeast Asia // Zool. journal., 2000.* - Vol. 79. - No. 12. - pp. 1435-1444.

36. Kretchmar A.V. *Taiga bean goose (Anser fabalis middendorffii (Sev.) in the Extreme Northeast of Asia // Kazarka, 2000.* - No. 6. - pp. 79-86.

37. Kretchmar A.V. *Animals and birds of Northeast Asia.- Magadan: "Wild North", 2006.* - 247 p.

38. Kretchmar A.V. *Die Schneegans Anser caerulescens in Nordsibirien // Limicola, 2003.* - B.17. - H.1. - P. 11-20.

39. Koren J. *Fra det nordøstlige Sibirien // Naturen, 1914.* - 38. - P. 186-190.

40. Labutin Yu. V., Degtyarev A. G. *The current state of the number of rare birds in the north of Yakutia (according to aerovisual observations) // Rare terrestrial vertebrates of Siberia.* - Novosibirsk : Nauka, Siberia. Publishing House, 1988. - pp. 137-142.

41. Labutin Yu. V., Degtyarev A. G. *The current state of the number of rare birds in the north of Yakutia (according to aerovisual observations) // Rare terrestrial vertebrates of Siberia.* - Novosibirsk: Nauka, Siberia. Publishing House, 1988. - pp. 137-142.

42. Perfiliev V.I. *Siberian crane and its protection in Yakutia // Nature of Yakutia and its protection.* - Yakutsk, 1965. - p. 99-112.

43. Perfiliev V.I. *Rare and endangered birds of Yakutia // Nature Protection of Yakutia.* - Yakutsk: Publishing House, 1976. - pp. 50-61.

44. Perfiliev V.I. *Common eider // Red Book of the Yakut ASSR. Animals.* - Novosibirsk: Nauka, 1987a. - pp. 33-34.

45. Perfiliev V.I. *Lesser White-fronted geese // Red Book of YAASSR.* - Novosibirsk: Nauka, 1987b. - pp. 41-42.

46. Poyarkov N. D., Hodzhest J., Eldridge V. *Atlas of bird distribution in the coastal tundras of Northeast Asia (based on records in 1993-1995).* - M.: Publishing House of the Center for Wildlife Conservation, 2000. - 86 p.

47. Spangenberg E. P. *New information on the distribution and biology of birds in the lower reaches of the Kolyma // Biology Dep.* - 1960a. - Vol. 65. - Issue 2. - pp. 31-35.

48. Spangenberg E. P. *On the birds of the lower reaches of the Kolyma // Ornithology, 1960b.* - Issue 3. - pp. 106-111.

49. O.D. Pleske. *Read at the meeting of the Physics and Mathematics Department on November 4, 1892 - From-Pb.: Printing House of the Imperial Academy of Sciences, 1893.* - 25 p.

50. Yakhontov V. D. *Rare birds for Kolyma // Nature, 1952. - No. 10. - pp. 38-42*
51. Yakhontov V.D. *Flight of commercial waterfowl in the middle reaches of the Kolyma River // Zool. zhurn., 1957. - Vol. 36. - Issue 3. - pp. 462-464.*
52. Yakhontov V.D. *In the land of birds. Naturalist's stories about the birds of the Far East. - Khabarovsk: Khabarovsk Publishing House, 1979. - 320 p.*
53. Potapov E. R. *Ecology and energetics of Rough-legged Buzzard in the Kolyma River Lowlands. PhD thesis. - Oxford, 1993. – 219 p.*
54. Potapov E. R. *What determines the population density and reproductive success of rough-legged buzzards, Buteo lagopus, in the Siberian tundra // OIKOS, 1997. – No 78. – P. 362–376.*
55. Potapov E., Sale R. *The Gyrfalcon // T&A Poyser. A. C. Black, Yale University Press, 2005. – 360 pp.*
56. Potapov E. *Gyrfalcon diet: spatial and temporal variation // R. T. Watson, T. J. Cade, M. Fuller, G. Hunt, E. Potapov (Eds.). Gyrfalcons and Ptarmigan in a Changing World. The Peregrine Fund, Boise, Idaho, USA. – 2011 – P.2–9.*
57. Potapov E., Sale R. *The Snowy Owl. – T&A Poyser. ACBlack. Bloomsbery London, 2012. – 205 p.*
58. Thayer J. E., Bangs O., Allen G. M. *Notes on the birds and mammals of the Arctic coast of East Siberia // Proc. of the New England Zoöl. Club, Cambridge, Massachusetts, 1914. – Vol. 5. – P. 1–66.*
59. Vorobyov K. A. *On the biology of reproduction of some representatives of the Arctic and American avifauna in northeastern Yakutia // DAN USSR. Zoology, 1958. - Vol. 119. - No. 3. - pp. 609-612.*
60. Vorobyov K.A. *Birds of Yakutia. - M.: Publishing House of the USSR Academy of Sciences, 1963 – 336 p.*
61. Vorobyov K.A. *Game birds of the north-east of Yakutia // Hunting and hunting. household 1965. - No. 3. - p.11-12.*
62. Vorobyev K.A. *Ornithological studies on Alazeya (North-Eastern Yakutia) // Ornithology, 1967. - Issue 8 - pp.150-159. Gribanovsky N.N. Information about the scientific polar expedition of Koren on the study of the Kolyma district of the Yakut region // Izv. Yakut. department of Russian Geographical Society, 1915. - 1. - pp. 114-118.*
63. Wikan S. *Johan Koren: feltzoolog og polar-pioner. - Oslo, 2000. – 240 p.*
64. Schaaning H. Tho. L. *Birds from the north-eastern Siberian Arctic ocean // The Norwegian North Polar expedition with the «Maud» 1918–1925. Scientific results, 1928. – Vol. 5. - No 6. – P. 1–16.*
65. Schaaning H. Tho. L. *A contribution to the ornithology of Eastern Siberia // Nytt. Magazin for Zoologi, 1954. – Vol. 2. – P. 1–114.*

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