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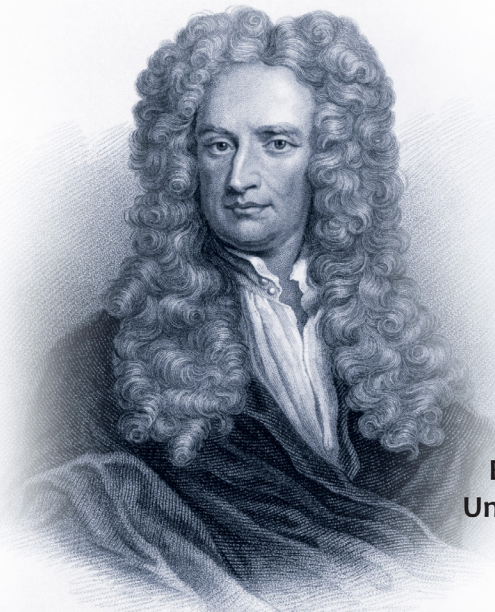

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CONTENTS

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EU TRADE POLICY DURING THE COVID-19 PANDEMIC[1]

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Abstract. *The purpose of this article is to summarize and analyze the EU trade policy measures taken during the COVID-19 pandemic. The analysis showed the general orientation of the new mechanisms being developed to coordinate the efforts of countries inside and outside the EU to maintain the sustainable operation of global supply chains of medical equipment, means to combat coronavirus, food, as well as create tools that ensure the availability of obtaining necessary information, medical care and vaccination of people. At the same time, some contradictions generated by the "diplomacy of the coronavirus" were revealed.*

Keywords: *European Union, trade policy, WTO, vaccine protectionism, COVAX, Mobility Package, Covid-19 pandemic.*

Introduction

The European Union is the largest center of international trade, uniting 27 countries with different levels of economic development and historical past into a single economic space. The coronavirus pandemic has posed a major challenge to pan-European solidarity. On the one hand, it contributed to the development of mechanisms for internal and external economic interaction between the EU member states, including mechanisms within the framework of various international organizations. On the other hand, it revealed contradictions at the level of institutional regulation and contributed to the return to the dominant role of the nation state [1].

Research methodology

The study was carried out on the basis of a study of official documents of international organizations involved in coordinating the actions of countries during the COVID-19 pandemic, including the WTO, the European Commission, Vaccine Alliance, etc., as well as current publications in Rus-

1 The article was prepared within the framework of a grant from the Plekhanov Russian University of Economics to carry out research work on the topic: "Development of international business in the Eurasian space in the face of new global challenges." Order № 969, 08.05.2020.

sian media and scientific journals.

Results

In connection with the emergence of numerous restrictions associated with the spread of the pandemic in 2020, the EU countries, together with other WTO members, declared their commitment to pursuing a policy of diverse support to international trade participants by adopting measures to create a "green lanes" to ensure border flexibility, including the release of a number of vital goods from VAT and duties; accelerating the passage of goods by facilitating the procedures for determining the country of origin and customs clearance of air cargo transportation [2]; supporting small and medium-sized enterprises by facilitating trade digitalization, including access to digital tools, access to trade finance and information through online platforms [3]; introduction of sanitary and phytosanitary measures aimed at protecting the health of people and animals, etc. [2].

Thus, together with other WTO members, the EU countries launched the *Trade and Health Initiative*. The objectives of this initiative are to improve the ability of the international trading system to respond to health emergencies and support the resilience of cross-border supply chains. The proposed measures use the best country practices aimed at ensuring the adaptation of international trade participants to various national conditions, including customs, service and technical regulations, tariffs and fees, analysis and review of newly introduced trade measures, as well as cooperation with international organizations and the development of new commodity exchange rules in individual sectors (see Table 1).

In addition to the WTO member countries general list of goods regulated by the new rules, EU members have adopted their list of medical equipment exempted from import duties and VAT during the pandemic. The new rules are based on EU Customs Law (Council Regulation (EC) No. 1186/2009) [4], which provides for the relief from the payment of duties “in the interests of victims of natural disasters”. They may apply to government imports or imports approved by charitable organizations [5]. A list of goods exempted from import duties is presented on the EU website. It includes items such as respirators, ventilators, multivariable monitors, electrocardiographs, masks, gloves, glasses and other medical products [6]. These measures are very important, since, according to the WTO, more than 70 WTO members have taken measures to restrict the export of medicines, medical equipment or food [7]. Interim measures for these products will be in effect from April 19 to December 31, 2021.

On 22 April 2020 at Canada's initiative, the EU and 22 other WTO

member countries[2], which account for 63% and 55% of global exports and imports of agricultural and agri-food products respectively, adopted a statement to maintain open and predictable agricultural and food products trade during the COVID period -19 [8]. The following measures have been approved to preserve supply chains: the validation certified scanned copies or electronic copies of original certificates and also the G20 decision not to use export restrictions or emergency taxes on food purchased by the World Food Program (WFP) for humanitarian purposes. It was emphasized that according to the Agriculture Market Information System (AMIS), in 2020, the country's export supply capacity of wheat, corn, rice and soybeans was more than sufficient to meet the expected demand[3], therefore countries overvalue its own food security in response to COVID-19 and imposed export restrictions must be targeted, balanced, transparent, temporary and thus not create trade barriers or disrupt global agricultural and agri-food supply chains [9].

Table 1. Actions under the WTO Trade and Health Initiative

Export restriction	
Customs, service and technical regulations	Exchange of experience in organizing digital customs procedures and services in the field of freight, logistics, distribution and transportation; implementing best practices in standards and technical requirements through cooperation with international organizations and improving regulatory compliance through the work of WTO councils and committees.
Tariffs	Temporary elimination or reduction of tariffs on goods deemed necessary to combat the COVID-19 pandemic, including emergency duty relief programs based on indicative lists of goods compiled by the World Customs Organization and The World Health Organization (WHO)[4].

2 Note. Russia and China were not included in the list of signatories.

3 Note. The analysis provided by AMIS is a collective assessment of the market situation and the prospects for the development of the markets by the ten international organizations that make up the AMIS Secretariat. http://www.amis-outlook.org/fileadmin/user_upload/amis/docs/Market_monitor/AMIS_Market_Monitor_current.pdf.

4 Note. HS classification reference for Covid-19 medical supplies 3.01 Edition available at: http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/nomenclature/covid_19/hs-classification-reference_edition-3_en.pdf?la=en

Transparency and monitoring	Members will respond promptly to requests for information on trade measures related to the pandemic to identify supply chain disruptions and provide consultation; all information will be included in the summary report for the 12th WTO Ministerial Conference.
WTO cooperation with other organizations	WTO Secretariat has compiled an extensive database of measures related to COVID-19 and It will continue this work, focusing on the causes and consequences of supply chain disruptions and collaborate with WHO, WTO, WIPO, OECD, UN, G20 to improve analytical capacity to monitor market developments in trade and production of essential health care products.
12th WTO Ministerial Conference	To make possible commitments regarding trade in essential medical products the effectiveness of the above actions will be assessed at the 12th WTO Ministerial Conference.

Source: compiled from COVID-19 AND BEYOND: TRADE AND HEALTH. General Council. WT / GC / 223. 24 November 2020.

Thus, on December 14, 2020, the European Parliament announced proposals aimed at strengthening the role of the European Medicines Agency in crisis preparedness and drug and medical device management, including the procurement and monitoring of information on the creation of stocks of drugs needed in emergency situations [10]. Thanks to the e-Ping trade information base created by three organizations - the United Nations Department of Economic and Social Affairs (UNDESA), the WTO and the International Trade Center (ITC), EU countries online notified of the adopted national trade bans in the form of sanitary and phytosanitary measures (SPS), as well as technical barriers (TBT), which contributed to the effective control of the epidemiological situation on a global scale.

Trade in vaccines against coronavirus infection has become an important area of EU cooperation during the coronavirus crisis. On June 17, 2020, or three months after the start of the pandemic, the European Commission presented a European strategy to accelerate the development, production and introduction of vaccines against COVID-19 in order to ensure the safety and efficacy of vaccines, timely and equal access to affordable vaccines for residents of the Union at an early stage [11]. The EU believes that countries' collaboration with organizations such as the COVID-19 Vaccine Global Access Facility (COVAX), the global cooperative procurement mechanism for COVID-19 vaccines, Gavi (Global Alliance for Vaccines and Immunization), Coalition for Epidemic Preparedness Innova-

tions (CEPI) and World Health Organization is critical to ensuring equitable distribution of vaccines [7].

More than 170 countries have expressed interest in working with COVAX, including 92 low- and middle-income countries that can benefit from funding from the Vaccine Alliance to cover most of their costs. About 80 creditworthy countries with no bilateral vaccine procurement arrangements have also expressed interest in the fund [12]. In the first phase, COVAX plans to purchase 2 billion doses of vaccines by the end of 2021 to protect people at high risk and vulnerable populations, including healthcare workers and others [13]. The European Union is implementing its participation in this initiative in the form of guarantees in the amount of 400 million euros. The United States and Britain contributed $ 4 billion and $ 734 million respectively to this project [12]. It is interesting to note that among the anti-crisis measures of financial support that European countries provided to their economies (calculated as a share of expenditures in GDP) during the pandemic, including Germany, Italy and France, it was not mostly direct budget spending or lost revenues (tax incentives), but either government guarantees or "quasi-government" financing instruments [14].

According to the *Duke Global Health Innovation Center*, there are currently contracts for the supply of 8.6 billion doses of the COVID-19 coronavirus vaccine across the world, with the potential to produce about 12 billion doses globally in 2021. The most popular vaccines are AstraZeneca (2.4 billion doses reserved) and Pfizer (1.5 billion doses). The largest number of vaccines was booked by the European Commission (1.8 billion doses), followed by the United States and the African Union with 1.2 billion doses and 680 million doses respectively [15]. A significant excess of the doses purchased by the European Union over the required amount, according to the explanation of the European authorities, was done to create a diversified portfolio of vaccines and insurance in case of unforeseen problems with their supply and use. The likelihood of which has been proven by recent events related to the production halting of the AstraZeneca vaccine in the United States and revealing negative consequences of vaccination by Johnson & Johnson [16].

In April 2020, the EU activated a new Emergency Support Instrument (ESI) to help countries cope with the coronavirus pandemic. This instrument is a practical implementation of the principle and fundamental value of European solidarity within the EU, which complements two other mechanisms - Joint Procurement and rescEU. This instrument provides for the allocation of 2.7 billion euros in order to immediately respond and combat the widespread of the pandemic consequences, of which 220 million euros

is directed to 3 types of activities related to the transportation organization both within the EU and with third countries: the transport of goods; facilitating the movement of patients; facilitating the transport of medical workers [17]. This instrument, called the “Mobility Package”, assumes 100% reimbursement of the transport costs (and also operational support for mobile medical devices response) or donation of purchased services in cases where the direct transport operation is impossible [18].

It should also be noted that the EU provides substantial humanitarian assistance to fight the pandemic for developing countries. For example, in March 2020, the EU delivered medicines and medical equipment to Iran as part of the INSTEX mechanism created by Western European countries to finance Iranian-European trade transactions bypassing US sanctions. More than 2 billion euros were allocated to improve sanitation and medical care for refugees, including those from Iraq, Lebanon and Jordan. To neutralize other hotbeds of the pandemic's threat, a program of financial assistance in the field of health care and the sanitary-epidemiological services work to the countries of North Africa, the Sahel and the participants of the Eastern Partnership in the amount of 15.6 billion euros has been launched. Humanitarian aid covers the participants of the Southern Partnership, including Jordan, Lebanon, Libya, Morocco, Palestine, Tunisia and Syria; the Eastern Partnership countries - Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine, as well as the Western Balkans (Serbia, Bosnia and Herzegovina, Albania, Montenegro, North Macedonia and Kosovo) and Turkey. Other regions of the Asia-Pacific and the Latin America countries received from the European Union 1.22 billion and 291 million euros respectively [19].

According to *Airfinity* data on April 1, 2021, China became the largest exporter of vaccines, having supplied 116.5 million doses to other countries, followed by India with 61.6 million doses (84.9 million doses used in the domestic market) and European Union - 56.4 million (74.9 million doses delivered to the domestic market). The USA sold a batch of vaccine to Canada in the amount of 30 million doses [20]. The UK (more than 9 million doses), Canada (4 million) and Mexico (more than 3 million) have become major recipients of vaccines from the EU. In the USA, exports amounted to more than 950 thousand doses [21].

According to Chinese Foreign Minister *Wang Yi*, China has supplied the vaccine in the form of humanitarian aid to more than 80 countries and sold it on a commercial basis in more than 40 countries. At the same time, he accused Western countries, including the EU, of creating a shortage in the vaccine market for developing countries as a result of excessive purchases

and called such a policy "vaccine protectionism." The European Union, the United Kingdom and the United States have denied the Chinese blame. However, it must be admitted that high-income countries, with 16% of the world's population, currently account for 55% of vaccine supplies [21].

The experts predict that the global vaccine market, which was estimated at $ 29.64 billion in 2018, may increase to $ 43.79 billion by 2022 and *AstraZeneca, Emergent Biosolutions, Glaxosmithkline, Merck and Pfizer* remain the dominant players [22]. As *Morgan Stanley* and *Credit Suisse* predict, the coronavirus vaccine segment will be more than $ 10 billion a year [23].

Conclusion

The pandemic has actualized the need for humanitarian cooperation of all countries. An analysis of various measures with the EU's participation revealed their focus on coordinating efforts to maintain the resilience of global supply chains of medical equipment, means of protection against caronavirus, agricultural products and food, as well as creating mechanisms to increase the availability of necessary medical care and vaccination of people not only within the Union, but also in less developed low-income countries. More than 30 anti-crisis initiatives adopted by the WTO member countries to maintain the stability of cross-border trade were of a plurilateral nature, which is quite justified in the context of social isolation, the WTO crisis and the need for an immediate response to the emerging situation. The number of signatory countries varied significantly, for example, from two, including India and South Africa (for the temporary abandonment of certain clauses of the TRIPS agreement) to about fifty - regarding support of small and medium-sized enterprises.

The deviation from the usual foreign policy norms demonstrated by the EU and other countries, called "coronavirus diplomacy", reflects a new reality on a global scale, when the factor of military power of states fades into the background, giving way to the policy of "soft power". Practice shows not only the emergence of new coordination mechanisms for the international trade activities coordination, but also the aggravation of many problems that have accumulated within the EU. One of them was the manifestation of a weakening of intra-European solidarity, especially in the initial period of the pandemic, when the first aid to Italy in the fight against COVID-19 was provided not by EU partners, but by China and Russia. The lack of assistance from the EU caused a surge of indignation within Italian society and even gave rise to the idea of the country leaving the EU *("italexit"*).

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OF ENVIRONMENTAL ISSUES AND TOPICAL WAYS OF ITS RESOLVING

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Abstract. *The current state of the environment, caused by the consumer attitude of mankind to nature, the exorbitant burden on it by industrial production for the sake of production, consumption and the increase in the benefits of capital owners, currently actualize the search for effective measures to prevent and resolve environmental disasters that have already occurred. A huge role in this process can and should be played by the subjects of macroeconomics, which, in addition to concluding (participating in) interstate agreements that meet modern realities and carry a constructive nature, should intensify their efforts towards the generation of new industrial technologies; contribute to the popularization of ideas of an environmentally friendly lifestyle among citizens of all countries of the world; to intensify the processes of international cooperation in solving environmental problems; promote the integration of environmental education into the system of state educational standards.*

Keywords. *Environment, ecological problems, ecological disasters.*

Modern trends in the development of the world economy necessitate the actualization of environmental issues, the solution of which, due to the state of the environment, should currently be assigned not so much

to the subjects of the micro-level (individual economic structures), but to the national and supranational structures of the macro-level of economic analysis, the principles of which are based on the corresponding direction require serious adjustments.

The problem lies in the fact that the issues of prevention and possible options for resolving environmental disasters that have already occurred, discussed by the world community for more than a decade, have not yet led to the creation of clear unified mechanisms for their resolution, and the environmental problem has acquired a global status.

On the one hand, protocols, agreements, conventions on relevant issues are signed, however, on the other hand, the number and scale of environmental disasters continue to grow, the state of the environment is deteriorating.

In particular, one of the first documents on relevant issues was the Declaration of the United Nations (UN) Conference on the Human Environment, Stockholm, 1972, which proclaimed the inalienable human right to favorable environmental conditions and consolidated the provision on the deterioration of the "environment in as a result of underdevelopment and natural disasters...", which is a catalyst for serious problems for all mankind in the future [1].

In 1983, the UN General Assembly adopted resolution 38/161, which established a special commission on "environmental and global problems up to 2000 and beyond", the result of which was the definition of the concept of sustainable development as a model for the development of civilization based on the balance of solving problems in the economic and social and environmental protection [2]. Also, in order to develop resolution 38/161 and "establish a new, equitable global partnership by creating new levels of cooperation between states, key sectors of society and people" in 1992, the Rio Declaration on Environment and Development (UN Framework Convention on climate change), which determined the principles of activities in the field of environmental protection, in particular, such a principle as the inalienability of environmental protection from the development process to achieve sustainable development [3].

This declaration became the basis for a number of subsequent UN documents on the topic under consideration:

- the Johannesburg Declaration on Sustainable Development, where states agreed on collective responsibility "for strengthening and developing the interrelated and mutually supportive foundations of sustainable development - economic development, social development and environmental protection - at the local, national, regional and global levels" [4];

- Kyoto Protocol, 1997 [5];
- Paris Agreement, 2015 [6].

In addition, important, in our opinion, is the fact that the international community, represented by the UN, has formulated its goals: "clean water and sanitation", "inexpensive and clean energy", "responsible consumption and production", "combating climate change", "conservation marine ecosystems", "conservation of terrestrial ecosystems" among the 17 proclaimed UN Sustainable Development Goals.

However, despite the work that has already been done, it is clear that the measures taken are inadequate when, within the framework of the agreements reached over the past half century, large-scale environmental disasters have not ceased to occur in the world (tab. 1), and the state of the environment only worsens from year to year.

Analyzing the causes of environmental disasters that have already occurred and the state of the environment in the world, we can state the obvious regional nature of modern environmental problems:

- the post-industrial countries of Western Europe and North America, in the main, suffer from the heavy legacy left by industrial objects, which have now been transferred abroad due to transnationalization and internationalization, mostly to the territory of developing countries; waste from citizens of countries with a high level and quality of life (for example, emissions of freons, leading to a decrease in the protective ozone layer, the formation of "plastic stones", etc.);

- industrial countries of Latin America, Central and Eastern Europe, Asia rightfully attribute industrial gas emissions to the number of leading problems; a weak system for the disposal of industrial waste and waste of citizens' vital activity; intensive use of national natural resources, often working in the shadow sector of the national economy [7 p. 3], leading to deforestation [8 p. 88], soil erosion, climate change, etc.;

- agricultural countries in Africa mainly face the problems of deforestation, soil erosion, lack of natural resources necessary for a full life, destruction of ecosystems, etc. soil, desertification, pollution of rivers as a result of emissions of oil refining waste and other industrial waste. Realizing the danger of these problems, assessing their consequences, Mauritania at one time became a party to the Kyoto Protocol, and is currently dealing with the problems of desertification, endangered species of fauna, hazardous waste emissions, the law of the sea, protection of the ozone layer, pollution from ships, the state of water and wetlands, whaling issues, etc.

Table 1

Examples of large-scale environmental disasters in the XX-XXI centuries

Date	Epicenter	Cause	Effects
1952	Great Britain, London	As a result of combustion and some chemical processes, sulfur dioxide entered the atmosphere, which became lethal. It contributed to acid rain.	High levels of sulfur dioxide in the atmosphere damaged the respiratory system of residents and, as a result, killed thousands of Britons.
1960-2007	Central Asia, border of Kazakhstan and Uzbekistan	The rapid development of agriculture in Central Asia, which entailed the withdrawal of large amounts of water from the two main tributaries of the Aral Sea	Complete drying up of the Aral lake. Mesoclimatic changes, degradation of the river delta ecosystem, an increase in the number of sand and salt-dust storms, the destruction of the fishing industry, a reduction in the growing season and a decrease in field productivity
1974	Great Britain, Lincoln	Flixboro chemical plant accident	Fires within 10 days, chemical release into the air and poisoning of the local population
1986	USSR, Chernobyl	Nuclear power plant accident	The wind carried radioactive dust not only over the territory of the USSR, but also across Europe and America, after the catastrophe many animals died, the forest was damaged
1991	Middle East, Persian Gulf	Deliberate setting fire to oil fields and dumping oil into the Persian Gulf	The detrimental effect of oil itself on plants and animals, harm from the use of toxic substances to clean up the spill, pollution of drinking water and air
1994	Russia, Komi Republic	The accident on the Vosey-Headworks oil pipeline	Oil almost completely destroyed all flora and fauna in the disaster region. The vast territory has turned into a lifeless desert.
2011	Japan, Fukushima	Fukushima-1 nuclear power plant accident	More than 21 thousand people died, there was a release of radioactive substances. a third of the world's oceans were exposed to radiation contamination
2020	Lebanon, Beirut	The explosion of ammonium nitrate	Serious air pollution, which subsequently has a negative impact on the environment

Note: compiled by the authors on the basis of summarizing sources [TOP-15 largest environmental disasters [Electronic resource]. Access: https://vyvoz-org.

turbopages.org/vyvoz.org/s/blog/top-15-krupnejshih-jekologicheskih-katastrof-v-mire/ (appeal date 22.04.2021),Environmental consequences of the accident at the Fukushima-1 nuclear power plant [Electronic resource]. Access: https://ecology-now.ru/knowledge/zdorove-cheloveka/ekologicheskie-posledstviya-avarii-na-aes-fukusima (appeal date 22.04.2021), Environmental consequences of the accident at the Chernobyl nuclear power plant [Electronic resource]. Access: https://ecology-now.ru/knowledge/tekhnologii-i-ekologiya-goroda/ekologicheskie-posledstviya-chernobylskoy-avarii-spustya (appeal date 22.04.2021)]

Today it is obvious to the international community that the main reason for the current crisis state of the environment, albeit with "nuances", but nevertheless on absolutely all continents of the planet has become the consumer principle of human life - the rapid pace of industrial production for the sake of production, consumption and the increase in the benefits of capital owners; large-scale, and in some cases - just barbaric nature of the depletion of natural resources. The entire planet is suffering from global warming, which further results in energy and water shortages, air pollution [9], ever-increasing pressures on public health and transport systems; poisoning of flora and fauna with industrial waste and plastic waste,[1] etc. [10 p. 105, 11 p. 30].

We agree with the opinion of experts that the options for solving the existing problems can be:

1. Generation of new industrial technologies aimed not only at meeting the needs of people, but also at preservation, for the benefit of nature; intensification of the development and implementation of green technologies.

2. Popularization of ideas for a sustainable lifestyle among citizens of all countries of the world. Transnational companies (TNCs) of the world can play a huge role in this context. The fact is that from year to year more and more global companies begin to call themselves "ecological" and declare friendship with nature through the use of recycled materials or, for example, reducing the carbon footprint. On the one hand, we can say that concern for the environment for large TNCs is a trend or advertising that fits so well with the goals of sustainable development of the entire international community. On the other hand, it is the rhetoric of transnational companies recognized and loved by hundreds of millions of people around the world that is the most effective tool for conveying information to the masses about the existence of a problem, the need and ways to solve it.

1 Since 1950, the planet has produced 8,300 million tons of plastic, 6400 million tons of which have been turned into unusable garbage. 79% of this garbage settled in nature - forests, lakes, seas. Only 9% of all garbage was recycled [Official site How to green [Electronic resource]. Access mode: https://howtogreen.ru/ (appeal date 19.04.2021)]

Notable examples of related activities are:

- innovations from Tesla - electric vehicles and recently developed solar panels, which combine two functions: it is both the roof and the power supply system of the house;

- eco-friendly collection from IKEA (75% of the materials used in the brand's products are made from renewable resources);

- cutlets, developed by Beyond Meat and already in stores in the United States (the uniqueness of these cutlets is that they look, cook like meat, have the appropriate taste, while they have more vitamins and minerals than meat; they are prepared only from herbal ingredients) [12] and others.

3. Intensification of international cooperation in solving environmental problems. Currently, this step is already being actively implemented among representatives of developing countries. For example, such an African country as the Republic of Namibia is currently actively cooperating with the world community on the protection of the environment, in particular, the world's oceans. Various non-profit organizations are already working on the territory of the relevant state to reduce the risk of environmental disasters, in particular, an organization such as Ocean Conservation Namibia has demonstrated its effectiveness in the event of an environmental disaster that occurred in October 2020.

4. Integration of environmental education into the system of state educational standards, followed by the formation of a unified interstate strategy for environmental education, which is a matter of paramount importance for the further adoption of more radical measures to eradicate existing pollution, prevent the formation of new ones, preserve the ozone layer, etc. In particular, we believe that the strategy of environmental education has every chance to go beyond the purely academic level in the future. We are deeply convinced that it can contribute to the formation of ecological thinking [13], ecological culture, which, in turn, will lead to the activities of the population in relation to environmental protection, which will really contribute to the prevention and prevention of environmental disasters [14].

We believe that the proposed measures can contribute to solving environmental problems on the planet, however, it is important to understand that achieving an optimal result will be possible only when all of humanity understands the importance of environmental problems and the need for their own participation in their resolution.

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IMPACT OF THE CORONOVIRUS PANDEMIC ON SMALL AND MEDIUM-SIZED BUSINESSES IN RUSSIA

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Abstract*. The article examines the impact of the coronavirus pandemic in Russia and the traces it left in the national economy, as well as the economic situation in Russia at the current stage of development, ways to overcome the crisis and state support for small and medium-sized businesses.*

Keyword. *Small business, coronavirus, pandemic, economic crisis, economic policy, anti-crisis policy, state support for entrepreneurship*

The coronavirus that has engulfed the planet has made its own changes not only in the lives of people themselves, but also had its consequences for business and tax legislation. The number of cases is increasing with a certain frequency for almost a year, despite the measures taken by various countries - including the introduction of total "lockdowns", of course, this can not but affect the state of large and small businesses. Most of all, individual entrepreneurs, small firms and farms suffer from such innovations.

Speaking of small businesses, it can be noted that the majority of companies engaged in small businesses have been caught up in the crisis. The greatest losses were caused by the virus to small bakeries, cafes, restaurants that are "around the corner". It was their mask regime and strict quarantine restrictions that affected them the most. Anastasia Tatulova, an entrepreneur from Moscow, co-founder of a chain of family cafes, and a columnist for the Russian magazine Forbes, explains how the coronavirus has turned out for small businesses. "The day before yesterday, my competitor filed for bankruptcy, yesterday a colleague in the industry, thousands of employees were left without jobs and income. And this is just the

beginning. Every day, businesses that have been creating a comfortable environment in cities for many years are dying, developing offline. ... In fact, the entire and so scanty layer of small and medium-sized businesses in our country has died. " - writes Anastasia [1]. She is concerned not only about the state of small businesses in Russia, but also about the income levels of small business owners, as, in her opinion, " many businesses like hers will simply disappear after the crisis [1].»

One of the most serious problems faced by businessmen is not the preservation of profits on the former scale during the pandemic, but the survival of the business. Loans, mortgages and debts are a primary concern for small business owners, as small businesses are often synonymous with family businesses. It is obvious that for small and medium-sized businesses, the consequences of the coronavirus can be fatal and even irreversible. Anastasia Tatulova compares the current situation in small business with the crisis after the revolution of 1917. "I have already closed five cafes out of 33 in Moscow. Revenue on the network fell by 85%. 90% of small and medium-sized entrepreneurs — such as me-will not be able to recover from the virus. " - writes Anastasia in her column [1]. Anastasia Tatulova believes that the crisis can bankrupt entrepreneurs, reducing their incomes below the average, as a result of which they will not be able to afford the previous price segment of goods and services that they could afford before the crisis: children's education, entertainment and travel. This list also includes the payment of loans, the purchase of consumer goods and services, including food.

2020 is considered the most difficult year for both manufacturers and consumers: the shutdown and closure of many enterprises made us think about how to survive the crisis and what you can save in such a difficult time. More and more people began to save on food: go to grocery stores, restaurants and cafes less often, use delivery services more often, and collect a grocery basket once for a longer period. Consumers are increasingly turning away from such goods and services that used to be considered family leisure – going to the cinema, a game room for children, which were open in almost every shopping center before the crisis. Real estate, household appliances, cars, jewelry and other luxury goods are a thing of the past for consumers. The coronavirus crisis can be called a debt crisis – a huge number of people will not be able to pay off their mortgages and loans on time. The government has even established credit holidays for people with mortgages, car loans, and large consumer loans. In 2020, the IMF made bets on economic recovery by the end of 2021, but now this does not seem realistic: small businesses are rapidly closing. Represen-

tatives of the Center for Strategic Research said that the income of more than 50% of Russians has significantly decreased as a result of the crisis in 2020. Consumers began to pay attention to discounts, promotions, and discount offers in order to reduce their costs. Online stores and delivery services help them compensate for the cost of public transport. Especially popular is free shipping, which in many stores is included in the price of a product or service.

Government support for small businesses (shown in Figure 1) is a major opportunity for entrepreneurs to fight the crisis, but even this is not enough for small and medium-sized businesses to return to their pre-crisis financial performance.

Figure 1. Federal support for small and medium-sized businesses in the context of the new coronavirus pandemic

Nevertheless, for some businessmen, the crisis has become an opportunity to find new niches in the already established traditional areas of their activities. Oleg Burlak, a businessman from Tolyatti, told how during the period of the pandemic, he converted the shop for the production of peanut paste into a full-fledged production of antiseptics. Entrepreneurs from Kursk, who before the pandemic were mainly engaged in sewing stage

costumes for local theaters and clothing for the clergy, began to sew medical masks. Novocherkassk Lubricants Plant (NZSM) during the pandemic reoriented production for the production of antiseptics [2]. In a difficult time of crisis, more people began to think about their health: entrepreneurs are no exception. For business, a new opportunity to make a profit, the appearance of which was difficult to predict, is a focus on health care.

It is not that big business is coping with the pandemic and all sorts of restrictions better than small business. Obviously, the decline in production makes large entrepreneurs close some of the branches and divisions, while certainly reducing the staff of their companies. During the period of the raging coronavirus, only large pharmaceutical corporations remain in the black, the volume of production of which does not decrease, but, on the contrary, increases in proportion to the number of sick people around the world who are constantly in need of vital medicines.

Vladimir Putin said that total restrictions in the near future in Russia are not planned. This is due to the fact that the economy and the work of the business will actually stop.

According to him, the stable macroeconomic policy of recent years has allowed to mitigate the consequences of the pandemic for the Russian economy. And the Russian authorities managed to maintain macroeconomic stability and prevent a sharp increase in the level of inflation, despite the difficulties in the financial markets associated with the pandemic. Putin noted that the efficiency of budget spending to support the economy is increasing. The total amount of federal support funds in the current year is about 4.5% of GDP [3].

The President said that it is necessary to extend the tax deferral for companies engaged in small and medium-sized businesses in various fields. According to him, "not all companies in the affected industries had an objective opportunity to restore their former position, they still have problems" [3].

There is no other way out for any country than to close to universal quarantine, or to observe all precautions, wearing masks in public places and at work, of course, in the first case, business will suffer more than in the second, but the number of patients is significantly reduced, and therefore the cost of medical care. Along with fundamental changes in the daily life of people, the structure of business is also changing, new amendments are being made to the tax legislation that radically change life, making it easier to do business during the pandemic. According to the Government Decree of 24.04. 2020 N570 field inspections that have already begun are suspended, new inspections are not appointed, penalties are suspended

for a certain period, the deadlines for submitting documents and explanations are extended by 20 working days according to the requirements from the IFNS [4].

The draft Resolution of the Government of the Russian Federation proposes a number of measures and eases for SMEs in relation to the terms of their tax obligations. It is important that these measures do not apply to all, but only to the SMEs included in the register as of 01.03.2020 and "operating in the sectors of the Russian economy that are most affected, including as a result of the spread of the new coronavirus infection COVID-19, the list of which is determined by the Government of the Russian Federation".

In addition, the Government proposes to approve new rules for granting deferral or installment payments for taxes, in which it is proposed not to accrue penalties for the period from March to May 2020 for taxes due in 2020. These rules apply to taxpayers whose activities have been put at risk in the sectors of the economy most affected by the pandemic. In order to apply these rules, the Government has defined a list of strategic, system-forming or city-forming organizations operating in the sectors of the Russian economy.

The conditions for granting a deferral are a decrease in income by more than 10% over the years, a decrease of more than 10% in sales income for transactions subject to the 0% VAT rate; a loss in the reporting periods of 2020, provided that there was no loss in 2019. One of these conditions may serve as a reason for granting a deferral.

For small and medium-sized enterprises that are subject to special tax regimes, the deferral can be granted automatically, without an application and a special decision, for taxes that will be due after the rules come into force. Also, when applying for installments or deferrals, the list of applications attached to the documents is reduced. The deferred payment is from 3 to 12 months, depending on the company's performance. For example, for organizations that are not strategic, system-forming, or city-forming, a 6-month deferral can be granted if revenue decreases by more than 20%. The maximum period for the provision of installments is from 3 to 5 years, depending on the decline in the business performance of the organization and its status.

According to Government Resolutions, the most affected are entrepreneurs whose business is related to air, railway and auto transportation, the activities of museums, cinemas, tourism, public catering, hotel complexes and retail trade. Large-scale industry, on the other hand, suffered moderately from the pandemic-related crisis. The greatest damage is caused by

companies that produce transport equipment and equipment, household appliances, and the furniture industry.

To a lesser extent, the metallurgical industry and metalworking, the production of glass, electrical equipment, textiles and clothing were affected. The damage in these industries is estimated by economists as acceptable during the crisis. According to the forecast of the Ministry of Economic Development, the decline in industry in 2020 will be 5.2%, according to the forecast of the Ministry of Industry and Trade — 8.6%. The second quarter will be the most difficult for the Russian economy, and a gradual recovery of dynamics is expected in the second half of the year. Food, paper, chemical, gas and electricity production were all largely unaffected by the coronavirus crisis, according to economists, while medical equipment and pharmaceuticals were among the few industries that benefited during the quarantine period. The structure of anti-crisis financing and the most affected sectors are shown in Figure 2.

Figure 2. The structure of anti-crisis financing and the most affected industries

The changes associated with general isolation in 2020 affected business conduct and tax legislation, which entails consequences for the econ-

omy and the management of economic accounting of profits and losses in the near future. For the entire economy, the pandemic has become an opportunity to review their priorities, and for the country and the world-it is an indicator of the effectiveness and success of doing business on a large and small scale.

The Cabinet of Ministers approved and submitted to the State Duma a bill to increase the mineral extraction tax (MET) by 3.5 times for metallurgists and fertilizer producers.

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THE SPREAD OF DRUG CRIME THROUGH INFORMATION AND TELECOMMUNICATIONS TECHNOLOGIES

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Abstract*. The article examines the relationship arising from the sale of drugs using the Internet. The widespread use of computer technologies and telecommunication systems in modern life, the creation on their basis of global computer networks, which have become a familiar part of public relations in all spheres of life, has led to the fact that "cyberspace" has become actively used to commit crimes, in particular, for the spread of narcotic funds and their analogues. The scientific article analyzes the current state of the drug situation in Russia, as well as outlines the prospects for improving the mechanism of counteracting the spread of drugs through the information and telecommunications network Internet. The author analyzed the judicial and investigative practice on the issue under consideration, identified the members of an organized criminal group participating in the contactless method of selling narcotic drugs using the Internet, identified the features of each of them. The use of a contactless method of selling narcotic drugs influenced the widespread use of the "Bitcoin" cryptocurrency as the main means of payment for transactions with narcotic drugs.*

Keywords*: drug crime, narcotic drugs, Internet technologies, computer technologies, information system, cryptocurrency "Bitcoin", electronic payment systems, contactless sales.*

Drug addiction and drug-related crime pose a threat not only to public and state security, but also lead to the degradation and destruction of all mankind. The forms and methods of drug-related crimes are constantly being improved and do not lag behind scientific and technological progress and the development of social relations.

The rapid development of information technologies, the spread of methods of making payments for goods and services through the use of electronic systems leads to a change in the methods of committing illegal

acts, incl. related to illicit drug trafficking.

The statistics of drug addicts in Russia in 2019 shows that annually 90 thousand people begin to take narcotic drugs and psychotropic substances. At the same time, 70 thousand people die every year from the effects of narcotic drugs.

The number of cases associated with the use of drugs by children aged 6-7 is increasing. Our country accounts for 20% of the world drug trafficking [7].

The most common cause of death from drugs is overdose, which disrupts internal organs and causes cardiac arrest. But it is not only the drugs themselves that "kill", but also the consequences of their use.

The National Security Strategy of the Russian Federation, approved by the Decree of the President of the Russian Federation on December 31, 2015, enshrines the emergence of new forms of illegal activity, in particular, with the use of information, communication and high technologies[1], which also applies to crimes in the sphere of illicit drug trafficking, when the commission of which the information and telecommunication network "Internet" can be used.

Internet technologies are increasingly being used in drug trafficking, as evidenced by the 2017 UN World Drug Report. Modern technologies and the use of social networks for communication create a new way of selling drugs - contactless marketing using the Internet.

Criminals use the Internet as an affordable and convenient means for free advertising of drugs, to communicate with potential buyers, to obtain information about payment, to inform about the location - "plantings". And consumers are actively using the Internet in order to obtain information about the channels for the distribution of narcotic drugs.

So, for example, in a criminal case on charges against Boldin A.V.[2] in the commission of crimes under par. "b" part 3 art. 228.1, par. "b" part 3 art.228.1, par. "g" part 4 art. 228.1, par. "b" part 3 art. 228.1, par. "g" part 4 art. 228.1, par. "g" part 4 art. 228.1, par. "g" part 4 art. 228.1, part 3 art. 30, par. "g" part 4 art. 228.1, part 1 art. 228 CC RF, it was found that in the period from December 2016 to March 2019 Boldin A.A. together with his wife Boldina O.O. earned money by distributing narcotic drugs, psychotropic substances, as well as their analogues, in the role of pawns on the "TOR" browser on the Internet. The TOR browser is a shadow browser, with the

1 Decree of the President of the Russian Federation of December 31, 2015 № 683 "On the National Security Strategy of the Russian Federation" (as amended on December 31, 2015) // Collected Legislation of the Russian Federation № 1 of January 4, 2016 (Part II) Art. 212.

2 The name of the accused has been changed (author's note)

help of it you can find any site that would be blocked using a regular browser. On the website "HYDRA" in the browser "TOR", Boldin A.V. has been registered since mid-December 2016. His duties included, with the help of virtual money "Bitcoin", to acquire drugs in large quantities, and subsequently carry out "plantings" in various districts of Moscow. The scheme for acquiring narcotic drugs looked like this:

using a virtual wallet on the Internet Boldin A.V. transferred funds to a virtual exchange office, where rubles were exchanged for virtual money "Bitcoin". Then the virtual money "Bitcoin" was transferred to the virtual wallet of the "5th Element" store. Further to the personal account of A.V. Boldin on the site "HYDRA", came the coordinates with the address, with a photograph and a description of the place "plantings" with drugs, which he later took away and together with Boldina O.O. laid out in different districts of Moscow, making records of coordinates, addresses and photographs of the area, made by him "plantings" with drugs, after which he went to the site "HYDRA" and sent to the address of the store "5th Element" information about the "plantings". For the work performed, namely for one done "planting", the manager of the "5th Element" store transferred the salary in the form of virtual money in the currency "Bitcoin". The amount of "Bitcoin" changed every time and depended on its rate. Then the virtual funds were transferred to the virtual wallet in the personal account of A.V. Boldin on the HYDRA website, which was under his personal login and password. Further, the funds from the personal account were sent to virtual exchange offices, and after the transaction, the virtual money was processed within 24 hours and transferred to the bank card of A.V. Boldin from different personal accounts.

The legislation of the Russian Federation does not regulate public relations related to cryptocurrency in any way. Also, there is no prohibition on the use of this electronic payment system. In connection with this circumstance, there are problems arising in the prevention of crimes committed using electronic money - Bitcoin [1].

Thus, in general, the contactless method consists in the fact that drug criminals look for clients by placing advertisements on the Internet. Buyers pay for drugs through electronic payment systems, and receive them through caches - "plantings". As a result of this method of direct personal contact between the dealer and the purchaser of drugs does not occur, which is of great forensic value.

So, the contactless sales scheme may include:

- establishing contact between the consumer and the distributor by calls or correspondence via social networks or messengers (for example,

Skype, Viber, WhatsApp, etc.) [8; 4]. Drug criminals create websites on the Internet or place advertisements on drugs on them, with the aim of their possible ordering by any person through a computer or mobile phone [5].

- having made an order, the buyer of narcotic drugs transfers the funds to the specified account of the electronic payment system, from which the money is received by criminals to the electronic numbers
- payment systems or to bank accounts of dummy individuals. In some cases, money is transferred from the accounts of dummy individuals to the accounts of legal entities, and after that it is subject to cash;
- the creation of the so-called "plantings" with the drug. Typically, the drug is placed in the plantings in a cigarette pack in the entrances of residential buildings, garage cooperatives, playgrounds, etc.;
- information about the planting place is sent to the buyer by SMS messages or calls via social networks and instant messengers. A detailed description of the place and item is sent next to which the planting is located or a photo is sent.

The members of the criminal group communicate with each other using various Internet applications (Viber, WhatsApp, Telegram, etc.) [6], through which they receive instructions with detailed descriptions of how to properly pack, store and transport drugs, make plantings, communicate with drug users, how to use electronic accounts and hidden means of information exchange via the Internet, etc.

Let's look at an example. So from the interrogation of a suspect in part 3 art. 30, par. "G" part 4 art. 228.1 of the CC RF Shaimkulova K.I.[3] it was established that the suspect, due to lack of funds for living, decided to deal with the distribution of drugs in the position of "planter" on the darknet portal "Hyndra", in the store "madweekend". For one pledged planting with a narcotic drug, he was paid a monetary reward in the amount of five hundred and fifty rubles. The store operator transferred funds in the form of "Bitcoin" cryptocurrency to the individual account of K.I. Shaimkulov. on the darknet portal "Hydra", after which he transferred them to the "crypto-exchange", then cashed them by bank transfer to the card of the bank "Sberbank" of Russia. The narcotic drug packed in polymer bags was transferred to K.I. Shaimkulov by the administrator of the madweekend store through the darknet portal "Hydra". by means of "plantings" in the forest parks of the Moscow region for further marketing.

Currently, modern drug-related crime is characterized by the presence of modern digital technologies and is not limited to the territory of one region, but has an all-Russian and international character.

3 Suspect's last name has been changed (author's note)

An analysis of investigative and judicial practice shows that the following are involved in the non-contact distribution of narcotic drugs:

developers of psychoactive substances who create new types of psychoactive substances or modify existing chemical formulas;

wholesale drug couriers transporting large consignments of drugs across the territory of the recipient country (while the driver may not know about the real contents of the transported cargo);

"*marketers*" responsible for the development, administration and updating of online store sites or pages on social networks, advertising blogs [2];

"*skladmen*" who receive from drug dealers a wholesale consignment of drugs, pack drugs into small portions and periodically replenish their quantity from planters ("kladmen"). This stage in the criminal narco-hierarchy, as a rule, is occupied by persons who have previously justified their trust as planters;

smugglers who move bulk consignments of drugs from abroad to the territory of the recipient country;

"*dispatchers*" who receive orders from drug users and carry out their dispatch, control the receipt of payments from consumers and send "plantings" addresses to drug users;

"*curators*" directly work with couriers, "promoters", "dispatchers", transfer their salaries, create a report for each employee and ensure the safety of planters - "kladmen";

"*personnel officers*" are engaged in the selection of planters ("kladmen");

planters ("kladmen") at the direction of the "dispatcher" or independently plant a narcotic drug in a certain place, the address and photo of which are sent to the "dispatcher" or directly to the drug user;

"*cashiers*" withdraw funds received through payment terminals from bank accounts and distribute them among the members of the group or transfer them to the organizer of this group;

"*promoters*" ("*graffiti artists*", "*writers*", "*stencils*", "*spammers*"), who put on the walls the addresses of online stores and Internet bots selling drugs, as well as glueing and spreading leaflets, stickers, hanging stretch marks (posters) on ropes tied around trees;

"*collectors*" - persons who use violence against couriers who stole drugs from a store or caused other damage (as an edification to the rest, videos of the massacre of "kladmen" are posted on the Internet);

cashers that facilitate the transfer of electronic money into cash;

"*drops*" - persons involved in cashing out funds or receiving parcels with narcotic drugs. In other words, a "drop" is a person whose passport

data or other information about him is used to carry out illegal operations so that the persons committing crimes remain undetected. Sites that are dedicated to teaching the recruitment of "drops" for criminal purposes, it is recommended to attract drug users, students, unemployed by searching for them on social networks, on entertainment sites, dating sites and job search sites.

An important component of drug-related crime on the Internet is disguise, conspiracy, because using a contactless method of committing crimes, criminals try to hide contacts with each other and with buyers from law enforcement agencies.

Therefore, it is quite difficult to establish the facts of the illegal sale of narcotic drugs only by investigative means, and a complex of operational-search measures is required, which will be aimed at identifying and solving the crimes in question. In this regard, the role of operational-search information is increasing, the sources of which are persons who provide confidential assistance to the bodies carrying out operational-search activities. Also, the effectiveness of investigative work in identifying and solving drug-related crimes can be achieved by performing tactical combinations and operations with the use of a complex of operational-search measures of a technical nature [3].

The technical knowledge of drug criminals and new ways of committing drug crimes by them require law enforcement officers to have good knowledge in the field of electronic or information and telecommunication networks, to improve operational-search and forensic techniques and methods of detecting, disclosing and investigating crimes related to the contactless method of selling drugs.

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JUDICIAL PENALTY: ISSUES OF LEGISLATIVE REGULATION AND LAW ENFORCEMENT

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Abstract. *The article notes that the criminal law policy of Russia is characterized by a generally liberal orientation towards persons who have committed a crime of minor public danger. In this regard, it is recognized that the application of a judicial fine is promising, which makes it possible to ensure the solution of the tasks of criminal legislation outside of punitive relations. It is also indicated that the law allows its application to suspects of a crime. Attention is focused on the need for a thorough analysis of the objective and subjective signs of the crime when deciding on the appointment of this fine. The author notes that the modernization of criminal legislation often creates additional difficulties in the interpretation and application of its norms. Federal Law No. 323-FZ of June 3, 2016, which was adopted in order to improve the grounds and procedure for exemption from criminal liability, is no exception in this respect. It has raised a number of questions and doubts about the legal basis for exemption from this liability with the imposition of a court fine, the provisions underlying its application, its correlation with other types of exemption, as well as the ratio of a court fine to a criminal penalty in the form of a fine. The article states that since this type of release is associated with the imposition of a court fine, this measure can actually be imposed on a person who has not completely lost the public danger. This, in the author's opinion, contradicts the social and legal purpose of exemption from criminal liability. The article substantiates proposals for improving some of the norms of the Criminal Code of the Russian Federation and the PEC of the Russian Federation.*

Keywords: *public danger, crime, release, criminal liability, punishment, judicial fine, public danger, categories of crimes, basis of criminal liability, loss of public danger.*

The criminal law policy of Russia in recent years has been characterized by a liberal orientation towards persons who have committed crimes of small and medium gravity for the first time. Evidence of this, as we see it,

is the adoption of the Federal Law of July 3, 2016 No. 323-FZ "On Amendments to the Criminal Code of the Russian Federation and the Criminal Procedure Code of the Russian Federation on Improving the Grounds and Procedure for Exemption from Criminal Liability" included art. 762 "Exemption from criminal liability in connection with the appointment of a court fine" and chapter 152, which provides for Art. 1044 "Judicial fine" and Art. 1045 "Procedure for determining the amount of a court fine."[1] This release can be called a new phenomenon for Russian criminal law, since when a person is released from criminal liability, the court imposes a fine, which the legislator named judicial. Before starting to consider the issue of establishing a new type of exemption, I would like to note the inaccuracy of the legislative wording - it would be preferable to reflect in the title the additions to the Criminal Code, rather than position this act as its change. Currently, there is an increase in the number of persons exempted from criminal liability with the appointment of a fine, so in 2017 it was applied to 20,639 persons, in 2018 - 33,329, and in 2019 - 522,461 persons.[2]

The modernization of criminal legislation sometimes creates additional difficulties in the interpretation and application of its norms. Evidence of this, as we think, is the changes that have appeared in the Criminal Code of the Russian Federation and the Code of Criminal Procedure of the Russian Federation. The name of the Federal Law dated July 3, 2016. No. 323-FZ contains an indication that it was adopted to improve the grounds and procedure for exemption from criminal liability, and it raises a lot of questions, doubts about the legal basis for exemption from criminal liability with the appointment of a court fine, the provisions underlying its application, correlation with other types of release, as well as the ratio of a judicial fine with a criminal penalty in the form of a fine.

The scientific literature discusses the problem of the nature of liability in the application of a court fine. This is due to the fact that articles about him are located in different chapters.

The question is, what kind of responsibility does he express? A person is released from criminal liability in these cases. What, then, is the nature of a judicial fine (as well as of any criminal legal establishment), if it cannot be compared with a more general category, in this case with responsibility. It is unlikely that anyone would take the liberty of claiming that a court fine is regulated by itself and should not be weighed against liability in criminal law. Perhaps the initiators of the above innovation, thereby, provided for a new kind of responsibility?

1 Collected Legislation of the Russian Federation (SZ). 2016. No. 27 (part II). Art. 4256.

2 Judicial Department at the Supreme Court of the Russian Federation. – URL: http://www.cdep.ru/index.php?id=5

As you know, by its content, criminal liability in its traditional understanding implies a conviction of a court, that is, a negative assessment of the crime and the perpetrator, when a person is released from serving the sentence assigned to him or when a punishment or other measure of a criminal legal nature is imposed. The appointment of a court fine does not imply the consequences and burdens of criminal liability. When releasing a person from criminal liability, the court does not pass a guilty verdict, but it gives a negative assessment of the crime and the person who committed it. Therefore, when making such decisions, the court has a negative attitude towards the committed crime, and the person is actually found guilty of committing it and on this basis he is assigned a court fine, which cannot but express one or another responsibility. So, Valentia S.I., who had not previously been brought to criminal responsibility, committed a crime of little gravity (part 1 of article 2581). He compensated for the damage caused by depositing funds into the Amur branch of the Federal State Budgetary Institution "Glavrybvod". The court found that the financial situation Valentiya C.AND. allows him to pay a court fine; the damage is compensated and these grounds taken together are sufficient for Valentia S.AND. released from criminal liability with the appointment of a court fine, and there are no circumstances preventing his release. Valentia S.I. the court imposed a court fine in the amount of 10 thousand rubles with payment no later than 60 days from the date of entry into force of the decision.[3]

The concept of “court fine” was not known to the previous criminal legislation. Based on its literal understanding, the content of the court fine consists in the recovery in monetary terms, and the court appoints it, at the same time releasing it from criminal liability. The procedure for filing a petition before the court to release the accused (suspect) from criminal liability with the appointment of a court fine is enshrined in the decision of the Plenum of the Supreme Court of the Russian Federation of June 27, 2013. No. 19 "On the application by the courts of legislation regulating the grounds and procedure for exemption from criminal liability" (as amended by the resolutions of the Plenum of the Supreme Court of the Russian Federation No. 48 dated November 15, 2016, No. 56 dated November 29, 2016), according to which all documents are sent to the court on criminal case together with the decision of the investigator. Note that the petition should describe in detail what crime was committed, provide evidence, the grounds necessary to release such a person from criminal liability, the attitude of the suspect (accused) on the termination of the criminal case and the determination of a court fine for him.

3 Case Valencia S.I. from December 16, 2019 // GAS justice.

It is obvious that in the said resolution of the Plenum of the Supreme Court of the Russian Federation, the grounds for exemption from criminal liability under Art. 762 of the Criminal Code of the Russian Federation, that is, much wider than it is established in the law itself.

A person can be released on the grounds of Article 762 of the Criminal Code of the Russian Federation even when his guilt has not been proven. The law does not stipulate the duty of the court to establish guilt, for example, against a suspect. Sufficient information that makes it possible for the court to work out a "final decision" and proof of guilt are different concepts. This is the main difference between exemption from criminal liability with the appointment of a judicial fine from other types of exemption from it. As you know, Art. 75, 76, 761 of the Criminal Code of the Russian Federation contain a specific edition - "the person who first committed a crime ..."; It follows from it that persons convicted of a crime of small or medium gravity, and not suspected of committing a crime, as is allowed in the resolution of the Plenum of the Supreme Court of the Russian Federation, indicated above (paragraph 251), can be exempted from criminal liability.[4] The Supreme Court of the Russian Federation admits release according to this norm even when the degree of public danger of the perpetrator changes downward, and not only when the person loses this danger.

The legislator established the legal nature of the court fine, determining the place for the placement of Art. 1044, 1045 in section VI of the Criminal Code of the Russian Federation "Other measures of a criminal-legal nature". In accordance with the above-mentioned resolution of the Plenum of the Supreme Court of the Russian Federation, a judicial fine is an independent measure of a criminal law nature.[5] In the scientific literature, it is also recognized as another criminal law measure and proceeds from the fact that the provisions of Article 46 of the Criminal Code of the Russian Federation do not apply to it. However, the boundaries within which the court imposes a different measure in the form of a fine are established on the basis of the limits of criminal punishment in the form of a fine provided for in the articles of the Special Part of the Criminal Code of the Russian Federation. In Art. 1044 of the Criminal Code of the Russian Federation, one might say, contains a rule for determining the maximum limit of the

4 Balafendiev A.M., Kalimullina Ya.L. Exemption from criminal liability in connection with active repentance / A.M. Balafendiev, J.L. Kalimullina. Kazan: Kazan Publishing House. University Press, 2017. pp. 8–15, 30–31; V.K. Duyunov Release from criminal liability and criminal punishment / V.K. Duyunov. Togliatti: Publishing house of Volzhsky un-that im. V.N. Tatishcheva, 2001. P. 23–26; Criminal law of Russia. General part: Textbook / Ed. F.R. Sundurov and I.A. Tarkhanov. - 2nd ed., Rev. and add. M .: Statut, 2016.S. 667, etc..

5 Commentary on the Criminal Code of the Russian Federation (scientific and practical) / ed. A.I. Chuchaev. M .: Prospect, 2019.S. 344.

amount of a judicial fine. And the minimum limit of the court fine exactly corresponds to the size of the criminal fine, that is, five thousand rubles. Therefore, it is obvious that the instructions of Art. 46 of the Criminal Code of the Russian Federation also apply to the provisions on the application of a court fine. If we compare part 3 of article 46 and part 2 of article 1045 of the Criminal Code of the Russian Federation, then the rules underlying the imposition of criminal punishment in the form of a fine and a court fine are the same. With regard to criminal punishment in the form of a fine, the legislator provides for the consequences of cases of malicious evasion of payment. With regard to the court fine, the legislator uses a softer wording - non-payment. So, is its failure to pay a malicious evasion from the payment of a court fine? Based on the consequences specified in Part 2 of Art. 1044 of the Criminal Code of the Russian Federation, then, in our opinion, in some cases they should be recognized as malicious evasion and this provision should be enshrined in the law. How to distinguish between malicious evasion and non-payment of a fine. It seems that under malicious evasion of payment in accordance with Art. 31 and 32 of the PEC of the Russian Federation, it should be understood cases when the convicted person has money available, and he evades paying this fine. And in case of non-payment of the fine, its reasons may be different, including due to the lack of funds.

In the Criminal Code of the Russian Federation, Chapter 152 of the Criminal Code of the Russian Federation does not contain an article that would specifically express the position of the legislator in the case of; violation of the requirements of the law by the person who must pay the court fine. For example, during the time during which it is expected to pay a court fine, a person may commit an administrative offense, crimes of various categories of gravity. In our opinion, if a person pays a fine within the period established by the court, then he should be held criminally liable only for a newly committed crime.

Of practical importance is the question of how many times a person who has committed a crime can be exempted from criminal liability with the appointment of a different measure in the form of a fine? In our opinion, on the one hand, if there are grounds for such a release, there should be no obstacles, and on the other hand, the question arises - how to assess the social danger of such a person. In our opinion, it rises significantly and, therefore, the release by the court of such a person should be decided individually in each case.

There is no doubt that a judicial fine is not a punishment, it cannot also be considered as a type of criminal punishment in the form of a fine (Art.46

of the Criminal Code of the Russian Federation), as well as itself appointed or, for example, established when the court applies other types of exemption from criminal liability.

Discussed is the problem of delimiting real punishments, including a criminal fine from a court fine; in what cases should a, say, a criminal fine be imposed, and in what situations - a court fine?

The so-called “released” from criminal liability actually undergoes punitive legal restrictions typical of a criminal fine.

The question is, what were the goals pursued by the initiators of the introduction of Article 762 into the Criminal Code of the Russian Federation? It is not possible to give a concrete answer to it, since other types of exemption from criminal liability are enshrined in the criminal law (Articles 75, 76, 761), in some part the grounds for their application coincide.

This decision shows the desire of the legislator to reduce the burden on the investigating authorities, so to speak, to "facilitate" the administration of justice, including the use of criminal law measures on the basis of suspicion of a crime.[6] According to A.V. Piuk, in some states (Belgium, Israel) the decision to impose a fine is made without the participation of a court, and this approach has a certain usefulness; the perpetrator of a crime is given a choice: either to agree with the conclusion of the prosecutor, or to insist on the transfer of his case to court. The judge is often unable to establish the real picture due to the large amount of work.[7]

Therefore, in the literature, the question is recognized as legitimate - is not this type of release a veiled way of evading the guilty from responsibility. A.P. Ryzhikov notes that the bodies of the preliminary investigation can terminate a criminal case if there is insufficient evidence for a conviction by the court.[8]

Doubts also arise in the very formulation of the question - can a person who committed a crime be recognized as exempted from criminal liability in the conditions of a court fine applied to him as another measure of a

6 Piyuk A.V. Exemption from criminal liability with payment of a court fine: problems and prospects for the application of the procedural institution // Criminal Justice. 2018. No. 11. P. 99. A similar interpretation earlier in the special literature was encountered in relation to other types of exemption from criminal liability (see, for example: Alikperov Kh.D. Exemption from criminal liability in connection with the expiration of the statute of limitations // Legality . 1999. No. 8. P. 12-13).

7 Piyuk A.V. Russian Gournal of Criminal Law.2018. №11. p.101.

8 Ryzhikov A.P. Commentary on the Federal Law of the Russian Federation of July 3, 2016 No. 323-FZ "On Amendments to the Criminal Code of the Russian Federation and the Criminal Procedure Code of the Russian Federation on Improving the Grounds and Procedure for Exemption from Criminal Liability." [Prepare For the GARANT system, 2016] – URL: http// base.garant.ru/57245860

criminal-legal nature, the content of which is characterized by the implementation of the corresponding legal restrictions. At least, the answer to it cannot be unambiguous. If we approach it formally, then we proceed from the recognition of this type of exemption from criminal liability as conditional, and the test (method) is the payment of a court fine. In fact, in both cases, we proceed from responsibility - in one case, it is implemented when a court fine is imposed, and in the other, in accordance with the sanction of the norm of the article of the Special Part of the Criminal Code of the Russian Federation.

Doubts also arise about the legislator's understanding of the grounds for exemption from criminal liability with the appointment of a court fine. The provisions of the Criminal Code of the Russian Federation, which are essentially fundamental, stipulate that a person who has lost his public danger is subject to release from criminal liability for a committed socially dangerous act. And since the type of release under consideration is accompanied by the appointment of a court fine, this measure is assigned to a person who has not completely lost the public danger. Some intermediate states here in the form of a partial loss of public danger by a person, as is the case, for example, with parole when determining the degree of correction of a convicted person, when regulating the grounds for exemption from criminal liability seem unacceptable.

In the Criminal Code of the Russian Federation, one of the grounds for the exemption from criminal liability in question is sometimes recognized as compensation for damage or other redressing of the harm caused by the act. We think that, first of all, the release from criminal liability should be influenced by the loss by the person who committed the crime of his public danger. Undoubtedly, the court, exempting in other cases from criminal liability as a basis for release, also takes into account the loss of the person's former social danger.[9] In the case of application of Art. 762 of the Criminal Code of the Russian Federation, in her opinion, if a person has not lost public danger, then he should be subject to criminal liability, and not be exempted from it, as for the grounds for applying a judicial fine, it will be the same as the grounds for imposing a punishment.[10]

The law, as has already been partially indicated, does not differentiate the grounds for imposing a real punishment, on the one hand, and a judicial fine, on the other. As you can see, the legislator, when modifying the Criminal Code of the Russian Federation and the Code of Criminal

9 Krylova N.E. Exemption from criminal liability with the appointment of a court fine: problems of legislative regulation and law enforcement // Vestnik Mosk. un-that. Series 11. Right. 2016. No. 3. P. 26–27.

10 In the same place. P. 32.

Procedure of the Russian Federation, was primarily guided by the issues of regulating the grounds for terminating a criminal case, and not creating opportunities for a person to lose or reduce his public danger. In our opinion, it is important to get answers to the questions, how exactly the person relates to the committed crime, the motives of his positive behavior and, in general, his characteristics. Of course, the application of any legislative establishment presupposes an impact on a "living" person, and not on an abstract person.

There is no desired certainty in the understanding of the grounds for exemption from criminal liability with the appointment of a court fine, and law enforcement officers, in particular, do not always give a detailed description of the identity of the guilty person, or in the decision only a reference is made that the court takes into account the specific circumstances of the case. Meanwhile, to decide on the application or non-application of Art. 762 of the Criminal Code of the Russian Federation is possible only taking into account the personality of the perpetrator and his post-criminal behavior. These circumstances are most often referred to by lawyers.

So, in the cassation appeal in the case of S., the lawyer, without challenging the guilt of the client and the qualification of the offense, expressed disagreement with the court decisions taken against him and the imposition of criminal punishment. He believed that in relation to S. should apply Art. 762 of the Criminal Code of the Russian Federation, art. 251 of the Code of Criminal Procedure of the Russian Federation on the termination of the criminal case with the appointment of a criminal-legal measure in the form of a judicial fine, based on "the specific circumstances of the case, data on the identity of the person who committed the crime, full compensation for the harm caused by the crime and apologizing to the victim.[11]

When appointing a court fine by the court, the data characterizing both the crime and the personality of the perpetrator should be taken into account. So, Sinegubov was accused of stealing the purse and the property in it. While working in a taxi, he found in the back seat a purse left by passenger M. after the trip, in connection with which he had a criminal intent to steal the purse and realized it. The guilty fled from the scene of the crime. His actions were qualified under clause "c" part 2 of Art. 158 of the Criminal Code of the Russian Federation. The court, having studied the materials of the criminal case, after listening to the opinions of the participants in the trial, satisfied the investigator's motion to terminate the criminal case and determine a court fine for him. Sinegubov has not previously been

11 See: Resolution of the Moscow City Court dated July 28, 2017 No. 4u-3598/2017 // ATP Consultant Plus. See also: commentary to the Criminal Code of the Russian Federation. Moscow: Prospect, 2019. S. 345–346.

convicted, he is not registered with a narcologist and a psychiatrist, he fully admitted his guilt, he realized the wrongfulness of his actions, he sincerely repented of what he had done, and fully compensated the victim for the harm caused by the crime. He was sentenced to a court fine in the amount of 15 thousand rubles, which must be paid within 1 month.[12]

In judicial practice, in addition to the general grounds for the application of Article 762 of the Criminal Code of the Russian Federation, other circumstances are taken into account, which make it possible to determine the degree of loss by a person of a public danger or its slight decrease. Thus, the courts actually make up for the ambiguity of the wording of the Criminal Code of the Russian Federation in relation to the grounds for exemption from criminal liability with the appointment of a court fine.

So, Kolpakov S.G., the preliminary investigation authorities were suspected of committing a crime with unmarked alcoholic beverages. He has no criminal record, is the first to be prosecuted for a deliberate crime of little gravity, completely amends the harm, is characterized positively, is in a registered marriage, apologized for the crime by sending a telegram. The court released him from criminal liability with the appointment of a court fine in the amount of twenty thousand rubles and set a deadline for him to pay sixty days.[13]

The Kamyshinsky City Court of the Volgograd Region considered the case of Snagovsky, who was suspected of inflicting beatings by a person subjected to administrative punishment for beating, which caused the victim physical pain, but did not cause consequences under Article 115 of the Criminal Code of the Russian Federation and committing theft under clause “b »Part 2 of Article 158 of the Criminal Code of the Russian Federation. While committing a crime, he was in a state of alcoholic intoxication, felt a personal dislike for his stepson, and deliberately beat a young boy. Snagovsky was aware of the social danger of his actions and their illegal nature, as well as the onset of socially dangerous consequences in the form of beating a minor. He deliberately beat the child. Later, in the daytime, passing by the barn of one of the houses, he saw that another victim was keeping sacks of grain in the barn, which Snagovsky decided to steal. He came to the place of the theft late at night, with the help of metal reinforcement tore off the padlock, went inside the barn and stole three bags of wheat, weighing 50 kg. every bag. The total cost of the stolen wheat was estimated at one thousand five hundred rubles. He disappeared from the scene of the theft and had the opportunity to dispose of the wheat at his

12 Sinegubov's case No. 1-201 / 20 dated 04/27/2020. Gelendzhik City Court of the Krasnodar Territory // GAS Justice.

13 The Kolpakov S.G. case from May 15, 2020 // GAS justice.

own discretion. Thus, the theft was over. The legal representative of the minor was present at the hearing, who did not object to the application of this measure. The perpetrator himself did not appear in court, but submitted an application for the consideration of the case in his absence and the appointment of a court fine. The court found that the suspicions put forward by Snagovsky of committing crimes (1161, paragraph "b", part 2 of article 158 of the Criminal Code of the Russian Federation) are fully supported by the evidence presented in this case. The court imposed a court fine on him in the amount of 20 thousand rubles, based on the category of gravity of the crimes committed, the fact that he has minor children dependent on him, lack of regular income, and being in a registered marriage. The court ruling states that there are no circumstances preventing the termination of the criminal case against Snagov. He was sentenced to a court fine of 20 thousand. rubles with payment within 60 days.[14]

This example from judicial practice shows how formally the court is when applying a measure in the form of a court fine. The court took into account that the perpetrator has two dependent children, however, nothing is said in the ruling that one of the crimes was committed against a young child, which should be recognized as an aggravating circumstance and in applying the measure Snagovsky only on this basis should have refuse. A person who does not have a permanent source of income is imposed a fine, thereby calling into question its payment. Will not such actions push him again to commit a crime, since it is no coincidence in Part 2 of Art. 1045 of the Criminal Code of the Russian Federation states that, when determining the amount of the court fine, the court takes into account the possibility of a person receiving wages or other income, as well as the person's property status.

For the application of Art. 762 of the Criminal Code of the Russian Federation, only general grounds are not enough, it is necessary to identify all the available objective and subjective circumstances that characterize the crime and the personality of the perpetrator, which in turn help to determine whether there is or is absent (in whole or in part) in the actions of a person, a public danger.

When determining the amount of the court fine, the court proceeds from the criteria provided for in Part 2 of Art. 1045 of the Criminal Code of the Russian Federation. A judicial fine for committing some crimes can be imposed in a rather impressive amount - for example, when committing a crime under Art. 1721 of the Criminal Code of the Russian Federation, its maximum limit is set at 500 thousand rubles. How convincing in this case

14 The Snagovsky case No. 1-257 / 2020 dated May 7, 2020. Kamyshensky city court of the Volgograd region // GAS justice.

are the arguments that the court fine is not a veiled punishment, but some kind of "harmless" non-punitive measure? Given the low wages and other incomes of Russians, it should be recognized that there is a fairly high punitive potential for fines of this size. It is unlikely that a combination of, on the one hand, exemption from criminal liability, and on the other hand, the imposition of a fine, calculated in the amount of 250-500 thousand rubles, can be called an acceptable combination. The preventive effect of a court fine as a measure of a criminal law nature may well be ensured when its maximum amount (when it is determined based on the sanction of the corresponding article of the Special Part of the Criminal Code of the Russian Federation) is reduced to 150 thousand rubles.

After analyzing the provisions of the Criminal Code of the Russian Federation and the Code of Criminal Procedure of the Russian Federation, it becomes obvious that in the law, namely: in the PEC of the Russian Federation, the procedure for the execution and serving of another measure in the form of a judicial fine should be fixed. In this regard, we propose to supplement Chapter 5 of the Criminal Executive Code of the Russian Federation with article 321 "Procedure for the execution of another measure in the form of a court fine" with the following content:

1. The person is obliged to pay the court fine within 60 days from the date of entry into force of the court decision.

2. If a person is unable to pay the court fine at a time, the court, at his request, may defer payment of the court fine for a period of up to one year.

3. A person who has been granted an installment plan for the payment of a court fine is obliged to pay the first part of the court fine within the first 60 days from the date of entry into force of the court decision. The person is obliged to pay the remaining parts of the court fine on a monthly basis no later than the last day of each subsequent month.

The emergence of a new type of exemption from criminal liability with the appointment of a judicial fine also caused its competition with other types of exemption from it; essentially the same actions to make amends for the harm caused as a result of the commission of a crime are provided for in Art. 76 and 762 of the Criminal Code of the Russian Federation. However, they differ in the consequences of their application; if release from criminal liability in connection with reconciliation with the victim is unconditional and final, then this release entails the appointment of a court fine, and failure to pay - its cancellation. And, of course, release with a court fine is not conditional on reconciliation with the victim, although it is not excluded. It is also necessary to distinguish between the grounds for the application of exemption from criminal liability in connection with

the appointment of a court fine and in connection with active repentance, since in the latter case, to state active repentance, it may not be enough to just smooth over the harm caused by the crime. And, in addition, as in the case of release in connection with reconciliation with the victim, this type of release from criminal liability is unconditional and final.[15]

The study of the problem of exemption from criminal liability with the appointment of a court fine leads us to the conclusion about the desire of the legislator to humanize the practice of counteracting crimes of a small or medium degree of public danger. Meanwhile, we have to admit that its modern solution seems to be not entirely successful in terms of determining the grounds for this type of exemption from criminal liability and its legal nature.

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EVOLUTION OF THE LEGAL REGULATION OF PERSONAL DATA IN THE RUSSIAN FEDERATION AND THE EUROPEAN UNION

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Annotation. *The subject of the study is the process of formation and development of the institute of personal data in the Russian Federation and the European Union. Special attention is paid to the comparison of the domestic and Western models of personal data regulation. During the research the author used comparative-analytical and system-structural methods of scientific cognition. The author of the article concludes that the peculiarities of the development of the political and legal model have significantly affected the formation of the institute for the protection of personal data in the Russian Federation and the European Union.*

Keywords. *Personal data, personal data protection, Data Protection Institute, European Union, GDPR, EU General Data Protection Regulation, information security, information legislation, privacy, public interests, computer system security, personal data processing, national security.*

The formation of the institute of personal data is closely connected with the development of the constitutional rights and freedoms of man and citizen, and first of all, with the right to privacy, which, as a legal category, originally born in the United States. In English, all aspects of private life are designated by the single term "privacy", which has no literal equivalent in Russian.

One of the first attempts to formulate the essence of the concept of "privacy " was made in 1890 by the famous American lawyers Samuel Warren and Louis Brandeis, who defined it as "the right to be alone" - the right to be left alone or the right to be left to oneself.[1] In their article "The Right to Privacy" in the Harvard Law Journal, they argued that privacy is threatened by new inventions and business practices and argued for the creation of a special "privacy right". The increased attention to human

1 Miraev A. G. The concept of personal data in the Russian Federation and the European Union/ / Yuridicheskaya nauka (VAK), 2019. №5.

rights at that time was primarily due to the devastating consequences of the Second World War. This is also reflected in the definition of the right to privacy: "Everyone has the right to respect for his personal and family life, his home and his correspondence" – the European Convention on Human Rights (ECHR).

An important role in the formation and formulation of the right to privacy was played by the activities of American courts. For example, in 1965, in Griswold v. Connecticut, U.S. Supreme Court Justice Douglas derived the right to privacy and to privacy from the basic tenets of the U.S. Constitution. The words he used to summarize the court's decision are widely known: "We are dealing with a right to privacy that is older than the Bill of Rights."[2]

The concept of private life formed in the United States had a great influence on the formation of the modern system of human rights and freedoms. On December 10, 1948, the UN General Assembly adopted the Universal Declaration of Human Rights, article 12 of which established that no one may be subjected to arbitrary interference with his personal and family life, arbitrary attacks on the inviolability of his home, the secrecy of his correspondence, or on his honor and reputation; everyone has the right to the protection of the law against such interference and such attacks.

In 1950, a similar rule was enshrined in article 8 of the European Convention for the Protection of Human Rights and Fundamental Freedoms in the following wording: "Everyone has the right to respect for his personal and family life, his home and his correspondence". Thanks to these documents, the right to privacy has been recognized as an inalienable right of every person.

At the beginning of the second half of the XX century, information technologies began to develop, allowing much faster processing of a much larger amount of information. In the 60s, these technologies are becoming increasingly available to a wide range of people, which is of some concern to the Council of Europe.

Thus, in 1968, the Parliamentary Assembly published recommendation No. 509. It expresses concern about possible threats to the right to privacy because of the use of new technologies for data processing. As a result, the Assembly requested the human rights committee to study this issue. Many consider this moment to be the starting point for Data Privacy.

The first reaction follows from Germany, in the city of Hessen in 1970, the first ever law on personal data is adopted. It is important to note that this was only a local law that was applied exclusively on the territory of this

2 Vazhorova, M. A. History of the emergence and formation of the Institute of personal data // State and law: theory and practice: materials of the international scientific conference (Chelyabinsk, April 2011).

land, and not at the federal level.

Then in the United States in 1974, the Privacy Act was adopted, in which the US Congress for the first time establishes a link between the right to privacy and personal data. This law specifies that a person's personal life may be directly affected because of the collection, use and dissemination of personal information by public authorities.

Neither one nor the other legal act can be called a full-fledged law regulating the processing of personal information. However, the right to personal data protection is beginning to emerge from the shadow of the right to privacy.

Germany is the first in the field of Data Privacy: the first national law on personal data (Bundesdatenschutzgesetz) appears in 1977. The special attitude of the German public to this issue is primarily related to local historical events. In the middle of the twentieth century, the Germans experienced two contradictory political regimes: on the one hand, the Third Reich, on the other hand, the FRG and the GDR. These structures were based, among other things, on mass surveillance of the population. Such upheavals have led to the fact that privacy has subsequently become extremely popular in this country. That is why Germany is still considered one of the world leaders in the protection of privacy and personal data.

Another significant country for Data Privacy is France, which is only one year behind Germany. The adoption of the Data Processing, Data Files, and Individual Freedoms Act in 1978 was also associated with local events.

In the early 70s, the French government developed the SAFARI project, the meaning of which was to create a single data register using a social security number, which would allow identifying any citizen. The processing of all this information was planned to be carried out thanks to advanced computing technologies at that time.

In 1974, the newspaper Le Monde published an article about this called "SAFARI ou la chasse aux Français" (SAFARI or hunting for the French), which provoked a loud scandal on the topic of mass surveillance.

The principles laid down in the European Convention for the Protection of Rights and Fundamental Freedoms were developed in the special provisions of the Council of Europe Convention 108 on the Protection of the Rights of Individuals with regard to the Automatic Processing of Personal Data of 1981, which considers data protection as the protection of the fundamental rights and freedoms of individuals, in particular their right to privacy with regard to the processing of personal data. Subsequently, in the Directive of the European Parliament and of the Council of the European Union of 24 October 1995, No. 95 / 46EC on the protection of the rights of

individuals with regard to the processing of personal data and on the free movement of such data laid the foundations for a pan-European system for the protection of personal data.

In 2000, Article 8 of the Charter of Fundamental Rights of the European Union defined the right to the protection of personal data as an independent fundamental right.

By the end of the 90s, the main giants-monopolists of the Internet-are beginning to form. Today, they are commonly referred to as the Big Five or GAFAM (Google, Amazon, Facebook, Apple, Microsoft). With the direct participation of these American corporations, a new system of monetization of commercial activities on the Internet is being born. The Google search engine and the Facebook social network start showing ads based on an analysis of the behavior of their users (this method is called targeting). Contextual advertising is quickly becoming extremely popular and Amazon, Microsoft and Apple are connecting to this system.

To ensure that advertising remains the most relevant, the five named companies, with Facebook and Google clearly leading the way, actively collect huge amounts of data about users from around the world. At the same time, technologies are rapidly developing that allow us to analyze all this information and identify striking features of user behavior.

In response to contextual advertising, the EU adopted the ePrivacy Directive in 2002, which regulates the use of cookies, including the collection of data for advertising.

At the same time, there are major leaks of personal data because of hacker attacks, and due to the human factor. Their peak is in the tenth years. A prime example is the leak of almost all of Ashley Madison's data. We are talking about a Canadian dating site designed for people who are married. In 2015, the site's databases were attacked by hackers and all private information was posted online. In addition, the data of about 1,200 users from Saudi Arabia, where the punishment for treason goes up to the death penalty, was freely available. In such circumstances, it is difficult to underestimate the importance of personal data protection.

In the light of all these developments, the European Union concludes that it is necessary to update the outdated Directive of 1995. The main problem was that it was not directly applied in the EU member states, which in turn led to significant differences at the level of national legislation. The new regulation would operate directly in every European country and would create an increased level of personal data protection throughout the Union. Discussions for the adoption of a new law began in 2012, and in 2016 the final text of the regulation was officially published and entered

into force on 25 May 2018 (GDPR).

In Russia, certain elements of the right to privacy were legislated and analyzed in the pre-revolutionary period. So, the Postal Charter of 1857 and the Telegraph Charter of 1876 fixed the secrecy of correspondence, the criminal-legal protection of this secret was carried out on the basis of the norms of the Code on Criminal and Correctional Punishments of 1845, the Criminal Code of 1903. Thus, the Criminal Code of 1903 (Articles 162-170) established a ban on the interference of officials in the administration of justice in the personal and family life of a person.

After the revolution, the approach to the problem of human rights has changed significantly. Thus, the Constitution of the RSFSR of 1918, although it contained a section on human rights called "Declaration of the Rights of the Working and Exploited People" (the declaration was adopted earlier at the III All-Russian Congress of Soviets), but it did not even fix elementary rights, a minimum of personal, political, economic, and cultural human rights. It included only the prohibition of exploitation, the right to equalize land use, the liberation of the working masses from the yoke of capital, and the right of workers to manage.

In 1924, a new constitution was adopted – the Constitution of the USSR, which no longer contained a Declaration of Rights, it proclaimed only national freedom, equality, and a single union citizenship. At the same time, in the Constitution of the USSR, a separate chapter was devoted to the establishment of a Unified State Political Administration to combat political and economic counter-revolution, espionage and banditry, which directed repressions that trampled on all human rights.

For the first time, the chapter on the rights and duties of citizens appeared in the Constitution of the USSR adopted on December 5, 1936. on the eve of mass repressions of 1937-1938. The Constitution enshrined a wide range of personal rights and freedoms, such as freedom of conscience (Article 124), inviolability of the person (Article 127), inviolability of the home and the secrecy of correspondence (Article 128). In theory, this was a major achievement of Soviet law, but in practice, it was just a formality. Thus, by the order of the NKVD of the USSR of December 29, 1939. All international telephone conversations of employees of foreign embassies and foreign correspondents were ordered to be recorded in shorthand, and all incoming and outgoing international correspondence was censored by decision-making bodies. Not only were international relations controlled by state security agencies, but inside the state " a large place in the control of people and society was given to the use of informants." Despite the obvious violation of the right to privacy by such practices, such actions are

justified by States as necessary security measures.

Already in the 1940s, with the expansion of the repressive and punitive policy towards dissidents, with the tightening of the totalitarian regime, the problem of human rights was actually "closed". The issue of human rights was raised again only during the political "thaw" of the late 1950s and early 1960s, when the first theoretical studies on political and legal doctrines appeared in the USSR.

In 1977 in relation to ratification of the International Covenant on Civil and Political Rights of December 16, 1966, a new Constitution of the USSR was adopted. The Constitution of the USSR of 1977 became the first and only constitution for the entire Soviet period that included in a separate section a standard set of civil, political, economic, social, and cultural rights for developed European countries. Articles 54-56 of the Constitution of the USSR of 1977 guaranteed the inviolability of the person, home, as well as the protection of the law of personal life, the secrecy of correspondence, telephone conversations and telegraph messages. Article 57 of the USSR Constitution of 1977 stipulated that respect for the individual, protection of the rights and freedoms of citizens is the duty of all state bodies, public organizations, and officials.

For the first time in Russia, the right to privacy as an independent right was formulated in the Declaration of Human and Civil Rights and Freedoms, adopted on the eve of the collapse of the Union state by the Supreme Soviet of the RSFSR on November 22, 1991. It prohibits the collection, storage, use and dissemination of information about a person's private life without their consent. Subsequently, this rule will be enshrined in the Constitution of the Russian Federation of 1993.

In 1995, the Federal Law "On Information, Informatization and Information Protection" of February 20, 1995, No. 24-FZ, for the first time, legislated the concept of personal data. According to article 2 of this Federal Law, personal data is information about the facts, events and circumstances of a citizen's life, which allows identifying his identity. In addition, this law established general principles for the collection and use of information about citizens, according to this law, personal data was classified as confidential information.[3] It should be noted that the development of a special law on the protection of personal information began in Russia even before the adoption of Directive 95/46/EC of the European Parliament and of the Council of Europe on October 24, 1995 "On the protection of the individual in relation to the processing of personal data and the free circulation of this data". The initial draft of the law with

3 Vasilyeva Zh. S., Medvedev V. A. Trends in the development of legislation in the field of personal data protection// Bulletin of the Russian University of Cooperation, 2017, No. 2 (28).

the working title "On personal information" was developed in 1998 in the Committee on Information Policy and Communications of the State Duma of the Russian Federation with the participation of a working group of experts in the field of information legislation. However, this draft law was never considered in the State Duma of the Russian Federation.

Then, after more than two years, another working group was formed in the Security Council of the Russian Federation, which prepared the draft of the Federal Law "On Personal Data" of 27.07.2006, No. 152-FZ, which was subsequently adopted.

At the subordinate level, the Government has adopted resolutions explaining the main provisions of the application and use of legislation in this area. Among such by-laws are: Decree of the Government of the Russian Federation of November 17, 2007 No. 781 "On Approval of the Regulations on ensuring the Security of Personal Data during their Processing in Personal Data Information Systems", Decree of the Government of the Russian Federation of September 15, 2008. No. 687 "On Approval of the Regulation on the specifics of personal data processing carried out without the use of automation tools", Decree of the Government of the Russian Federation No. 512 of July 6, 2008 "On Approval of Requirements for Material carriers of Biometric personal Data and technologies for storing such data outside of personal data information systems".

In 2002, the Federal target program "Electronic Russia" was adopted, which was implemented from 2002 to 2010. The state customer-coordinator of the Program was the Ministry of Information Technologies and Communications of the Russian Federation, the Ministry of Economic Development and Trade of the Russian Federation, the Federal Agency for Information Technologies, the Federal Agency for Education, and the Federal Security Service of the Russian Federation. By the order of the Government of the Russian Federation of 2010, it was decided to approve the state program of the Russian Federation "Information Society" for 2011-2020.

So, the institute of personal data has passed a long way of formation and development, both in foreign and domestic legislation. It was formed and gradually separated from the right to privacy and family life. In connection with the gradual transition to the information society, characterized by the widespread use of information and computer technologies, operations for the collection, processing, and use of personal data began to need legal regulation. The first specialized regulations were adopted by European States. The Russian Federation subsequently adopted the positive experience of foreign countries, adopting laws at the federal level and

developing by-laws. The legislation on personal data continues to develop actively, which indicates the need for a timely response from the legislative authorities in terms of regulating the basic provisions governing the emerging public relations in this area.

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PROPERTIES OF DIGITAL ASSETS DEFINING FEATURES THEIR INHERITANCE

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Abstract. *The article raises the unsolved problem of digital asset inheritance. An attempt is made to answer a practical question: how can potential testators dispose of this asset in case of death. The same question is asked by notaries. However, the legal issues of civil turnover of digital assets have not yet been clarified due to the novelty of this area and the rapidity of its spread. The properties of digital assets as a hereditary mass are also not entirely clear. The issue of inheritance of digital assets will remain open even if the published draft amendments to the Civil Code of the Russian Federation are adopted. In our opinion, when solving issues of inheritance of digital assets, it is necessary to proceed from their properties as a hereditary mass. The properties of digital assets that affect their inheritance have been established.*

Keywords: *digital assets, inheritance law, properties of assets, testator, heir, inheritance.*

Introduction

The relevance of the research topic is due to the fact that legislation on digital assets has been adopted and the spread of digital technologies. Digital currencies, non-cash money, digital libraries (library club, scientific electronic library, etc.), scopus systems, web-of-sense and many others have come into use. Many digital objects are located on Internet servers and corporate networks. All these are informational objects that do not exist in the space familiar to a person and are not perceived by his senses. A large amount of resources are spent on the creation and maintenance of these databases, messengers, social networks: material, natural, energy, labor. In US legislation, digital assets are included not only in civil circulation, but are also taxed [1]. Many citizens are the owners of digital assets,

so a practical question naturally arises: how can potential testators dispose of them in case of death. Notaries ask the same question. However, the legal issues of creation, ownership, civil circulation of digital assets, due to the novelty of this area and the rapidity of its spread, are not yet perfect. They are archaic as they are based on pre-digital categories and concepts. The issues of inheritance of digital rights remain unresolved, even their legal status is uncertain.

The state of study of the issue. The analysis of the features of inheritance of digital assets was carried out in the works of A.V. Gapanovich, O. Gorokhova, I. Granik, E. A. Kirillova, K. A. Medofyeva, L. Yu. Mkhitaryan, M. M. Panarina, L. V. Sannikova, Yu. S. Kharitonova, TS Yatsenko, etc. In this regard, the purpose of our research is to reveal the features, properties and essence of digital assets as objects of inheritance. To solve it, we analyzed scientific works in this area, identified and classified the properties of digital assets as hereditary mass, and developed conclusions on their inheritance in the context of Federal Law No. 259-FZ of July 31, 2020 [2].

The scientific novelty of the provisions of the article lies in the analysis of the properties of digital assets from the point of view of their inheritance.

The theoretical significance of the work lies in the fact that the conclusion that follows from the research carried out can serve as the basis for discussions about the inheritance of digital assets. The study is of practical importance for notaries who formalize inheritance in the form of digital assets.

The object of the research is the relationship arising from the inheritance of digital assets.

The subject of the research is the norms of Russian law related to the inheritance of digital assets.

Information and regulatory framework: scientific publications on the digitized literary sources of the Russian Public Library "CyberLeninka" and the libraries of the US Congress, information sources of the scientific electronic library, the university electronic library "on-line", the reference legal system "Consultant Plus", digitized materials of the scientific libraries of the Russian State Economic University "RINH" and the SFedU.

Theory and methods. The research is based on the theoretical basis of hereditary legal succession. Used research methods such as comparative legal and logical.

Discussions and results

Digital financial assets as a legal institution were first introduced into the legal field of the Russian legal system by the adoption in the final reading and official publication last summer of the federal law in the field of finance

[2]. It defines digital assets as digital rights and the possibility of their implementation (release, accounting, circulation) [2, clause 2, Art. one]. Practicing notaries have a question of hereditary succession of digital assets. In particular, how to inherit the "digital ruble" and other cryptocurrency, and in general, how to include digital assets in the hereditary mass (a pre-word cryptocurrency that everyone has heard about, but few have used, since at present the price of only one bitcoin is $ 40,000. And how to include in the inherited mass digital assets of Instagram or YouTube with hundreds of thousands of subscribers and really having a high market value). The heirs cannot but worry about the question of what tax and how the inheritance received is taxed. For the tax service, the issue of the taxable base is relevant for the transfer of digital assets by inheritance and their subsequent possession.

Upon the introduction of this law on digital assets, their accounting, circulation, the activities of operators of information systems and operators of exchange of notorious assets were regulated.

The issues of inheritance, taxation, ownership, preservation during storage remained "overboard". For example, if the inheritance is not stored properly in digital form, from the moment of its inception until the registration of the certificate of inheritance, it can disappear without a trace, and on the basis of its storage, highlight the claims and how to confirm the existence of digital assets at the time of the inheritance? For example, Google cloud storage of the testator can be deleted without the knowledge of their creator as early as July 2021, if the user did not use it for a long time or did not pay for storage, although before that the asset was free. And the file-sharing service - the "cloud" could store digital signatures, cryptocurrency passwords, photographic works, artistic values, intellectual property, etc. However, the features of the turnover of digital assets during inheritance are not established in it, only a remark is made: “To legal relations arising from the issuance, accounting and circulation of digital financial assets in accordance with this Federal Law, including with the participation of foreign strange persons, Russian law applies ”[3]. But amendments to the legislation, taking into account the peculiarities of digital assets, are only being developed.

In the article by the State Duma of the Russian Federation1 28 of the Civil Code of the Russian Federation, it is proposed to add a phrase stating that things include cash and documentary securities, and other property - including property rights (including non-cash funds, non-documentary securities, digital rights). Legislators in the Civil Code of the Russian Federation propose to include article 141.1 1. on what is recognized as digital

rights, the features of their implementation, pledge, order, transfer, encumbrances, who is recognized as its owner, especially the transfer of digital rights under a transaction. However, the features of the transfer of rights by inheritance are overlooked [3, p. 3]. It is also proposed to consider a possible written form of the transaction using electronic or other technical means [3, amendment to Art. 160 of the Civil Code of the Russian Federation], which contradicts the amendment to paragraph 1 of Art. 1124 of the Civil Code of the Russian Federation [4, Art. 1124], which expands the ban on the use of electronic means to draw up a will. A will cannot be sent to a notary electronically, such as an electronic personal income tax declaration. A number of authors of articles express the opinion that “the changes proposed by the draft law may lead to significant difficulties in further law enforcement and judicial practice” [3].

A discussion has developed about the upcoming changes in the public scientific space, a lot of scientific articles have been published and a monograph has already been defended.

It is proposed to operate with the concept of virtual property when registering an inheritance (Gapanovich A. V., 2020), nevertheless differentiating between this concept and "account". The author substantiates the position: only that virtual property that has value can be inherited. For example, virtual property mediated by a commercial account. And immediately there are contradictions in her reasoning: then the account is not virtual property, and at the same time the account is virtual property, if it is commercial [5].

MA Rozhkova specifies objects that refer to “virtual property (or, as it is inaccurately called in domestic publications,“ virtual property ”) [6]. In another publication, MA Rozhkova clarifies that virtual property has property value not by itself, but only in the context of the corresponding information product ”[7].

In the development of this topic (Sannikova L.V. and Kharitonova Yu.S., 2018), we add that this point of view is adequate for the hereditary succession of the content of social networks. We agree with the respected authors that “… this content is contained exclusively in digital format and is of an intangible nature. May have potential value in relation to virtual space ”[8, p. 86-95]. The concept of "virtual property in social networks" is broader than the term "account". Indeed, in social networks there is not only an account, but also stored on servers on tangible media in the USA, Australia, the Spitsbergen Islands and other places, the exact location of which is unknown to the testator, heir, or notary. These are text and media files, stickers, postcards, pictures, QR codes, digital signatures, computer programs (including in the form of texts in algorithmic languages, assem-

bler, digital codes), descriptions of algorithms, digital graphics of parts, assembly units and machine codes for their reproduction in water 3D objects. For example, on a 3D printer or digital machine. Social networks, especially Instagram, Tik Tok and Telegram, often host intellectual property objects such as works of art, vocals, dance, original genre, etc.

The opinion dominates (Lazarenkova O. G., 2019; Rozhkova M. A. 2019; Oreshkin E.; Gaponovich, 2020, Sannikova L. V., 2018) that "when recognizing this virtual property as an object of civil rights, legislative consolidation of provisions on the actions of Internet sites (social networks) upon receipt of information about the death of a user in order to avoid blocking (deletion) of his Internet pages "[6-8].

The response [9] to the draft law [3] suggests that "based on the definition of the concept of digital rights, it seems that such rights are actually a way of formalizing traditional property rights of a different nature (property rights, obligations of law, corporate rights, exclusive rights), as well as their fixation and transition from one owner to another. However, these rights can exist in electronic form without creating a new type of objects of civil rights "[9].

There is no doubt that the introduction of digital assets into circulation will create conflicts and problems in solving practical turns in legal succession. For the simple reason that the mechanisms for the transfer of legal assets by inheritance have not yet been worked out. And the very understanding of what is inherited in this case is not fully understood.

Digital assets as a "digital designation" are an object of law; during inheritance, the question arises: what should be included in the hereditary mass - a digital code or another object designated by it? Yu. S. Kharitonova noted that "the inheritance of digital assets in practice, in the absence of a testamentary disposition indicating all the necessary access codes, logins and passwords and a list of digital assets that the testator owned, creates a lot of problems in practice, since the fact that the testator has a digital asset is quite difficult, and it is almost impossible to obtain access codes .. thus, the issue of establishing the ownership of digital assets and gaining access to them by heirs remains unregulated in law and unsolved from a technical point of view "[10].

In our opinion, the discord about digital assets has a doctrinal basis: the concept of digital assets is scientifically under development. First of all, it is necessary to define the essence of digital assets. As a result of logical reasoning, we came to the conclusion that digital assets have the following qualities:

they are intangible, not perceived by the human senses and can be

perceived only through complex electronic (photonic) technical means;

a digital asset always has a creator, and it can be either an individual or an artificial intelligence. If a digital asset is developed by a legal entity, then either a person or artificial intelligence creates it (this concept also includes algorithms for image processing and creation (editing) of texts, electronic translators, graphic editors, etc.);

a digital asset does not have a real output tangible by the human senses when it is activated and manifests itself only when using technical means: devices and gadgets;

with the help of digital assets, it is possible to provide services to individuals and legal entities (systems "Government servants", "Consultant pole", information automated system of the Ministry of Internal Affairs, etc.);

the service provided using digital assets is inseparable from it; it is simultaneously created and consumed by its consumer (a client of a digital service (for example, Government services); the presence of a person in the provision of such a service in the person of the client is mandatory: no client, no service;

certain types of digital assets are used to provide services to the audience - students, viewers, listeners;

specialized types of digital assets are used in the education system, both full-time and online;

the use of digital assets accompanies scientific research (Scopus systems, RSCI, Statistic, MatLab, MatCad, Compass, etc.) and generates new digital assets;

the use of digital assets is accompanied by licensing, accreditation and payments in favor of beneficiaries (for example, Microsoft, Apple, etc.);

the transfer of rights to a digital asset by inheritance is associated with the need to register it,

the use of digital assets in the provision of a service is an exclusive process, since this service is individual;

a digital asset necessarily has a tangible medium or part of it (cells of permanent or temporary computer memory, including a server, that is, property that does not necessarily belong to the owner or creator of services;

a digital asset is inseparable from its material medium (removable storage, hard drive, etc. device);

digital assets of the Internet, blockchain, social networks, systems of State servants, etc. are shared by an indefinite number of users, both authorized and unauthorized, both legal and illegal (hackers);

the quality of digital assets and the quality of their provision depends on

providers, terrestrial positioning, the characteristics of signal propagation over open and closed networks;

the consumer and owner of digital assets located on Internet servers does not have the ability to control their safety, assets can be deleted by a moderator or by a court decision, content can be used without the knowledge of its creator or owner;

the consumer and the owner of digital assets located on Internet servers cannot control the absence of distortions and content and its availability;

the rights to digital assets in our country are not formalized by its creators in an adequate degree;

issued some digital assets can be a source of financial and other funds;

duly formalized and even unregistered rights to digital assets, for example, websites and network accounts, can be a source of payments, material and intangible benefits.

Conclusion

After performing the research, we came to the following conclusion. There is a controversial assumption that “digital rights can exist only in decentralized information systems” [9].

The issue of inheritance of digital assets will remain open even if the amendments to the Civil Code of the Russian Federation and draft existing laws are finally read, approved by the upper house of the Federal Assembly of the Russian Federation and the President.

The features and essence of digital assets as objects of inheritance have been established: intangibility, the presence of a creator, the absence of a really tangible use of it, the possibility of using it for the provision of services, the need for licensing and accreditation, the presence of a tangible medium, inseparability from the medium, the need to register rights to it when the transfer of rights by inheritance, the use of an indefinite number of users, the inconstancy of quality and availability, the impossibility of proper registration of rights to some of them, the ability to be a source of material and intangible benefits.

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PSYCHOLOGICAL AND PEDAGOGICAL ASPECTS OF THE AGE SPECIFICITY OF CHILDREN 6-10 YEARS OLD

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Annotation. *Psychological and pedagogical aspects of the age-specificity of children 6-10 years old include plasticity of the nervous system, restructuring of thinking, impressionability, weak inhibition, impulsivity, development of volitional processes, a tendency to imitate, the emergence of new motives of behavior, the formation of an internal plan of action, the transition from play to learning, role correlation of oneself with the student, psychological adaptation to the school environment, assessment of behavior by the teacher, naive likes and dislikes, interpersonal relationships in the classroom, the establishment of strong friendships.*

Keywords: *psychological and pedagogical aspects, age specificity, children 6-10 years old, nervous system, thinking, attention, memory, volitional processes, behavior, learning, psychological adaptation*

Economic and sociocultural modernization, technologization, and infor-

matization inherent in modern Russian and planetary societies are changing childhood. In this regard, in this article we intend to consider the psychological and pedagogical aspects of the age specificity of this age group of children, adjusted for ontological transformations caused by the dynamics of human civilization and Russian society. The relevance of the article follows from the requirements of the Federal State Educational Standard of Primary General Education [1], which takes into account the age characteristics of primary schoolchildren, their specific personality neoplasms, which determine adequate strategies for teaching and upbringing.

The age period of 6–10 years was revealed in the studies of V.V. Davydov, D. B. Elkonin, L. I. Aidorov, A. K. Dusavitsky, A. K. Markova, Yu. A. Poluyanov, V. V. Repkin , VVRubtsov, GA Tsukerman and others. The named scientists identified the characteristic psychophysiological traits of a younger student. At the same time, they also believed that the physiological appearance and psychological content of a 6–10 year old child would be wrong to consider constant. In early school childhood, the child's relationship with the outside world changes. A new system of relations arises, determined by the student's functions. The leading role of educational activity does not exclude, however, its other types: play, sports and art, elements of work.

The child acquires a new standard for imitation - a teacher who personifies the social ideal of high civic values, intelligence, behavior, culture. Children develop a special attitude towards the teacher, which is acutely experienced. Up to grade 4, a child is under the influence of a class teacher, who forms high moral and moral qualities in the first along with the learning process.

A 6–10 year old child retains the immediacy of perception and the spontaneous, unconscious creed typical of preschool childhood. He admits the possibility of the existence of good and evil forces, idealized folklore characters. Intensively developing empirical thinking determines the emergence in the minds of children of questions about morality and ethics. The neoplasms of children of this age are arbitrariness, an internal plan of action and reflection. Arbitrariness consists in deliberate goal-setting and deliberate search for means to achieve the set goals, overcoming possible obstacles. As part of the educational process, the child plans and implements his plans for himself, in the inner plan.

The dynamic chain of the internal plan of action presupposes the embodiment of external manipulation of material objects into their images, after which the initial action is translated into a "loud speech" with the subsequent pronouncement of this action "to oneself". The last stage is char-

acterized by the complete assimilation of the action, its coagulation and transformation into a mental one.

In the period of childhood we are considering, the functional of the brain and nervous system develops. Physiologists (V.P. Petrunek, L.N. Taran) believe that by the age of 7, the cerebral cortex practically matures. However, the dominant zones located in the frontal regions of the brain, which are in charge of programming, regulation and control of complex forms of mental activity, are finally formed only by the age of 12. The result is an imperfection of the regulatory function of the cortex, which determines the specificity of behavior, activity and emotional sphere: children of this age group are easily excitable, emotional, and often distracted.

At the age of 7, the child is subject to a second physiological crisis, associated with a sharp endocrine shift. It is accompanied by intensive growth of the body and internal organs, the restructuring of the vegetative system. Physiological restructuring of children is marked by unstable mental performance, sporadicity, fatigue, moodiness, vulnerability. At the same time, in essence, the ongoing changes are deeply positive and are a consequence of the child's adaptation to new age realities.

The psychophysiological development of children is different: boys lag behind girls. The child has new cognitive needs, interest in the surrounding reality, new competencies are formed. Thinking dominates other processes (consciousness, motor reactions, etc.) and acts as an intellectualizing factor for the development of other mental functions: “Memory becomes thinking, and perception becomes thinking” [2]. A child of primary school age begins to reason logically, to use specific operations. At the same time, the thinking of a 6–10-year-old child is in a state of transformation: the priority of the visual-figurative is “contested” with the subsequent transfer of the palm to the verbal-logical, conceptual.

Visual-figurative thinking communicates to the solution of problems a visual, direct plan of ideas stored in memory. The child's imagination manipulates images of real objects. Thanks to this, the prerequisites are created for the child to acquire verbal-logical thinking, coupled with the operation of concepts. Concrete representations are embodied in concepts that express the properties of objects and phenomena, as well as the connection between them.

The lack of systemic knowledge in a 6–10 year old child is replaced by perception: he judges the world around him based on his visual sensations. For example, observing trusting, good relations between members of his family, a child transfers a feeling of security and well-being to other families.

J. Piaget, who studied the stages of development of children's thinking, found that a 6–7 year old child lacks ideas about the constancy of the basic properties of things, he is not able to center - take into account and compare several attributes of an object. The child takes note of only one attribute, ignoring the rest [3, p. 78]. The phenomenon of centralization explains children's egocentrism, when the child's own view of the world seems to be the only correct one.

The development of thinking is associated with the formation of a complex mental action - analysis, which includes the decomposition of the whole into parts, differentiation of the general and the particular, the isolation of the essential and the insignificant. Psychologists (IV Dubrovina, VP Petrunek, LN Taran; J. Rodari and others) believe that the first signal system and the right hemisphere are active in children 6–10. For this reason, most children of this age are of the artistic rather than the thinking type. In addition, the development of children's thinking is determined by their individual characteristics (learning ability, mindset, pace of mental activity, etc.).

According to LA Venger, children of 6–10 years old have a sufficient level of sensory culture [4], because they have developed ideas about sensory standards. They are generally recognized samples of the external properties of objects. For example, the visual perception of children is characterized by sensory standards of color, shape, size. The standards of auditory perception are phonemes, pitch ratios. The olfactory and gustatory standards are well developed. The specificity of perception in a 6–10-year-old child is manifested in the fact that he highlights bright, attention-getting properties. It is no coincidence that the positive characters of children's fairy tales are depicted in bright colors in accordance with the accepted standards of beauty.

The development of the child's perception is carried out as his perceptual activity. It is a systematic study of a perceived object (in our example, a positive character in a fairy tale) with the aim of isolating and analyzing its properties and building a holistic image. Perception acts as the basis for cognitive activity, “becomes thinking”. Thus, a child of this age is already capable of analyzing perception. Teaching a child to observe leads to the appearance of synthesizing perception, thanks to which connections are established between the elements of what he saw, heard, felt. The child is able to “conjecture” a fragmentary image given in sensations.

Assimilating social values, the child complements them with images. They consist of the imprints of reality accumulated by the child and form his experience. An important condition for the development of imagination is

the inclusion of a 6–10 year old child in a variety of activities. The palette of children's imagination is formed from what children see, hear, experience. Differences in the field of control of imagination by consciousness lead to the fact that children carry out mental transformation of the situation in different ways. It should be borne in mind that an overdeveloped imagination can lead a child away from reality. It is obvious that it is advisable to train the imagination.

Another emerging feature of the thinking of a 6–10-year-old child is the ability to generalize material, which includes the identification of the common in the diverse and the cognition of the main on this basis. The task of the educator is to develop the child's ability to generalize the material of spiritual and moral content that comes daily through various channels of perception.

The implementation of the named function is possible only with the participation of memory, the mechanisms of which are memorization, preservation, recognition and reproduction of information accumulated by the child. The most productive type of memory in children of this age group is involuntary memory. She captures vivid events exciting them. Along with involuntary, figurative (visual, auditory) memory is sufficiently developed. Verbal and logical memory is less developed. The specificity of the memory of younger schoolchildren is that they better remember visual material in comparison with verbal material, the names of objects in comparison with abstract concepts. In the latter case, abstract material must be supported by facts. In addition, the child must be interested, motivated in learning. Over time, the memory of a 6–10-year-old child acquires arbitrariness and controllability.

Within the framework of increasing its mnemonic function, mechanical memorization is successfully carried out. Children begin to assimilate both concrete and abstract concepts, which entails a deepening of the volume of memory, an increase in the speed of assimilation and reproduction of the material. Neoplasms of a child of this age include an internal plan of action, reflection, arbitrariness of mental processes. Gradually, he develops metacognition, which is based on complex intellectual processes that allow children to exercise current control over their thinking, knowledge, memory, actions.

In the problem of memorization, domestic psychologists (L.M. Zhitnikova, A.G. Liders, V.Ya. Lyaudis, A.K. Markova, I.Yu. Matyugin, E.N. Chakaberia, E.L. Yakovleva, etc.) distinguish written speech, drawing, etc. as significant for children of this age. In parallel with written speech (symbolic means), the child indirectly masters memorization. According to

I.V. Dubrovina, E.E. Danilova, A.M. Prikhozhan, the memory of children is different. Inconsistencies are manifested in the speed of memorizing and reproducing material, types of activities.

An important parameter of mental activity at this age is involuntary attention. Its dominance determines the selection by the child of everything bright, presentable. Children are not yet able to concentrate on activities for a long time, their attention is unstable. The reason for this is the immaturity of the neurophysiological mechanisms underlying attention. Volitional regulation is only taking shape. In this regard, the material for assimilation should be emotionally saturated due to the colorful video sequence, timbre and height-varying sound sensations.

Voluntary attention is formed at the age of 8-9 and is conditioned by the general intellectual development of the child, his cognitive interests and the ability to act purposefully. The educational process contributes to the development of this type of attention. At the same time, the ability to distribute it is still only being formed; there is rapid fatigue, frequent distraction of the child. He holds attention for no more than 15-20 minutes. When performing external actions, attention is more stable, mental actions - less stable. In the process of expanding the interests of the child and accustoming him to educational work, both types of his attention are actively developing. Only by the age of 9-10 do children acquire the ability to carry out a program of actions for a sufficiently long period of time.

The teacher should take into account that the parameters of attention are determined by the individual-typological characteristics of the child and develop in different ways. Therefore, it is important to coordinate the individual-typological characteristics of the child with the boundaries of training his attention. It should be borne in mind that the volume of attention is growing worse than the properties of distribution and stability.

Children 6-10 years old are impressionable and emotional. Their experiences are quite complex: the joy of personal success and the praise of an authoritative adult, grief from a mistake, excitement before a public speech, fear of the unconscious, etc. The child basically does not understand the reasons for his feelings. However, his positive spiritual and moral qualities are fixed in the best way when his behavior and actions are supported by pleasure and satisfaction. For good behavior, good aspirations of the child should be praised.

The development of will in children of this age category is determined by the requirements of adults, conditioned by social goals and norms. The clarity of the formulation of these requirements and the constancy of their presentation by the educator, school collective, family determine the re-

liability of the results of spiritual and moral education. In different situations, the child is forced to share something valuable with friends, to refuse the preferred (games, cartoons, etc.) - sacrifice should acquire a personal meaning for him. Overcoming difficulties should be morally enriching: the child feels that he is kind, intelligent, more mature. Positive self-esteem and self-esteem are formed.

For the general mental development of the child, the development of his brain structures, movement and the development of motor skills are of great importance. Fine and gross motor skills of children should be developed in a targeted manner, because it is often lagging behind due to parents' inattention to drawing, paper cutting, embroidery, designing, etc. The culture of children's yard games, the purpose of which is to improve motor skills, should be revived.

At the same time, during this age period, a new type of relationship with others is developing. The role of the children's community and peers is growing. The social life of a child is formed by interpersonal relationships in the educational space of the class and school. Interpersonal skills are generally poorly developed. Girls show a higher level of reflection and social responsibility, flexibility, the ability to verbally demonstrate socially approved forms of behavior, although there are more “selfish” girls than boys.

By the age of 9-10, the child's personal qualities are manifested: organizational skills, independence, hard work, perseverance, patience, sincerity, perseverance, generosity, etc. These qualities should become fundamental in education.

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THE DEVELOPMENT OF LEADERSHIP SKILLS IN GYMNASTS WITH HEARING IMPAIRMENTS

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Abstract*. The article considers the relevance of the manifestation and development of leadership skills in gymnasts with impaired acoustic analyzers. We theoretically analyzed the concept of leadership and its influence on the behavior in ordinary life, presented the main characteristics of leadership skills, and highlighted the role of a leader in a group or team. We presented the problem of socialization and physical adaptation of children with health limitations and their inclusion in modern society. We carried out a research and pedagogical experiment aimed at clarifying and identifying leadership skills, as well as their relationship with temperament and age. The experiment covered gymnasts with hearing impairments training according to the developed methodology of the formation of coordinating abilities based on the means and methods of artistic gymnastics. The testing was carried out in the form of a questionnaire according to the "Leader" method and Eysenck's test. During the experiment, we obtained reliable data on the current development of leadership skills in the presented group of children. We conclude that different leaders will exist in any team or group. Based on the results of the experiment, we can conclude that leadership skills are inclinations, which turn into abilities, depending on time and place, and accompany a person throughout his/her life.*

The authors conclude that it is necessary to further investigate the development of leadership skills in boys with hearing impairments to study the influence of the methodology using the means and methods of artistic gymnastics.

Keywords*: leadership skills; temperament; age peculiarities; physical development; socialization; adapted physical education; children with hearing impairments; 7-9 year-old gymnasts; training; methodology; gymnastics.*

Introduction

At the current development stage of society, there is a need to improve the quality of education, including special correctional education. Special attention should be paid to the creation of conditions for a comprehensive inclusion in the educational space and successful socialization of children with health limitations. One of the priority trends in solving the problems of the formation, preservation, and strengthening of children's health at the current development stage of society is the search for new and more effective forms, means, methods, and technologies of teaching and upbringing, their introduction into the practice of educational, including special remedial, institutions. [1,2].

Hearing disorders have a biological basis. Children with hearing impairments have a dysmorphology of biological structures. As a result, the perception of sound signals coming from the outside world is impaired. This circumstance affects the psycho-emotional development of the child.

Children of different ages possess some leadership skills helping them better adapt to interaction in life. The leadership skill is already manifested in some children at the age of 4-6 during their relations with peers; during games and competitions, such children usually take on the leading roles.

Leadership is the ability to influence people by encouraging them to strive to accomplish certain tasks on their own accord.

In Russian social psychology, the development of the leadership problem has had a rather complicated and sometimes contradictory nature. The first works in this area were the studies of S.O. Lozinsky, E.A.Arkin, A.S. Zaluzhnog, P.L. Zdgorovsky, et al. [3]. These works dealt with youth leaders, leadership, mainly in children's organized and spontaneous groups and teams [3]. There have been no studies of leadership skills among gymnasts with hearing impairments, which indicates the scientific novelty of our work.

The realization of objective and subjective factors, as well as the role of socio-psychological conditions, influences the formation of relationships between athletes in a sports group. One of these factors is the socio-psychological phenomenon of leadership. We are particularly interested in the conditions and opportunities for the manifestation of leadership skills in a sports group seem.

We should study the current leadership potential of children to investigate special forms and a method of organizing health-fitness and training sessions and competitions for gymnasts with hearing impairments, which will allow one to improve social and labor adaptation, including the improvement of leadership skills and, ultimately, help to integrate them into

society, [4,5].

Based on the aforesaid, we see major potential in the study of the leadership skills of gymnasts with hearing impairments to solve the problems of adapted physical education. We carried out this study to check the correctness of our judgments.

Thus, we are faced with the problem to find out the current characteristics of leadership skills in gymnasts with hearing impairments and their relationship with temperament [6]. The solution to this problem, the theoretical and practical components of the research will allow us to further elaborate an effective methodology for the development of leadership skills in gymnasts with hearing impairments, which is a relevant problem. An integrated approach to the problem will effectuate the socialization and adaptation of disabled children in modern society [7,8].

Purpose of the research

Based on our testing, we managed to find out the actual possibility of the manifestation of leadership skills in gymnasts with hearing impairments and to reveal the dependence of leadership and temperament.

Research methodology and organization

The experiment was carried out in the form of testing, in an environment favorable for the participants, i.e., without the influence of any external factors [9].

The study involved 25 boys 7–9 years old with hearing impairments. The study lasted for 2 weeks.

The following methods were used during the study [10]:

1. “Leader” methodology – determining the manifestation degree of leadership skills, consisting of 50 questions. The test subject was asked to select and mark only one of the two proposed answers to each question. The manifestation degree of the test subject’s leadership skills was determined according to the key: weak, medium, strong, or this person, as a leader, is inclined to dictate.

2. Eysenck’s test - determining the type of temperament. Upon further analysis of the experimental data, we assume that the type of temperament does not affect the formation of leadership skills but it affects the behavior and initiativity style of the presented leader.

Results and discussion

Based on the analysis of the boys’ age from 7 to 9 years old, we can conclude that this factor does not affect much the formation of leadership skills.

The percentage is shown in Figure 1.

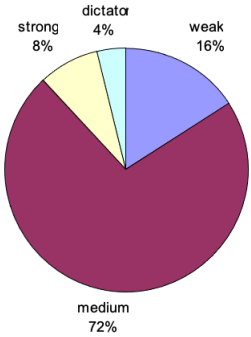

Figure 1 – Manifestation of leadership skills

In this group, 4 boys (16%) have leadership skills with a weak degree of manifestation, 18 boys (72%) - with a medium degree, in 2 boys (8%) this quality is strongly manifested, and only 1 boy (4%) is inclined to dictate.

We can conclude that there will be various leaders in any team or group. Even if a person is at the head of a group, he is not necessarily characterized by the basic leader skills. He will most likely have these qualities but he will also show a melancholic type of temperament, and, therefore, this person will be ineffective as a leader. The influence of temperament on leadership skills should be analyzed from the standpoint of the individual performance style [11]. There are three spheres of temperament manifestation: aggregate activity, features of the motorial sphere, and emotionality properties [12].

Aggregate activity is determined by the intensity and volume of human interaction with the environment - physical and social. A person can be inert, passive, calm, active, proactive, impetuous.

The motorial sphere is private manifestations of the aggregate activity. This includes pace, speed, rhythm, and the total number of movements.

Emotionality as a manifestation of temperament, including impressionability, sensitivity, impulsivity, etc.

Each of the spheres is reflected in all types of temperament; thus, they interact resulting in a certain type, which is inherent in the person throughout his/her life. A person's temperament affects his/her activity, energy level, sociability, restraint, slowness, fatigue [13]. In a sports team, this will be especially evident during competitions.

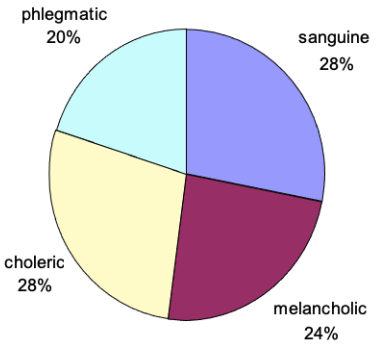

Figure 2 – Temperament

Figure 2 shows that this sports group consists of 28% - sanguine and choleric types, 24% - melancholic type, and 20% - phlegmatic type of temperament.

Next, we will analyze the relationship between temperament type and leadership skills.

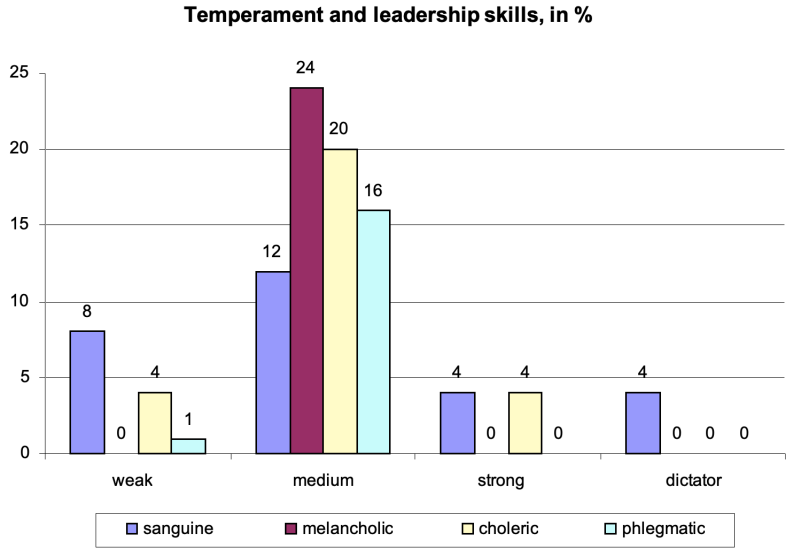

Figure 3 – The relationship between temperament type and leadership skills

Figure 3 shows the relationship between temperament and leadership skills. In the presented group, leadership skills with a medium degree of manifestation prevail in the persons with a melancholic type of temperament and then in persons with a choleric type and a medium degree of manifestation [14,15]. We can conclude that individuals with a choleric type of temperament will struggle for leading positions, while the boys with a melancholic type will recede into the background.

Findings and conclusion

The development of leadership skills remains a relevant problem, which needs a quick and successful solution. Leadership skills contribute to the formation and development of personality in general and also have a beneficial effect on the process of socialization and adaptation, which is especially important for children with hearing impairments.

Analyzing the references, we conclude that leadership skills are inborn inclinations, which can develop throughout the life, formation, and development of a person under the influence of external and internal factors. They can also be the person's abilities, which manifest his/her effectiveness for the successful implementation of certain activities.

Based on the study, we can conclude that leadership skills are inclinations, which turn into abilities, depending on time and place, and accompany a person throughout his/her life.

One of the important results of the manifestation of leadership skills in boys with hearing impairments is an increase in the level of socialization and adaptation of such children in modern society.

Further investigation of the development of leadership skills in boys with hearing impairments can cover the area of studying the influence of the methodology of training in artistic gymnastics.

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SCHOLARSHIP PROGRAM OF THE "OXFORD RUSSIA FUND" (ORF) AT IRKUTSK STATE UNIVERSITY: IMPLEMENTATION AND RESULTS

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Abstract. *The process of implementation of the "Oxford Russia Fund" scholarship program at Irkutsk State University is considered; the influence of the scholarship program on the educational process and the development of students' scientific work is analyzed.*

Keywords: *Oxford Russia Fund, Irkutsk State University, liberal arts education, scholarship program, students, scientific work*

In 2005, the Oxford Russia Fund (ORF) charitable organization was founded, the next year, for active cooperation with various institutions in the Russian Federation, the Fund's Representative Office in Moscow was opened, which was included in the Register of Branches and Representative Offices of Foreign Non-Profit Non-Governmental Organizations. A key ORF project is a scholarship program for students of the humanities faculties of 20 classical Russian universities. These provincial universities were selected by the Foundation in the first - pilot - phase of its implementation in 2005-2009 ISU joined the program in 2006.

The mission of the Foundation was aimed at promoting the development of humanitarian education in Russia, since the role of specialists in the humanitarian fields of knowledge in the modern world has rapidly increased, however, most of the international foundations and grant-making organizations were focused mainly on the field of natural sciences and business research.

Due to the fact that this year's ORF scholarship program is coming to an end, the purpose of this article is to try to analyze how much participation in this program over the past 15 years has been beneficial for the university and its students.

First, some statistics. Over the period of the program, a little more than 2 thousand bachelors received ORF scholarships. Since 2015, the program has been extended to undergraduates and postgraduates, 180 undergraduates and 26 postgraduates became ORF scholars from 2015 to 2021.

First of all, participation in the program affected the educational process. In a classical university, education and science must be closely interrelated things. We will not argue that without the ORF scholarship program, the link between science and education would have been impossible, but this program certainly made it more obvious and tangible. In addition, unlike many other forms of reward for scientific activity, the ORF scholarship, at a minimum, was different in that it implied not only the need for contestants to present a set of their achievements, but also to draw up a real application for a grant, and, accordingly, developed the skills of presenting research in such a form, which is not quite traditional, at least for junior students. For many, this was the experience of the first real introduction to the academic rules of work. It should be noted that at the university, as in other universities, there is an opportunity to encourage and stimulate the student's desire to engage in scientific work with the help of an increased state academic scholarship, which is paid for special merit in a certain field of activity, including research. The ORF scholarship provided that the student is not only active in the scientific field, but also an excellent student, is engaged in social, cultural work, sports, that is, is a harmoniously developing personality.

If we consider improving the quality of the educational process associated with the development of important skills in students as a benefit for the university, then this is perhaps the most important point. It is difficult to separate the benefit for the university from the benefit for the students. One is as closely related to the other as science and education, or as the image of the university and the quality of teaching and other aspects of life in it. The aspect of usefulness related to the reputation and prestige of the institution is, of course, also important. The ORF scholarship favorably distinguished the university from other universities in the region and the city, increasing the prestige of studying at ISU. The presence of the ORF program was a kind of "novelty" that was used during the admissions campaigns. All ISU faculties, which implemented the program, indicated this in their advertising brochures when conducting career guidance events.

Participation in the ORF program was also beneficial for the ISU divisions. Thanks to participation in the competition for ORF scholarships, faculties and institutes of the university began to actively cooperate with each

other in order to unite the intellectual potential of students. A comprehensive program of interaction was developed between scholarship students from different faculties, which facilitated joint research work and the organization of meetings among students to exchange experiences and provide information about scientific events held by ORF. Interest in scientific work has increased among students, they have become more actively involved in the public life of the university and their departments.

This had a positive effect on the academic mobility of students, the implementation of their ambitious scientific plans, scientific and pedagogical career; increased the level of communication and self-confidence. Created conditions for strengthening their scientific and search identity in general, allowing them to successfully adapt in any conditions. Participation in scientific schools and conferences held by ORF - was the impetus for our own research activities and implementation. Participation in the program allowed to attract students to scientific faculty and university activities, the level of publications and research at the faculty significantly increased. In 2012, a small study was carried out at the university, which showed interesting results. For example, for one ISU student engaged in scientific research, there were, on average, 0.15 reports at conferences of various levels, and for an ORF student, 1.4 reports; there were, on average, 0.12 articles per research student, and 1.9 articles per ORF student. At the same time, the level of presentation of the research results of ORF scholarship students has increased: most of the reports were made at international and all-Russian conferences, articles were published in international and centrally cited publications. [1, p.194].

Speaking about the development of skills that are important not only in the academic world related to participation in competitions (for example, the ability to present your research project), it is worth mentioning the material side of the issue: many students and graduates talk about the importance of the scholarship helping to fully concentrate on research interests and studies, and not look for a side job. In addition, this scholarship has helped students study for commercial graduate and postgraduate studies (not everyone can pay for their studies on their own).

Participation in any scientific events for a young researcher and not only is always a fundamental thing in the formation of professional contacts for many years to come, and of course, participation in the schools of the Foundation is no exception. All former Fellows certainly celebrate this moment in the professional circle of ORF events. ISU Fellows have actively participated in almost all schools and conferences held under the auspices of ORF, and noted their absolute usefulness.

The participation of students in the work of schools was an important factor in the additional training of a humanities student. In addition, the student needed to prove himself at the stage of forming the composition of the school's participants: to submit an interesting essay application. Then, having become a participant in the school, the student could fully use the presented opportunity to expand knowledge and horizons within the framework of the problem under discussion. The schools were held at a high scientific, methodological and methodical level, within the framework of an extremely busy schedule. Students were busy from morning till evening, listening to lectures, taking part in the work of sections, master classes, trainings, where the participants were given the opportunity not only to discuss specific topics, but also to try themselves in practical activities. In addition to the formal part, school participants received an abundance of informal communication with their colleagues - teachers and students. As a result, students acquired knowledge concerning new directions of scientific research. Schools often became an impetus for choosing a new topic for scientific research [1, p. 195].

In turn, the Irkutsk University conducted several schools and master classes. Among them, the Baikal School - 2012 "Social Fact and Its Interpretation in Research and Scientific Text", the Baikal School - 2013 "Social Research: from the Field to the Presentation of Results", The First, Second and Third School for Young Authors for Participants of the Oxford Russia Scholarship Program Fund, held in 2016 and 2018. The teachers of the School for Young Authors were S.A. Panarin. - Candidate of Historical Sciences, Head of the Center for Research on General Problems of the Modern East of the Institute of Oriental Studies of the Russian Academy of Sciences (Moscow), founder of the project School of a young author Dyatlov V.I. - Doctor of Historical Sciences, Professor of the Department of World History and International Relations of the Faculty of History of ISU, Grigorichev K.V., Doctor of Sociological Sciences, Professor of the Department of Political Science, History and Regional Studies, Vice-Rector for Research and International Affairs of the ISU, Tashlykova M.B. - Candidate of Philology, Director of the Institute of Philology, Foreign Languages and Media Communication ISU. Students, participants of these schools, noted their usefulness, the fellows taught a lot, which helped them write and draw up their final qualifying works, promoted publication activity. In 2018, a series of master classes was also held for students of humanitarian specialties of Irkutsk State University "Methods and Sources of" Understanding Research".

The ORF Fellow is a special social group of students within depart-

ments. A kind of scientific elite who have realized their ideas through active involvement in the work of various projects of the Foundation. On the one hand, it can be said unequivocally that the most ambitious and motivated students have always become participants in the ORF scholarship program, so even a loss was perceived by many as an incentive for further development. There are quite a few examples of how students who did not receive an ORF scholarship in the end applied for Master's degree programs in Great Britain, China, Japan, Germany and eventually achieved what they wanted. Therefore, it is difficult to say unequivocally to what extent achievements related to studying at the university, or success in a future career, are related precisely to receiving an ORF scholarship. But at the very least, these are clearly interrelated things. Over the years of the ORF program at ISU, perhaps the most striking examples of success are associated with the continuation of an academic career, both at Irkutsk University and at other universities in Russia and abroad.

ISU graduates, participants in the ORF scholarship program, successfully continue their career as a researcher, adding to the scientific and pedagogical staff of the university. Here are just some examples: K.V. Ivanov defended his candidate thesis in 2014, currently is an assistant professor at the ISU Department of World History and International Relations, head of the ISU Research Unit and head of the ISU Center for Korean Studies. After graduating from the university, they defended their Ph.D. thesis and work at the departments of the university S.A. Sebekin (Department of Political Science, History and Regional Studies), A.A. Kruzhalina (Department of Russian History), A.A. Racheva (Department of Russian and General Linguistics), E.S. Kuzmina, M.N. Chuvashova (Department of State and Municipal Administration); A.S. Romanova, Yu.K. Korshunova, E. D. Makritskaya (Law Institute), A.N. Pruzhinin (Institute of Social Sciences), I.A. Anisova, U.E. Chekmez (Institute of Philology, Foreign Languages and Media Communication).

The undoubted advantage of the Foundation's activities is its focus on regional universities. Talented guys who remained to receive higher education in their regions got the opportunity to study science at least partially on an equal footing with their metropolitan colleagues, and sometimes even stay in regional universities in order to continue to study science there at a decent, not provincial or local level. after graduation. Participation in the competition on equal terms with students from other partner universities showed a fairly high level of training of students of Irkutsk University.

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ON THE USE OF AMERICAN ENGLISH IN PREPARATION FOR THE UNIFIED STATE EXAM IN A FOREIGN LANGUAGE

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Abstract*. Today, there is a lot of controversy about the admissibility of mixing regional variants of the English language in the preparation and delivery of the Unified State Exam in English. There is a contradiction between the requirements of regulatory documents and the reality associated with the language situation in the modern world. This article attempts to substantiate the need to allow the mixing of British and American English in the preparation and delivery of the Unified State Exam in English, and also suggests ways to solve the problem of using American English in the process of teaching English in secondary schools.*

Keywords*: English, Unified State Exam, American English, International Tests.*

The history of using integrated systems for testing foreign language language and speech abilities goes back to the beginning of the last century. So, in 1908, the SAT examination format was first introduced, which assessed the grammatical and writing skills necessary for study in US universities. This testing system is still used today and is known under several names: SAT Reasoning Test, Scholastic Aptitude Test, etc. It was followed by numerous variations of testing systems proposed by both the ESOL division of the University of Cambridge (KET, PET, CAE, CPE) and alternative formats PTE, IELTS, TOEFL, etc.

The selection of testing materials and criteria for evaluating any system should be based on the concept of a language norm - a historically established set of elements of all three language levels (phonetic, lexical and grammatical) and the rules for their selection, determined by the communication situation, as well as by the codified standard of a certain histori-

cal period. A linguistic norm is a complex set of standards developed by a specific community under the influence of numerous extralinguistic factors. The language norm has the following characteristics:

1. the generally accepted and obligatory nature of the basic norms as a condition for the regulation of the linguistic activity of the community;

2. the relative stability of norms over fairly long historical periods of time;

3. the presence of a literary basis as a standard of codification for a given historical period;

4. dynamic character, which is based on the inevitable development and change of the language in the diachronic sense;

5. close correlation of linguistic and cultural-aesthetic processes taking place in society;

6. the potential for the emergence and development of so called "linguistic pluralism", which is based on divergent processes of a historical, political or other kind.

The last thesis makes it possible to substantiate the emergence of numerous variants of the English language that exist today. This "linguistic pluralism" is a reflection of the global immigration processes that led to the emergence of British English, American English, Australian English, Canadian English, New Zealand English, etc. language norm for the preparation of materials for tests in English? " This question is especially relevant for the Russian USE exam. In order to figure out which of the options: American or British is acceptable for the USE in FL exam, let us turn to the methodological materials intended for the chairmen and members of the subject commissions of the constituent entities of the Russian Federation to check the fulfillment of tasks with a detailed answer of the USE exam papers in 2021. This document notes that currently in the world there are a number of national variants of the English language, each of which has its own characteristics, including spelling, grammatical, lexical; different traditions of the design of written speech. In the normative documents of Russian education, the orientation towards any specific national variant of the English language is not fixed. That is why (although in our country, traditionally, teachers and authors of textbooks are guided rather by the British version of the English language), it would be wrong to consider the American spelling of words as erroneous. Thus, both British and American norms of the English language at all levels should be considered acceptable. Note that in tasks with short answers 19–25 and 26–31 of the "Grammar and Vocabulary" section, in cases that allow two spellings of a word, both options are counted as correct, for example, *traveller* or *traveler* etc.

In the "Letter" section in task 39 (writing a personal letter), you should not, for example, consider writing the date in the American manner as an error: 11/30/2021 (month, date, year). [1:19]

In the oral part of USE, the following information can be found on this issue. The assessment criteria for assignment 1 (reading aloud) of the oral portion of the USE do not include requirements for choosing British or American pronunciation. Even in the writing part in the short answer tasks, the developers give two spelling options for words such as colourful/colorful, allowing for the norm of American spelling. It is advisable that the USE participant does not confuse the two options, i.e. so that he pronounces all the words according to the norms of a particular version of the English language. If he reads mostly "British", but in one word (for example, dance) suddenly switches to the American version, this could be considered a mistake. [2:32]

From the above, we can conclude that the choice of one or another option is advisory in nature, but in practice the situation looks different. Unfortunately, there are cases when you have to file an appeal because of the "incorrect" use of one or another variant of the English language. Therefore, in order to avoid problems in USE grading, most teachers prepare students for USE in English, focusing only on British English. In our opinion, such a decision is not advisable. Orientation of a student to only one version of the English language limits his ability to perceive the surrounding linguistic reality in all its diversity. In addition, in the modern world of multimedia, the global market, the student is more likely to face exactly the American version of the sound and spelling of words. Therefore, by limiting the use of other variants of the English language, in particular, American, we take away from the student the ability to understand, compare, analyze, memorize and then output into productive forms of speech what he reads and hears every day. This approach seems counterproductive. What can be done already at this stage to correct the current bias towards British English, which is perceived as a standard in Russian linguodidactics? Speaking about teaching English in secondary schools, we consider it appropriate to offer several options for solving the problem of insufficient emphasis of students' attention on the use of British and American English. As for the study of other variants of the English language, it seems to us promising to study them in the case of an increase in the number of hours allocated for the study of a foreign language at school, as well as in the case of the introduction of a unified state exam (USE) in a foreign language as mandatory.

First, it is necessary to expand the didactic base, including samples

of different dialects of the English language. Modern school English textbooks mainly use samples of British English. As for the American version, it is presented only sporadically. There are practically no other dialects.

The next step may be to include reading materials that include examples of different variants of the English language, with appropriate stylistic and historical annotations that could help students become familiar with the diversity of language variants and cultural phenomena.

In addition, it is necessary to create separate additional teaching materials in the form of attachments to textbooks in English. These materials could contain different types of training tasks aimed at differentiating different variants of the English language. So, students can be offered tasks for:

- linguistic differences in British and American English in the field of phonetics, vocabulary and grammar;
- contrastive listening in order to identify these differences;
- the use of the acquired skills and abilities in the use of the British and American variants of the English language in productive types of speech activity;
- sociocultural differences.

Thus, the recommendation of "not mixing" American and British English during the USE English test seems to be irrelevant from a theoretical and practical point of view. We consider it possible to allow the use of both variants of the English language: American and British, focusing on the practice of conducting international examinations, which recently recognize the reality in which modern English functions, and allow a mixture of regional variants of the English language.

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POSSIBILITIES OF USING MODERN EDUCATIONAL TECHNOLOGIES IN PHYSICAL EDUCATION

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Abstract. *This article examines the problems of educational technologies, the experience of pedagogical innovations. The definition of the concept of "Pedagogical technology" or "Teaching technology" is given, the main options for the application of various technologies are considered.*

Keywords*: teaching technology, educational technology, physical education, training.*

The problems of educational technologies, the vast experience of pedagogical innovations, author's schools and innovative teachers constantly require generalization and systematization. In UNESCO documents, teaching technology is considered as a systematic method of creating, applying and defining the entire educational process of teaching and assimilating knowledge, taking into account technical, human resources and their interaction. The technological effectiveness of the educational process is to make the educational process fully manageable. Teaching technology is a set of means and methods of reproducing theoretically grounded learning and upbringing processes that allow successfully implementing the set educational goals.

1. Application of problem learning technology

Problem-based learning is a type of developmental learning, which

combines the systematic independent search activity of students with their assimilation of ready-made conclusions of science, and the system of methods is built taking into account goal-setting and the principle of problematicity.

Problem-based learning forms in students the need for individual physical development, physical and motor fitness, and also reflects the requests for physical self-improvement. However, the use of this technology will be effective only when students have a sufficiently high motivation to engage in physical education. In this case, the teacher will be able to form the need to create conditions for the independent acquisition of physical education and sports knowledge and skills, which, in turn, will contribute to the incentive to competently perform exercises and improve health.

The methodology of problem learning includes the process of acquiring knowledge, setting tasks, directly motor actions, as well as testing knowledge and skills by experience. The use of problem-based learning in physical education lessons will improve cognitive activity - perception, memory, thinking, and will also contribute to the development of creative thinking (Rusinova M.P., 2018).

The content of problem learning in physical education lessons can be different. For example, it can be associated with self-selection of information, comparison, generalization of certain facts, as well as self-development with the subsequent demonstration of individual physical exercises. Another example of using the technology of problem learning can be the creation of situations associated with contradictions in the practical activities of students, when the teacher reports insufficient initial data for the correct performance of the task. At the same time, students must put forward assumptions about the correct way of acting, test the assumptions in practice and draw a conclusion. Also, the technology of problem-based learning is the basis for organizing research activities, in particular, the technology of project-based learning (Rusinova M.P., 2018).

Problem-based learning, to a lesser extent than other types of learning, is applicable in the formation of practical skills; it takes a lot of time to assimilate the same amount of knowledge as compared to other types of training.

2. Application of project-based learning technology

I.Yu. Vodolagina (2016) notes that in the modern education system in the field of physical education, the technology of project training is also successfully used. When using this technology, lessons are planned in such a way that students, using their own research and observations, establish

causal relationships, learn patterns, draw conclusions and consciously make decisions about adherence to a healthy lifestyle.

Projects in physical education lessons are projects to study the effects of physical education on the human body, to study the history of sports, prepare and conduct competitions and sports events, draw up an individual training plan, form a sports self-improvement program, etc. Project-based learning technology makes the learning process fun. Students independently collect information on the research topic, analyze the need to perform a specific set of physical exercises for specific purposes. Some projects are integrated, covering the content of other academic subjects. When developing their own project, students develop knowledge and skills in applying methods of maintaining health and physical improvement. (Davydova I.V.)

3. Application of technology of using game methods in teaching

The game method is used in the process of physical education for the complex improvement of movements during their initial learning, to improve physical qualities, because the game method contains favorable prerequisites for the development of dexterity, strength, speed, endurance. In training using a game form, exercises that are of a competitive nature are introduced into a lesson or training session. The form of play includes preparatory exercises, auxiliary games and exercises where elements of rivalry are present. Supporting games include: simple, difficult, transitional and team games. Exercises performed in a playful way - outdoor games, play tasks, the use of various shells, stands, etc., differ in the depth and versatility of the impact on the physical qualities of those involved. Such classes increase interest in sports and physical education, stimulate the process of mastering the technique of individual elements of physical exercises, contribute to the desire to overcome difficulties in order to solve the tasks assigned to the students. (Toriev, A. Sh.).

Changing game situations forces you to instantly respond to the actions of partners, develop inner speech, logic, memory. The emotional sphere is enriched with satisfaction from muscle work, from the possibility of communication in a collective game, from the joint achievement of a jointly set goal. Game activity is characterized by creative active motor actions, which are limited by rules (generally accepted or established) and are aimed at overcoming various difficulties in achieving the set goal (winning, mastering certain techniques) (Vodolagina I.Yu., 2016).

When implementing personality-oriented technologies in teaching a subject, it is possible to design such sports and play situations that require mobilization of will, motivation in exercising one's own strengths; situations

of choice, sports risk, making your own contribution to the overall result; give priority to tasks requiring competitive, heuristic activity, manifestation of independence (Vodolagina I.Yu., 2016).

The play method, by virtue of all its inherent features, evokes a deep emotional response and allows you to fully satisfy the motor needs of those who train. Thus, it contributes to the creation of a positive emotional background in the classroom and the emergence of a sense of satisfaction, which in turn creates a positive attitude of children towards physical exercises. (Toriev, A. Sh.).

4. Application of information and communication technologies

Despite the fact that computer technologies have long been widely used in the educational process of a modern school, the use of interactive means in physical education is, as a rule, of a private nature: the formation of databases of schoolchildren, monitoring of their physical fitness and physical development, and are not widespread in school practice (Shevchenko A.V., 2018). However, it should be noted that with a skillful combination of the traditional training system and new informational capabilities, the physical education lesson will only become more interesting and attractive for students.

In some educational schools, an examination in physical education has been introduced, in particular, for those children who, for health reasons, are exempted from attending lessons. Conducting classes for such children in the form of computer tests and electronic presentations allows you to generate interest in the subject under study. The purpose of the electronic presentation is to update knowledge; accompaniment of the teacher's explanation of new material; consolidation of knowledge; systematization and generalization of knowledge. In addition, electronic presentations have a significant impact on learning performance, since both visual and auditory channels of perception are simultaneously involved in schoolchildren. Using testing computer programs at physical education lessons, it is quite easy to objectively assess the theoretical knowledge of students: the program itself will give many examples, count the correct answers, and objectively evaluate. In addition, in this form, self-learning is possible, which proceeds three times faster than with the collective traditional analysis of test results (Shevchenko A.V., 2018).

In addition, at physical education lessons in primary school, it is recommended to carry out general developmental exercises of various orientations, using musical accompaniment. In this case, special attention should be paid to special exercises for the formation of correct posture and correction of flat feet. In addition, it is very important to create a positive-

emotional background, which, as a rule, is formed in schoolchildren even before the start of the lesson and should be maintained throughout its entire duration, and then computer technologies come to the rescue: the inclusion of videos, musical compositions (Shevchenko A.V., 2018).

The use of interactive whiteboards or multimedia equipment in physical education lessons ensures the recreation of real technique of movements, allows you to study any technique in more detail, develops logical and imaginative thinking (Rusinova M.P., 2018).

5. Application of health-saving technologies

Many practicing teachers assign the most important role to health-preserving educational technologies, the purpose of which is the formation of the necessary knowledge, skills and abilities of a healthy lifestyle, the development of motor abilities.

S.S. Salionov (2020) in his article identifies three basic principles of building a lesson from the standpoint of health-saving technologies:

Principle 1. Correct organization of the lesson. First, it takes into account all the criteria of health preservation at a rational level. Secondly, the main goal of the teacher is to teach each student to request the necessary information and get the required answer.

And for this it is necessary to form his interest, motivation to learn and learn, an awareness of what he wants to know, a willingness and ability to formulate a question to the teacher. The formulation of the question is an indicator of the student's involvement in the problem under discussion and, therefore, a good level of his performance; manifestation and training of cognitive activity; an indicator of adequately developed communication skills (Salionov S.S., 2020).

Principle 2. Taking into account the area of working capacity of students. It has been experimentally proved that the biorhythmological optimum of performance in schoolchildren has its peaks and falls both during the school day and on different days of the school week. Performance depends on the age characteristics of children.

Principle 3. Distribution of the intensity of mental activity. When organizing a lesson from the point of view of health preservation, three main stages are distinguished, which are characterized by their duration, volume of load and characteristic types of activity.

A lesson organized on the basis of the principles of health preservation should not lead to the fact that students graduate with strong and clearly expressed forms of fatigue (Salionov S.S., 2020).

In addition, one of the components of health-preserving technologies is the creation and maintenance of a favorable psychological climate in

the classroom. The charge of positive emotions received by the students speaks of the positive impact of the school on their health. And vice versa: the presence of stress, chronic psychophysical stress, the production of negative emotions, etc. manifestations, both on the part of the teacher and the students, indicate the predominance of health-destroying tendencies in the lesson (Vodolagina I.Yu., 2016).

6. The results of the use of modern educational technologies in physical education lessons

The result of the use of modern educational technologies in physical education lessons is an increase in the quality of education, the formation of new forms of activity among students, contributing to self-development and self-realization, an expansion of knowledge in the field of physical education and sports.

In a study conducted by I.Yu. Vodolagina (2016), it is shown that after three years of work on the introduction of modern educational technologies into the educational process in physical education, there is an increase in students' interest: in physical education lessons by 20%; an increase in academic performance by 7%; the participation of students in design and research activities increased by 30%; growth of students' achievements, prizes in competitions and competitions increased by 5%. the level of awareness increased.

The use of general pedagogical innovative technologies by a physical education teacher in his professional activity allows to motivate students' interest in physical education lessons, to improve the quality of education, academic performance, develops the creative, research abilities of children, to demonstrate high achievements in participation in competitions, competitions of various levels (Vodolagina I.Yu., 2016).

Conclusion

1. Modern educational technologies are focused on individualization and variability of the educational process, which makes it possible to ensure a high quality of education for schoolchildren. Today, there are several such technologies: problem-based learning technology, multi-level learning, project-based learning technology, research teaching method, technology of using game methods in teaching, learning technology in collaboration, information and communication technologies, health-saving technologies.

2. Most of modern educational technologies can be successfully applied in physical education lessons. So, the technology of problem-based learning allows you to develop and improve cognitive abilities. The technology of multilevel training is used to individualize the loads, taking

into account the level of physical fitness. The technology of project-based teaching is implemented on the basis of the technology of problem-based teaching and allows to increase the interest of students in physical education and the level of their theoretical knowledge by preparing a variety of projects. The technology of using game methods in teaching is perhaps the most widespread in physical education lessons - many tasks can be solved in the game, including increasing interest in the lesson, mastering the necessary skills in a game form, enriching the emotional sphere. Information and communication technologies make it possible to facilitate the process of teaching technically complex sports - this teaching method is visual and very effective. Health-saving technologies are the basis of the educational process in physical education: the priority is the health of students, physical and mental; the principles of constructing a lesson based on health-saving technology have been developed.

3. The use of modern educational technologies in physical education lessons contributes to the increase of students' interest in the subject and the improvement of attendance and academic performance, the development of thinking, memory, attention, creative abilities, the improvement of the quality of teaching - better mastering of the technique of motor actions and an increase in the level of theoretical knowledge in the field of physical education and sports.

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METHODOLOGICAL ASPECTS OF THE STUDY OF NEURODIDACTICS IN HUMANITARIAN STUDENTS

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Annotation. *In the proposed wide pedagogical community, the article sets forth the methodology for studying the neurodidactics of students at a specific scientific (pedagogical) level. An analysis of the federal state educational standard for higher education (bachelor's and master's degrees) in humanitarian specialties revealed an omission in the formation of cognitive competencies. The universal competence of UK-1, within which systematic and critical thinking is formed on the basis of a systematic approach, does not fully disclose the intellectual mission of higher education, namely, the disclosure of thinking abilities and the maximum use of the brain resources of university students.*

To research and solve this problem, the author has identified research methods. The formulations of goals, objectives, academic subject within the framework of academic training are proposed. The preferred forms and methods of teaching students have been selected. Highlighted the positions (programs, teaching materials, federal state educational institutions) for the embodiment of the neurodidactic component of education of students of the humanitarian profile.

Keywords: *methodology, neurodidactics, students, pedagogical level, teaching students, component of education, humanitarian profile*

In previous publications, we have outlined the philosophical and general scientific aspects of the methodology for studying the neurodidactics of students. In this article, we will consider the pedagogical aspect of this problem. Neurodidactics of students correlates with the cognitive paradigm of education, in the center of which is the process of cognition. This branch of pedagogical knowledge informs him of the rationale from the standpoint of the functioning of the human brain and the focus on the maximum use of its resources.

A great influence on the formation of the named educational paradigm and neurodidactics was exerted by cognitive psychology (G. W. Neiser, M. Brodbent, D. Norman, J. Bruner, etc.), which loudly declared itself in 1960-1980. and focused on knowledge, semantic memory, awareness, perception and processing of information, forecasting, understanding, cognitive styles. A significant milestone in the development of cognitive psychology was the introduction of information tools into education. Neurodidactics is still fueled by the ideas of cognitive psychology and is successfully developing in organic unity with the latter.

The logic of our research leads us to documenting neurodidactic positions in academic education. Neurodidactics sees its place in the Federal State Educational Standard of Higher Education in the list of universal competencies. In particular, the group (category) "Systemic and critical thinking" in the competence of UK-1 for undergraduate studies is deciphered as "the ability to search, critical analysis and synthesis of information, to apply a systematic approach to solving problems" [1], for a master's degree - as "the ability carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy [2]. In both interpretations of CC-1, the priority approach for the formation of these types of thinking (systemic and critical) is called the systemic one, which, in our opinion, does not reveal the essence of the declared universal competence. In support of this assumption, we analyzed the indicators of competencies in different areas of humanitarian knowledge. It did not reflect the neurodidactic component, which is clearly demonstrated by the indicators of achieving universal competencies at the levels of higher education, developed by a team of authors (M.D.Bershadskaya, E.A. Zima, A.V. Serova) with the support of leading universities in Russia.

The descriptors of the UK-1 indicator for bachelor's degree developed by the named team of authors include: analysis of the task, highlighting

its basic components (UK-1.1), determination and ranking of information required to solve the problem (UK-1.2), search for information to solve the set task according to different types of requests (UK-1.3), when processing information, the ability to distinguish facts from opinions, interpretations, assessments, the formation of their own opinions and judgments, argumentation of their conclusions, including using a philosophical conceptual apparatus (UK-1.4), analysis of ways to solve problems ideological, moral, personal character based on the use of basic philosophical ideas and categories in their historical development and socio-cultural context (UK-1.5). Descriptors of the UK – 1 indicator for master's programs are presented in a similar way, based on systemic and interdisciplinary approaches.

We see an omission in the formal wording of the universal competence of Criminal Code-1. The types of thinking declared in it are disclosed one-sidedly, without involving the latest neuropedagogical data. In this regard, we propose to introduce the following neurodidactic indicators into the indicators of achievement of CC-1: 1) the graduate's operation with mental operations of analysis and synthesis, induction and deduction, concretization and generalization, 2) adherence to consistency, logic, anticipation in the implementation of cognitive activity, its implementation evaluative function, 3) flexibility of thought processes and abilities, 4) mastering different ways of assimilation and processing of information, 5) reflection of achievements and omissions, development of self-awareness.

The development of the neurodidatic process of cognition in the student audience involves the formulation of goals and objectives, substantiation of the content, selection of forms, methods, teaching aids from the standpoint of neurodidactics.

The goal involves the development of the thinking abilities of the individual: the actualization of neuropsychological and professional potential, the formation of key competencies, the prediction of personal and professional growth).

Tasks include: 1) motivation of professional formation and self-development, 2) the formation of students' neuropedagogical, psychological, socio-economic, legal, special (professional) competencies, 3) the development of an individual style of activity, taking into account data on the lateral asymmetry of the brain, 4) grafting positive self-concept of a professional, 5) reflection of cognitive achievements and professional development.

These positions are determined by the specialty and direction of training of students. Let us dwell on the selection of forms and methods of teaching students. Following A.A. Malsagov and V.V. Lezina [3], the forms

of learning include individual educational trajectories, network training programs, information and communication technologies, telephone "tutoring", radio and video conferences, video courses, interactive training programs, correspondent training using e-mail, network projects, self-education.

Teaching methods are diverse and are divided into oral (lecture, explanation, conversation, conference, discussion, individual survey, frontal, condensed), written (dictations, essays, essays, written assignments), practical (experiments, practical work), programmed (machineless, machine), graphic (diagrams, graphs, tables), practical (exercises, practical tasks), visual (illustration, demonstration), inductive and deductive, reproductive, constructive learning, problem-search, independent work, design, cognitive learning (cognitive instruction , problem-developing, simulation planning, design, experimental teaching), interactive (role, simulation, business), "case studies", trainings, organizational.

The academic subject is considered from the point of view of neuropsychological processes of perception, attention, memory, speech, cognitive and emotional intelligence, etc.

From the standpoint of the organization of training in programs, educational and methodological complexes, funds of assessment tools, effective neurodidactic models and methods, the mental activity of students, the boundaries of the study load, the organization of the scientific organization of labor are embodied. Learning is carried out taking into account their individual brain parameters: the speed of mental and sensorimotor reactions, the type of temperament, the volume of memory, the possible dominance of one of the cerebral hemispheres, linguistic behavior (monolingual, bilingual). This is the manifestation of the individualization of learning, which neurodidactics insists on. We see its personal aspect in the formation of motivation for learning, the disclosure of cognitive abilities, the identification and use of subjective experience, creative intentions.

Control of students' learning activities should be corrected neurodidactically. In particular, in the current control and intermediate certification, tests should be introduced to identify the degree of understanding of what has been studied in order to take into account the teacher's psychodynamic characteristics of students (motor skills, activity), the individual dynamics of the development of their psychological processes, the permissible volume and speed of information processing to determine the correspondence of the level of complexity of educational cognitive tasks, the cognitive capabilities of students and the subsequent correction of the didactic process. For the same purpose, a column "Type of student's thinking activity" can be introduced into the instructions for the assessing teacher, where

information about neurodidactic barriers and learning difficulties will be placed. The column "Degree of awareness of understanding" should contain a reflection of achievements with subsequent correction of the neurodidactic profile of students.

Let's return to the research apparatus of neurodidactics of students and the allocation of research methods. Among them is a theoretical analysis of the teaching of students, taking into account their mental activity. Empirical methods include: observation, survey (conversation, interview), collection and processing of empirical data.

Let us highlight the project method and the development of the author's technology of neurodidactic content in a separate line. The compositional components of such a technology should include motivation, motivation, goal setting, intention for professional activity, 2) the content of training, 3) its program, 4) the development of the educational process, 5) technological methods of teaching, 6) control of the formed competencies.

An experiment in this kind of research involves the development of its methodology, experimental modeling of students' neurodidactics at the ascertaining, formative and control stages, a description of the conditions of the experimental process, its reflection.

Let's summarize the above. The pedagogical aspect of the research methodology of students 'neurodidactics is presented in this article by reasoning about the correlation of students' neurodidactics with the cognitive paradigm of education. Based on the analysis of the Federal State Educational Standard for Bachelor's and Master's Degree in Humanities, the necessity of documenting neurodidactic provisions in academic education is substantiated. Research methods are highlighted. The formulations of the goal, objectives, academic subject are offered. The preferred forms and methods of teaching students have been selected. The positions (programs of teaching materials, federal state educational institutions) for the embodiment of the neurodidactic component of the education of students of the humanitarian profile are highlighted.

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THE INFLUENCE OF THE DISTANCE LEARNING FORMAT ON THE EFFECTIVENESS OF TEACHING BIOLOGY TO FOREIGN STUDENTS IN AN INTERMEDIARY LANGUAGE

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Abstract. *Currently, distance learning in universities and its effectiveness are an urgent problem, especially in the field of teaching foreign students in English as an intermediary language. A study conducted among two groups of students, one of which studied remotely and the other in classroom mode, showed that the effectiveness of distance learning using the Moodle distance learning platform and regular videoconferencing is not inferior to the effectiveness of classroom learning and provides additional opportunities to improve the quality of education of students with different levels of motivation. However, the quality of distance learning depends on the level of the electronic information and educational environment of the university.*

Keywords*: effectiveness of learning, higher education, foreign students, intermediary language, electronic educational environment.*

Introduction

In recent years, researchers have been paying more and more attention to the fact that the nature of interaction in the "teacher-student" and "student-student" systems is of great importance for the effectiveness of teaching at a university [2, p. 76] and especially of distance learning, since the stereotyped teaching often slows down the acquisition of the necessary competencies and reduces the motivation and responsibility of students. In the conditions of constantly increasing volumes of information, the individual independent work of students while studying remotely acquires a special role in the effectiveness of training [2, p. 76].

The use of distance technologies is of particular importance in teaching

foreign students in an intermediary language (English) [4, p. 114], since for them the effectiveness of training depends, among other things, on the cultural transformations of the educational space.

The purpose of the study is to establish the nature of the influence of the distance format of conducting biology classes in an intermediate language (English) on the effectiveness of teaching this discipline to foreign students.

Materials and methods

The study was carried out on the basis of the Department of Biology, Biochemistry and Biotechnology of the Yaroslav-the-Wise Novgorod State University. The materials for the analysis were attestation statements for the first semester in the discipline "Biology" of first-year English-speaking students in the 2019-2020 and 2020-2021 academic years. The progress of 130 foreign students of the specialty 31.05.01 General Medicine, studying in the intermediate language (English), has been analyzed. Of these, 81 students were trained in the first semester of the 2019-2020 academic year in a standard classroom format, 49 students studied the discipline "Biology" in the first semester of the 2020-2021 academic year in a distance format using the Moodle distance learning platform and regular videoconferences of theoretical and practical focus. The content of the educational program has not changed. The total score for the semester was analyzed according to the point-rating system adopted at the university. Statistical data processing was carried out using Fisher's test.

Results and discussion

As a result of the study, it was found that among English-speaking students who were trained in a standard classroom format, the average score in the discipline "Biology" for the first semester was 122.99 points (the maximum score for the first semester is 150), which has no significant differences ($p < 0.5$) compared to the average score among foreign students enrolled in a distance learning format.

At the same time, there were some differences in the performance of the two studied groups: none of the students who studied in the classroom mode was able to score the maximum score per semester, while in the distance format two students managed to do it.

At the same time, among the students who studied in the classroom, there was one person who had never attended classes. He earned 0 points and was not certified. In the distance group there were several students who did not attend conferences, but nevertheless completed part of the tasks on the remote Moodle platform and scored enough points to receive credit.

The data obtained indicate that the effectiveness of distance learning in English is in general not inferior to the effectiveness of standard classroom lessons. At the same time, in conditions of equal effectiveness in its average value, in an individualized understanding of the effectiveness of distance learning, two positive trends are noted.

First, the most highly motivated students striving for knowledge have more opportunities to maximize their aspirations. They may not be distracted by other students, which would be inevitable in classroom lessons in terms of specific cultural attitudes, and arbitrarily limit assistance to other students to such an extent that it does not violate their personal space.

Second, for students with reduced motivation to learn, a solution is created that, from the student's point of view, is perceived as a compromise. While in the classroom mode, such students simply refuse to attend classes, then in the video conferencing mode, combined with educational activities on the Moodle platform, they, as a rule, choose for themselves a mode that involves non-attendance of video conferencing and full or partial completion of tasks in the Moodle system. From the student's point of view, such a regime appears, depending on the level of motivation and responsibility, either as a compromise approach to learning, or as a kind of "deception" that allows "with impunity" not to attend classes in the form of videoconferences. However, from the point of view of the teacher, the very possibility of such behavior of a student of an English-language program is a step towards increasing the effectiveness of learning, which is explained by several aspects:

1) the distance educational course in the discipline "Biology", located on the Moodle platform, is built in such a way that all elements of each topic, including theoretical material, tests and assignments, are maximally consistent with each other and that their type and conditions reduce to a minimum the possibility non-independent execution. Thus, if a student intends to complete at least part of the tasks on the proposed topic, he somehow assimilates the relevant material of the program;

2) for the vast majority of foreign students studying in an English-language program, English is not a native language, but an intermediary language, and therefore an insufficient level of English proficiency reduces the quality of education of such students [1, p. 224]. In classroom lessons, it is more difficult to solve this problem, since it is impossible to organize control over the individual extracurricular work of a student, which would motivate him to further study written sources. In a remote format, a deadline for completing written assignments and tests can increase the efficiency of perception of new material [1, p. 224] due to the availability of oral – in the

form of videoconferences – and written – in the form of theoretical material in electronic form – versions of the presentation of information [4, p. 115].

In addition, as the researchers note, the distance learning mode with the use of videoconferences allows not only to bring the learning conditions closer to classroom [3], but also to establish individual contact between the teacher and each student, which in some cases allows influencing the organization of student's individual independent work, which leads to improve their personal results.

At the end of the discussion, it should be said that maintaining the effectiveness of teaching, including the discipline "Biology", when switching to a distance learning format using information technologies directly depends on the consistency and degree of development of the electronic information and educational environment of the university [3]. If the quality of this environment is not satisfactory, if its maintenance by the university as a legal entity is limited only by numerous checks and penalties in case of violations without conducting training and coordinating activities among teachers and students, then it is impossible to ensure the high quality of distance learning.

Conclusion

Thus, the distance learning format for English-speaking students in the discipline "Biology" does not reduce the effectiveness of training in comparison with the classroom format. Moreover, distance learning using the Moodle distance learning platform and regular videoconferences of theoretical and practical orientation creates the preconditions for increasing the effectiveness of learning from the standpoint of individual educational trajectories, since it takes into account different levels of motivation and responsibility of students, and also allows to level out to a certain extent differences in the degree of proficiency of students in English as an intermediary language. At the same time, the achievement of a distance learning quality comparable to the classroom is possible only if there is and coordinated functioning of the electronic information and educational environment of the university, which requires additional adequate organizational and educational work with teachers and students.

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PEDAGOGICAL CONDITIONS FOR STUDENTS OF THE RUSSIAN FEDERATION TO MASTER THE PIANO ART OF THE PEOPLE'S REPUBLIC OF CHINA IN THE CONTEXT OF THE ACADEMIC DISCIPLINE "INTERNATIONAL COOPERATION IN THE FIELD OF MUSIC CULTURE AND EDUCATION"

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Abstract. *The article discusses the urgent task of forming the competencies of international cooperation of students, as a humanistic idea of joint developmental educational activities in a multicultural university, motivating mutual understanding, penetration into the culture of other peoples. To this end, the authors analyze the leading technologies in the development of the academic discipline "International cooperation in the field of musical art and education", and in particular, the technology of an electronic educational resource, which makes it possible to make classroom and independent lessons more dynamic, and the flow of the studied information is easily accessible for development. Russian students of the dialogue between the musical traditions of the East and the West.*

In the conclusion of the article, the pedagogical conditions for the development of the electronic educational resource "Piano Art of China" are stated: understanding the electronic educational resource as an independent interactive multimedia product; the conceptual focus of the electronic educational resource on the analysis of the prerequisites for the formation and development of the genres of Chinese piano art from piano miniature based on national motives through the historical and folklore-fairy plots of the suite, children's themes to sonatas, variations and other large-scale works that combine classical traditions and dodecaphonic technique; correspondence of the structure of the electronic educational resource to the historical stages of the evolution of Chinese piano music of the XX century, reflected in the piano work of Liu Xuean, Xiao Yumei, Zhao Yuanzhen, He

Luting, Huang Tsy, Chu Wanghua, Wang Lishan, Wang Jiangzhong, Ding Shangde, Du Mingxin, and also the performing practice of world famous Chinese pianists: Fu Cong, Gu Shening, Li Mingqiang, Liu Shikun, Ying Chenzong, Lang Lang.

***Keywords**: international cooperation, RF, PRC, piano art, electronic resource, piano miniatures, sonatas, polyphonic works.*

At present, in connection with the significant expansion of intercultural contacts between Russia and China, the task of forming the ideas of modern Russian students about the peculiarities of the art of this country, the musical culture of which has a long history, seems to be urgent. Meanwhile, despite the fact that the PRC has achieved significant success today at prestigious performing competitions, the titles of which were awarded to *George Lee* (XV International Tchaikovsky Competition); *Sean Chen* (XIV International V. Cliburn Competition), *Keith Liu* (XVII International Chopin Competition), *Lang Lang* (laureate of L. Bernstein Prize for "extraordinary musical talent") and many other Chinese pianists, mastering the piano art by Russian students China still requires attention and educational and methodological equipment, including in the form of an electronic educational resource. This contradiction led to interest in the chosen research topic "Pedagogical conditions for Russian students to master the piano art of China in the context of the discipline "International cooperation in the field of musical culture and education".

Problem of the study: what are the pedagogical conditions for Russian students to master the piano art of China in the context of the academic discipline "International cooperation in the field of musical culture and education."

Purpose of the study: theoretical substantiation and testing of technologies for mastering the piano art of China by Russian students in the context of the academic discipline "International cooperation in the field of musical culture and education."

The object of the research is the process of music and pedagogical education.

Subject of the study: an electronic resource as a multimedia equipment for the process of mastering the piano art of PRC by RF students in the context of the academic discipline "International cooperation in the field of musical culture and education."

Tasks:

– to consider the peculiarities of the piano art of China: the history of formation and development;

– to identify the goal and objectives of the discipline "International cooperation in the field of musical culture and education";

– to analyze the history of the introduction of electronic educational resources into the professional training of a music teacher, as a multimedia equipment for the development of Chinese piano art by Russian students in the context of the discipline "International cooperation in the field of musical culture and education";

– to develop and test an electronic educational resource as a multimedia equipment for the process of mastering the piano art of China by Russian students in the context of the discipline "International cooperation in the field of musical culture and education."

The methodological basis of the study was:

- a historical approach to the investigated problem of the formation and development of the piano art of China (Bian Meng [2], Bu Li [3], Wang Anguo [4], Wang Weili [5], Wah Yuhe [6], Qin Qin [11], Qu Ba [9]);

- the concept of digitalization of modern education (G.A. Bordovsky [1], O.P. Osipova [7], Shen Xiaogai [11], Huang Tianhua [12], Huang Runhua [13], etc.);

- the concept of international cooperation as a factor in the development of the educational environment of a pedagogical university on the basis of cooperation pedagogy (II Golovanova, O.I. Donetskaya [10]).

Base for conducting experimental search work: Faculty of Musical Art FSBEI HE "Moscow State Pedagogical University".

Experimental search work was carried out with the 4th year students of the educational program 44.03.01 "Pedagogical education", profile "Music" within the discipline of students' choice "International cooperation in the field of musical culture and education."

Mastering the discipline "International cooperation in the field of musical culture and education" contributes to the formation of a set of knowledge, skills and abilities, since it allows students to:

know:

- regulatory documents defining the features of the organization of international cooperation in the field of musical culture and education;
- the goal, objectives and principles of international cooperation in the field of musical culture and education;
- the main stages in the development of international cooperation in the field of musical culture and education;
- forms and trends in the development of international cooperation in the field of musical culture and education at the present stage;

can:

– adapt in their own professional activities foreign experience in the field of musical culture and education;

master:

– experience in organizing their own professional musical and pedagogical activities in accordance with the trends of education reform, declared by the world pedagogical community.

In the course of the experimental search work at the formative stage, the tasks were solved:

1) the formation of students' knowledge in the field of the piano art of China;

2) the formation of readiness to implement the acquired knowledge and skills in the teacher's own pedagogical activity.

To solve the set tasks, the electronic resource "The Piano Art of China" was tested in the work and a number of classes were conducted with its use.

Lesson №1.

The purpose of the introductory lesson was to organize a presentation of an electronic educational resource to familiarize the audience with the goals, objectives, main issues and features of the developed resource "The Piano Art of China".

Further work involved acquainting students with two blocks of the electronic resource: The history of the formation of the piano art in China; Chinese pianists.

After the lecture, the students had the opportunity to independently work with the resource to familiarize themselves with video plots and text materials that expand the students' understanding of the piano art of China. Thus, students could see video recordings of a concert performance by Li Shikun, laureate of the 2nd prize of the First International P.I. Tchaikovsky, and to get an idea of the "Russian school" of the pianist who studied at the Moscow Conservatory in the class of Professor S.Ye. Feinberg. Using the method of reflection, it was revealed that the students were clearly interested in excerpts from the reviews of music critics, who noted "a wonderful cantilena, colorful expressiveness and meaningful fullness of the pianist's interpretations", as well as "virtuoso plasticity and open temperament." The resource also made it possible for Russian students to get acquainted with the works for piano created by Li Shikun: two concerts for piano and orchestra - "Youth" and "Battle against the typhoon".

Lesson №2.

The purpose of the next lesson was to provide Russian students with the opportunity to work in microgroups to master the materials of an elec-

tronic educational resource. The functions of the teacher, as a moderator of the group work on mastering the piano art of China, were considered: controlling; organizational; evaluating.

Working with the materials of the electronic educational resource in groups, the students prepared speeches about teaching at the piano faculties in the PRC music educational institutions. We considered the historical aspect of the issue of fundamental importance. In this regard, the students noted in their speeches the creation of special educational musical institutions and organizations in China: the Shanghai State School of Music, the Association for Music Research at Peking University, the Shanghai Chinese Aesthetic Society, the Datong Music Society, the Peking School of Arts, music faculties with piano specialization in such universities such as the Shanghai Art Pedagogical Institute, the Shanghai School of Arts, the Hangzhou School of the Arts, Yanjing University, etc.

Another student group prepared a performance on the activities of Shao Yumei (1884-1940), a famous pianist, teacher and composer.

Discussing the results of the lesson, the students noted that they learned with interest about the influence on piano pedagogy of Mario Paci, the famous Italian pianist and conductor, a student of Giovanni Sgambati (1841-1919), who, in turn, was a student of F. Liszt.

Within the framework of the workshop, it was proposed to get acquainted with the piano works of Chinese composers: pieces, polyphonic works and works of large form. Attention was drawn to "Flower Drum" by Qu Wei, "Orchid Blossom" by Wang Lisan, "Piano Variations" by Liu Zhuang, "Variations on a Yigong Theme" by Li Yinghai, "Doe" by Chen Yi and others.

Lesson №3.

The lesson was a workshop on working with the Video Series and the Music Library of a resource for mastering the genres and compositional techniques of piano works by Chinese composers. It should be noted that the use of the electronic resource "Piano Art of China" in this lesson made it possible to choose an individual learning strategy.

A number of students were interested in mastering the section of the electronic educational resource associated with young representatives of the Chinese piano school. The students of Russia found it remarkable that the real "child prodigies" of China begin their brilliant careers as children. For example, Wang Yujia - from the age of six; Lang Lang - from 3 years old; Chen Sa - from the age of 9; Zhang Haocheng - from the age of 3.

Further in the lesson it was suggested to get acquainted with the "Collection of articles on music" Chu Wanghua, consisting of 4 parts - Autobiographical articles; Music criticism and research; History of own composi-

tions; Piano pedagogy. The end of the block of classes was listening to the famous piano concert "Huang He" ("Yellow River") - a cheerful, revolutionary-optimistic - the favorite piece of the Chinese people.

In the conclusion, the results were summed up and conclusions were drawn: in the piano heritage of prominent Chinese composers, the following are focused:

• figurative conjugation of works with aesthetics and philosophical concepts of the East;

• interest in Chinese folk song, as the fundamental principle of professional composer music;

• synthesis of national and Western European traditions of musical creativity.

To identify the formation of the competencies of Russian students in the piano musical art of China, a conversation, questioning, testing were carried out. The oral form made it possible to observe not only the thoughts, but also the emotional behavior and reactions of students answering a particular question.

1) By the method of questioning, it was found that the level of knowledge of students has significantly increased. This was confirmed by the work of students who, through the electronic resource "Piano Art of China", mastered the peculiarities of the history of the formation of the piano art of China, piano music and pedagogical education, and the genres of piano creativity of PRC composers. Thus, without any difficulty, the students were able to comment on Qin Qin's professional position: *"The tendency towards a kind of" polyfunctionality "of personality is inherent in many Chinese musicians. The development of this mentally and historically conditioned personality trait in Chinese culture is also stimulated by the modern realities of the country, in which the need for a person's holistic and multifaceted participation in his chosen profession increases. The above largely explains the flourishing of Chinese musical culture today, the highest level of performers and collectives in the country, composer and scientific successes, world recognition of the Chinese "musical miracle"* [8].

Also, at the verification stage of the experiment, Russian students coped with the test tasks.

TEST

1. What was the beginning of the activities of the Music and Educational Department of the University, which received in China, taking into account the persistent tendency of Europeanization, the name The Conservatory of Music of the National Peking Universaty

a) the activities of the extracurricular music club at Peking University;

b) the Russian-Chinese Friendship Society;

c) the opening of a concert hall at the Shanghai Conservatory.

2. The "Collection of Articles on Music" by the Chinese composer Chu Wanghua consists of parts:

a) "Autobiographical articles"; "Music criticism and research"; "A History of Own Works"; "Piano Pedagogy";

b) "Philosophy of Music", "Methods of teaching to play on the instrument";

c) "Philosophy of Creativity"; "Music criticism and research"; "A History of Own Compositions"; "Piano Pedagogy".

3. Examples of piano pieces by Chinese composers characterized by a sonoric-coloristic character derived from sound imitations of natural phenomena or the sound of folk instruments are:

a) polyphonic opuses by Huang Ci: 2 two-part inventions (G major and C major), 3 two-part fugues (F major, C major, B flat major), 2 three-part fugues (G major and E flat major), Big Fugue in A - flat major.

b) "Shepherd boy playing the pipe", "Lullaby", "Evening festival" He Lutin; "Chinese Suite" by Liu Xuean;

c) Xiao Yumei's Funeral Prelude.

Thus, the hypothesis, determined in the course of theoretical comprehension of the problem, was confirmed during the experimental search work, which allows us to assert:

1. International cooperation is a humanistic idea of joint developmental educational activity in a multicultural university, motivating mutual understanding, penetration into the culture of other peoples.

2. The leading technologies in the development of the academic discipline "International cooperation in the field of musical art and education" are information and communication technologies, and in particular, the technology of an electronic educational resource, which makes it possible to make classroom and independent studies more dynamic, and the flow of the studied information is easily accessible in the development of dialogue musical traditions of the East and West.

3. The pedagogical conditions for the development of the electronic educational resource "Piano Art of China" are:

– understanding of an electronic educational resource as an independent interactive multimedia product aimed at solving the problems of mastering one of the topics of the academic discipline "International cooperation in the field of musical culture and education";

– the conceptual focus of the electronic educational resource on the analysis of the prerequisites for the formation and development of the gen-

res of piano art in China, from 1927 (the opening of the first conservatory) to the present: from piano miniatures based on national motives through historical and folklore-fairy-tale plots of the suite, children's themes to sonatas, variations and other works of large form, combining classical traditions and dodecaphonic technique;

– correspondence of the structure of the electronic educational resource to the historical stages of the evolution of Chinese piano music of the XX century, reflected in the piano work of Liu Xuean, Xiao Yumei, Zhao Yuanzhen, He Luting, Huang Tsy, Chu Wanghua, Wang Lishan, Wang Jiangzhong, Ding Shangde, Du Mingxin, and also the performing practice of world famous Chinese pianists: Fu Cong, Gu Shengning, Li Mingqiang, Liu Shikun, Ying Chenzong, Lang Lang;

– the focus of the electronic educational resource on the independent mastering by students of the piano repertoire of Chinese composers, as well as articles by famous pianist teachers.

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FEATURES OF THE ORGANIZATION OF THE EDUCATIONAL PROCESS IN SUNDAY SCHOOL

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Abstract. *The article analyzes the educational and developmental potential of the Sunday school as a phenomenon of the Orthodox Church, the purpose of which is to educate young people in the best traditions of the Christian faith and piety. Special attention is paid to the musical component in the context of doctrinal subjects aimed at introducing students to liturgical life and churching. In the conclusion, it is concluded that it is necessary to use the potential of Orthodoxy as a teaching on the salvation of the soul, which ultimately leads to the spiritual transformation of the individual.*

Keywords: *Sunday school, Orthodox worldview, spiritual education, Standard of the Orthodox component of education, Russian Orthodox Church, doctrinal subjects, church singing.*

At present, the problem of spiritual and moral education of the younger generation remains among the most urgent in our country and therefore is considered at the state level. So, the government of the Russian Federation in 2007 adopted a new edition of the Federal Law "On Education", positioning the leading role of education at all levels of education [1].

Today, the main goal of upbringing in Russia is the creation of "material, spiritual, organizational conditions for the formation of an integral complex of social and value qualities, views, and beliefs in every citizen, ensuring his successful development" [2]. N. D. Nikandrov concretizes this definition, emphasizing the orientation of the educational process on the formation of the worldview, as "a person's attitude to the world, to himself, to others, to God" [3]. Hence, the main task of spiritual and moral education in accordance with the Charter of the Russian Orthodox Church and the Charter of the parish of the Russian Orthodox Church is considered to

be religious education based on the canons of confessing and spreading the Orthodox faith.

The form of organization of religious education in Russia is Sunday schools at the Orthodox Church, the purpose of which is to educate young people in the best traditions of the Christian faith and piety. It is these planned results that presuppose the knowledge of God, church life and the human soul formed in children, which is primordially correlated with Russian educational traditions [4].

Researchers note that the concept of "Sunday school" appears in pedagogical literature in the middle of the XIX century. simultaneously with the mass distribution of the Sunday schools themselves. At that time, educational institutions of two types were attributed to Sunday schools: first, church schools intended for the confessional education of children and youth; second, schools that provide access to literacy for people who are unable to attend regular schools are "general education" Sunday schools. Common to these two categories of Sunday schools was that classes were held on weekends or holidays [8].

As A.V. Ageeva notes, Sunday schools are distinguished by:

– organization of classes on weekends and holidays;

– no tuition fees;

– lack of age and class restrictions for students;

– admission throughout the year and the associated constant renewal of the student body;

– free attendance of classes;

– the presence of extracurricular activities;

– small and uneven age groups;

– a clear educational orientation;

– the leading role of church singing.

General musical education partially solves these problems. So, in the conditions of this form, the program of I.V. Koshmina "Sacred Music: Russia and the West" for grades 1-3 of primary school. The specificity of this program was focused precisely on the spiritual component of Russian and foreign musical culture. The thematicism of the program convinces of this. So, from the first year of study, children get acquainted with the main Christian holidays, church services, the architecture of the temple, bell ringing. In the second grade, these topics were considered in the educational process using new musical material. In the third grade, the subject of development was biblical and evangelical images in music, music of other Christian denominations was introduced.

The program "Sacred Music. The world of beauty and harmony. 1-4

grades ", developed by I.V. Koshmina and V.V. Aleev, whose convictions in the explanatory note of the program clearly position "the humanization of the personality of primary schoolchildren in the process of familiarizing themselves with sacred music, the return to the original traditions of the national worldview" [5].

Sacred music is one of the layers of musical culture, on which the program "Music" by G.P. Sergeeva, E. D. Cretan, T.S. Shmagina. So, one of the sections of the program has the title "Singing About Russia - What to Strive for in the Temple". The content of the section assumes the development of such didactic units as the genres of sacred music - prayer, troparion, stichera, magnificence. Along with this, children get acquainted with the work of composers who introduced spiritual images into their secular works. The most striking example of this are the plays from the "Children's Album" by P.I. Tchaikovsky - "Morning Prayer", "In Church", based on the true church theme of the penitential psalm to the tune of the sixth voice "Have mercy on me, God, according to your great mercy" [6, p.78].

Special attention in the program of G.P. Sergeeva, E. D. Cretan, T.S. Shmagina paid to the bell ringing as an important part of the temple worship [6]. Carefully shaping children's ideas about this amazing phenomenon of church worship as a means of expressing joy, sadness and triumph of the Orthodox faith, the authors of the "Music" program acquaint younger schoolchildren with evangelism, pealing, chimes, and later teach them to listen to the bells in the works of M.I. Glinka, M.P. Mussorgsky, S.V. Rachmaninov, S.S. Prokofiev, as well as in the paintings of I. Levitan, A. Lentulov.

Children learn spiritual music through the twelve great holidays - Christmas, Epiphany, Annunciation, Holy Trinity Day, etc. Thus, in the first grade in the section "Music Around Us", students have the opportunity to gain experience in perceiving the chanting of the birth of Christ by different nations of the world within the reach of children's consciousness images of Christmas songs [6].

But if general ideas about spiritual music are laid down in general musical education, the Sunday school solves these tasks more consistently and deeper, involving not only musical listening activity, but also singing in the choir, improving not only vocal abilities, but, first of all, contributing to awareness of moral and spiritual categories in the minds of singers [7]. Thus, the Sunday school introduces pupils to the liturgical life of the Church, promotes churching.

The basis of the Sunday school is doctrinal subjects. In the classroom, Temple studies, Sacred history of the Old and New Testaments, the basics

of the divine service of the Orthodox Church, the history of the Christian Church, the lives of the saints, the Orthodox catechism, the Church Slavonic language are studied. Actively mastering church singing, children participate in divine services and prayers. In other words, the subjects studied in Sunday school are aimed not so much at comprehending the teachings of our Lord Jesus Christ, as at developing the ability to live in accordance with the knowledge gained about love. kindness and truth.

Taking this into account, teaching children the Law of God in Sunday school is aimed not so much at expanding their erudition as at educating people with strong convictions, with a deep Christian worldview, with a developed and subtle moral sense, people with faith and conscience. And this feature unites various types of Sunday schools in the Moscow, St. Petersburg, Kazan dioceses - "theological", "educational", "historical-patriotic", "family", "missionary", "creative", "mixed", "pilgrimage", "Multidisciplinary" (classification of A.V. Ageeva). This phenomenal feature explains the fact that the President of Russia V.V. Putin in his public speeches of the possibility of the spiritual revival of the country with the obligatory use of the potential of Orthodoxy, as a doctrine of the salvation of the soul, which ultimately leads to the spiritual transformation of the individual [8].

Realizing this, the Sunday school with attention and diligence, patiently and carefully is engaged in the upbringing of young parishioners [9]. At the same time, taking into account the potential of folk pedagogy, the principle of conformity to nature, the Sunday school leads its novices to the comprehension of complex truths through the preparation of matinees, performances timed to the main Christian holidays - the Nativity of Christ, the Resurrection of Christ, the Descent of the Holy Spirit - Trinity, the Day of Remembrance of the faithful Peter and Fevronia, Protection of the Most Holy Theotokos.

Along with folk pedagogy, Sunday school education is based on the traditions of N.I. Pirogov [10] and KD. Ushinsky [11]. But there is also a special mission of a Sunday school teacher. Thus, a religiously minded teacher will not start his own business without the blessing of the Church. Thus, he initially brings the spirit of churchness into the school, treats teaching with reverence, realizing the degree of his responsibility to God [12].

Each lesson in Sunday school begins with a joint prayer "to the King of Heaven" for 6 tones, which is performed by all students with the teacher. The explanation for this is a simple truth: before starting any business, we must ask for help from the Source of holiness, the Holy Spirit, so that everything that we create serves to the glory of God. The lesson ends with the prayer "It is worthy to eat" for 8 tones. The vocal quality of spiritual

chants is determined by the melodiousness of the Church Slavonic language, and the texts of liturgical songs "tune the souls of those singing to a state of prayer, distinguished by the depth of spiritual content" [13, p. 3]. Therefore, it has been repeatedly noted that "church chants fill the soul of a person with grace, drain from it a pure spring of affection and love" [4, p. 4]. In addition, spiritual chants bring people together. In this regard, there has always been a pious custom in the Orthodox Church to sing sacred hymns not only in the church during divine services, but also outside the church, in private, in the family or home [14]. It is also no coincidence that G.P. Stulova recommends at first mastering such chants, which are usually performed by all the people at divine services: "Our Father", "I believe", "Heavenly King", "Virgin Mary, rejoice." Then there are the Sunday troparia of eight tones.

It should be noted that researchers rightly draw attention to the fact of the influence of church singing on the correctness, beauty, distinctness and separation of speech, both read and spoken [15]. A clear pronunciation of the text opens up the opportunity to ponder over individual words and sayings, to seek their deep, edifying meaning, their sacred religious meaning, to feel with all our heart the inner inspiring power of the Law of God.

Thus, a number of conclusions can be drawn:

1. Today Sunday schools have become the main form of religious education and spiritual and moral education in the parishes of the Russian Orthodox Church.
2. The Sunday School of the Russian Orthodox Church carries out the functions of an organization for teaching children about religion, as well as developing the skills and abilities necessary for leading the way of life of an Orthodox Christian.
3. The Orthodox worldview is the spiritual core of Sunday school education, the teaching of which is determined by the Standard of the Orthodox component of education, adopted by the Russian Orthodox Church.

The basis of the Sunday school is doctrinal subjects. In the classroom, Temple studies, Sacred history of the Old and New Testaments, the basics of the divine service of the Orthodox Church, the history of the Christian Church, the lives of the saints, the Orthodox catechism, the Church Slavonic language are studied. Church singing is a compulsory subject of Sunday school, which naturally correlates with the song principle of Russian musical culture and the ideas of collegiality, understood in Russian religious philosophy, as a free spiritual unity of people both in church life and in worldly community, communication in brotherhood and love.

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GROUPING ONLINE RESOURCES BY THE LEVEL OF THEIR IMPACT ON THE DEVELOPMENT OF CREATIVITY IN STUDENTS, TAKING INTO ACCOUNT THE CYCLE OF D. KOLB

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Abstract. *With the introduction of compulsory distance learning in connection with the spread of the COVID-19 virus infection, the popularity of online platforms that allow creating interactive tasks has increased dramatically. Miro, Kahoot, Factile, Educaplay, Quizizz and others have opened up new opportunities for introducing them into the educational process, including for the development of creativity in students. Their strength was easier interactive interaction and the achievement of a high level of student involvement in the online educational process. The article discusses new online tools for the development of creativity. The use of D. Kolb's cycle in the formation of the educational process allows to achieve high results of students.*

Keywords: *creativity, creative environment, online education, distance learning, online services, D. Kolb's cycle.*

With the introduction of compulsory distance education during the pandemic, not only the teaching methodology for higher professional education programs (bachelor's, master's and postgraduate studies) has undergone changes, but also for additional professional education programs - MBA, advanced training, retraining, and so on. **The model of learning and development of adults - D. Kolb's Cycle** - has reached a new level of relevance, with the help of which it is possible to improve the learning process of people of this age category. D. Kolb's model is a cycle of experience accumulation, reflection and action (see tab. 1).

Table 1.

Scientific Model - D. Kolb's Cycle

Cycle stage		Stage description
1	Direct experience	Each individual has experience in a particular area that he wants to learn.
2	Observation and reflection	Consideration and analysis of existing experience and knowledge is carried out.
3	Formation of abstract concepts and models	Models are built that describe the knowledge and experience gained, ideas are created.
4	Active experimentation	Experimentation and validation of the created model or concept. The result is a new experience. Then comes stage 1 again - "Direct experience".

Source: Kleinman P. [1]

D. Kolb in his model describes the possibility of accumulating experience, which in turn is formed in the concept, and then used when choosing new situations to build up practical experience. The stages of D. Kolb's cycle prove that for effective learning it is necessary to be not only an observer of the process, but also its participant, i.e. a transition from participation to the formation of an objective view is required. This method of constructing the educational process implies the equality of the participants in the educational process.

To apply D. Kolb's method, it is necessary to transform the existing curriculum, in which students will have the opportunity to maximize their potential, which is close to the requirements for creating a creative environment. Followers of the scientific model of D. Kolb have developed a test to identify the preferred learning style for a particular individual (P. Honey, A. Mumford «*Honey Mumford Preferred Learning Style Test*). [3] P. Honey and A. Mumford distinguish **four types of personality according to their preferred learning style**: activists (direct experience), thinkers (observation and reflection), theorists (model formation), pragmatists (active experimentation). [4]

The analysis carried out by the author made it possible to identify and group online resources according to the level of their impact on the development of students' creativity (see tab. 2).

Table 2.
Online resources by the level of their impact on the development of creativity

Impact on the development of creativity	Resource type	Resource name
Low impact	Podcasting, crossword services, polls and tests	*SoundCloud, Au, Audacity, Google Podcasts, Spotify, CastBox,Crossword Factory, Cross*
Medium impact	Timeline creation services	*Timeline JS, Sutori, myHistro*
High impact	Sharing boards, *VR*, quiz and interactive assignment services	*Miro, Conceptboard, GroupBoard, Artefact, Thinglink, Adventr, Sparkol, Kahoot, Factile, Educaplay, ProProfs, Quizlet, Flippity, Quizizz*

Source: compiled by the author.

The author identified three levels depending on the level of exposure: red (high), orange (medium) and yellow (low).

The red level - high level of impact - includes sharing boards, services with augmented reality technology, services for creating quizzes and interactive tasks. For example, while working in the Miro application, the student needs to create his own project on a white board in a team or independently, using the maximum of imagination and knowledge, which contributes to the development of creativity. Augmented reality applications maximize the use of the student's imagination, which also effectively affects the development of the competence in question.

The orange level with a medium impact on the development of creativity includes services for creating timelines, which allows you to visually display the course of historical events, allowing the use of video and photographic materials.

The yellow level, with a low impact on the development of creativity, includes services for creating crossword puzzles, creating tests and surveys, and podcasting platforms. These services allow you to control the level of student knowledge, transfer additional audio training materials. When using these services, the student is a consumer of the interactive content already created for him.

When using electronic resources in the educational process, it is recommended to combine tasks by the type of impact on the components of creativity: imagination, critical thinking, intuition, etc. The most effective combination is to use resources from each level (red, orange, yellow) of influence on the level of creativity. Excessive use of resources from the red

level in one lesson can quickly tire a student, which will lead to a decrease in concentration of attention and a decrease in students' working capacity.

Let's consider the possible combinations of applications with the greatest efficiency, helping to optimize the educational process during distance learning for students and adults. In fig. 2 shows possible combinations of using electronic resources with the most effective impact on the development of creativity.

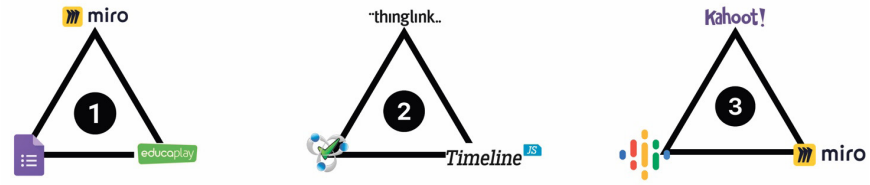

Fig. 2. Combinations of application use to optimize distance learning for the development of creativity

Source: compiled by the author.

The presented combinations make it possible to increase the effectiveness of distance learning and the level of creativity development among students, both technical and creative carts.

Triangle 1 includes a bundle: a *Miro* sharing board plus a service for creating surveys and educational tests *Google forms* and a multifunctional platform for creating quizzes, word clouds, etc., for example, *Educaplay*.

Triangle 2 includes a bunch of services that are most suitable for use in the educational process of creative specializations: *Thinglink* in conjunction with *Timeline JS* and *Online Test Pad*.

Triangle 3 Includes: a rich platform for creating quizzes, word clouds, and more, such as *Kahoot*, a platform for publishing additional audio content from *Google Podcasts*, and the *Miro* sharing board.

The effectiveness of distance learning is due to the following factors**:**

- high concentration and self-organization of students;
- professional development of teachers;
- improving teaching methods;
- increasing the computer literacy of teachers and students;
- technical equipment of teachers.

Distance learning allows you to introduce into the educational process innovative creative teaching techniques based on the use of multimedia online technologies.

Conclusions:

Distance learning allows you to create unique conditions for gaining knowledge, depending on the needs of each student. An important condition for the implementation of digital resources is the structuring of the educational process with clear timing.

The combination of electronic resources makes it possible to achieve the highest efficiency of distance learning with high rates of creativity development among participants in the educational process. Also, combining resources allows you to adhere to B. Bloom's taxonomy of goals. [2]

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WHAT IS HISTORY? FROM THE POINT OF VIEW OF A PHYSICIST. PART I

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Abstract. *A new definition of the system is given, a criticism of views on historical determinism is given.*

Keywords*: revolution, intelligentsia, genocide, probability, mechanism*

The revolution

Materials on conflict management (for example, E. V. Burtovaya "Conflictology") and political technologies speak of the obvious determinism of society, although discussions about determinism in history or its absence have been going on for centuries. New discoveries in physics give new impetus to these discussions.

Prigogine states: "In 1986, Sir James Lighthill, who later became President of the International Union of Pure and Applied Mathematics, made an amazing statement: he apologized on behalf of his colleagues for the fact that" for three centuries the educated public was deceived by the apology of determinism based on the Newton's system, whereas it can be considered proven, at least since 1960, that this determinism is an erroneous position." [1].

Already in physics, a researcher is faced with the fact that the former Laplacian determinism does not work even in previously seemingly classical systems, like an ordinary pendulum or billiards. It turned out that there are ranges of parameter values when it is impossible to predict the behavior of the system. Obviously, all sciences, from chemistry to historical materialism, were forced to use the concept of determinism that developed precisely in physics. And this idea turned out to be critically inadequate. Although Marx sharply criticized the metaphysical (mechanistic, transformist) approach in science as crudely objectivist, the general understanding of determinism remained within the framework of the Newtonian approach.

"If we move the weight of the pendulum," Prigogine continues, "not far from its lowest position, then in the end it will return to its starting point —

this is a point attractor. The chemical clock is a periodic attractor. Later, much more complex attractors (strange attractors) corresponding to a set of points were discovered. In a strange attractor, the system moves from one point to another in a deterministic manner, but the trajectory of movement eventually becomes so confused that it is impossible to predict the movement of the system as a whole - it is a mixture of stability and instability ... our environment, climate, ecology and ... our nervous system can be understood only in the light of the concepts described, taking into account both stability and instability. ... Recognition of instability is not surrender, on the contrary, it is an invitation to new experimental and theoretical research, taking into account the specific nature of this world. We just have to say goodbye to the idea that this world is our uncomplaining servant ... We must admit that we cannot completely control the world of unstable phenomena around us, just as we cannot completely control social processes (although the extrapolation of classical physics to society for a long time made us believe this)"[2].

Admitting "instability" is not a surrender of determinism. Because in the same way it is impossible to find out through which of the two holes in the screen the electron flew, if the aim of the experiment is an interference pattern. The electron is arranged differently, not as a particle, and the world is arranged differently, not in the same way as within the framework of the physicalist approach. "Causality," writes Lenin in his Philosophical Notebooks, "which we usually understand," is only a part of the universal connection."

For the overwhelming majority of physicists, qualitative transitions exist only as phase transitions, i.e. fit into the framework of the old Newtonian determinism, although already in quantum mechanics this type of determinism does not work. For most physicists, the chemical form of the motion of matter is reduced to a set of physical laws, living matter is not much different from inanimate matter, a person is not much different from an animal - simply by the degree of complexity. New discoveries in physics, breaking old ideas about determinism, have shaken the tradition of thinking of the physical community, it still considers qualitative transitions to be a kind of humanitarian and philological exercise. In the best case, they recognize the fact of the existence of qualitatively different objects, but, like Hawking, Feynman, Braginsky and others, explain this fact by divine intervention. Accordingly, physicists believe, someday the moment will come, and the Theorist will derive the quantum-fractal-stochastic equation of motion of human society.

But if in physics there are ranges of values of the parameters of a sys-

tem where the prediction of its behavior is in principle impossible, one must try to understand what is the impossibility of using the known types of determinism in the description of social processes. Let's do this on the example of an unstable, unstable situation in society - a revolution. The classical formula "the upper classes cannot govern in the old way, the lower classes do not want to live in the old way" proceeds from the following provisions: 1) the presence of a crisis - for one reason or another (war, senile insanity of the leadership, external aggression, systemic reasons); 2) the impoverishment (or oppression in any form) of the masses above the usual, 3) the exceptional activity of the masses, 4) hegemony in this activity of the proletariat. The third point is special, it depends on a gigantic number of factors, including the level of education of the masses. Ernest Mandel devoted a whole book to these factors (alas, with a lot of significant gaps and errors) [3]. An important point in the theory of revolution is tactics. In 1917, it consisted in the recognition of the revolutionary character of the peasantry and the need for a political alliance between the working class and the peasantry. The most critical moment in the concept is the concept of the avant-garde and the presence of a "subjective condition" - with numerous reservations - of the ruling party.

Alas, since Lenin formulated this theory, practically nothing has been added to it. On the contrary, technical issues, the so-called "technologies", primarily related to the manipulation of mass consciousness, began to be passed off as a theory, starting with "Mein Kampf" and "Prison Notebooks" and ending with modern publications about "colored" pseudo-revolutions. SG Kara-Murza believes that Gramsci created a new theory of revolution, "urban", as opposed to Lenin's, "rural", while claiming that "Gramsci denied such mechanistic analogies that are attracted by historical materialism" [4]. In fact, Gramsci, in his Prison Notebooks, did not change anything in Lenin's concept of revolution. He only included a layer of the technical intelligentsia in the proletariat, and he placed this enlightened layer as the hegemon over the working class. Gramsci was not alone, but in this he did not invent anything new either.

Kara-Murza states: "The theory of the Gramsci revolution is being developed by many authors, even textbooks are written on its basis. These include, for example, J. Sharpe's book From Dictatorship to Democracy. Conceptual Foundations of Liberation ". It was published in 1993 and is a textbook for the activists of the "orange revolutions". The doctrine of controlling the consciousness of the masses and the ideology of exporting democracy underlying this text have clearly manifested themselves in the Georgian and Ukrainian events that have already taken place ... In the

logic of Gramsci's teachings, the hegemony of socialist forces in the USSR and the countries of Eastern Europe was undermined in the 70-80s ... Mass "molecular" aggression into consciousness was carried on continuously and undermined the cultural core. "It is impossible to carry out and even prepare a revolution by learning phrases at demonstrations, phrases like" we love you "or methods of group resistance to the police - if there is no soil in the country, that is, there are no objective conditions. But the collapse of the system in the USSR is not a revolution. demonstrations and rallies, nor the procession of miners to the capital, could not have had much influence if the government, represented by the CPSU elite, as the most organized force, would not itself be interested in a coup - to legalize itself as a government by converting capital in the form of an administrative function into capital in the form of money.

As for the "orange" revolutions, the so-called "molecular aggression" is just an external expansion using the "fifth column", known since the time of the conquests of Tutankhamun or old Scotland. The powers-that-be always have more means for "molecular blurring" than the opposition. Therefore, no amount of "molecular aggression" from below can prepare a revolution. But it is possible to establish a farce if the "molecular aggression" is well paid from the outside. So, in 2004, in Ukraine, the US State Department paid Yushchenko's supporters $ 300 each, and Yanukovych paid the miners $ 40 each. Obviously, such an expansion cannot be called a revolution either, and its technologies can be used as a predictive method, which is a mechanistic approach, against which Prigozhin objects - together with Marx, Engels, Lenin.

What other approaches, besides Sharpe's textbooks, are there to the formation of a predictive apparatus in history? Maybe some kind of theory of uprisings, because revolution is one of the variants of uprising? Alas, there is no such theory. Although the name is there. For example, Bergflet's theory of uprisings. According to Bergflet, "there is no essential contradiction between the Marxist and the purely liberal understanding of production. Marx only considers the question of distribution differently than the capitalist economists, and the problem of production itself is not touched upon by either side. In this regard, Bergflet writes: "Marxist criticism of political economy remains a captive of capitalism, since it (like capitalism itself) is based on the assertion of the unlimited development of productive forces, both technical and scientific, as well as on the radical exploitation of natural resources, which logically follows from development of productive forces. It is precisely because of this fact that all systems that actually existed until recently, based on the teachings of Marx, did not represent

any genuine alternative to capitalism. Their "socialism" was actually just a kind of "state capitalism"[5].

Bergflet correctly defines the social system in the USSR, but traditionally confuses Marxism and "A Short Course in the History of the AUCPb". It was from the point of view of Marx and Engels that the system in the USSR was state capitalism (see, for example, "Antiduring"). It was Marx who repeated Adam Smith when he spoke of the monotonous, stupefying, depersonalizing labor of the worker.

How does Bergflet himself understand production? "In isolating the fundamental principles of anti-economics, Bergflet refers to the concepts of Georges Bataille, his intellectual teacher. Bataille in his fundamental work "The Damned Part" formulated a completely new approach to the study of the problem of material production in human society and its initial motivations. Bergflet summarizes Bataille's ideas in the following words: "The fundamental discovery of Bataille is that all traditional societies exist by squandering surplus in ritual or festive procedures." That is, Bergflet and his teacher Bataille have a *feudal-slave-owning* understanding of production, and it makes no sense to take Bergflet's "teaching" seriously about insurrection as classless.

According to Bergflet's plan, "the uprising should be aimed against the most powerful force, radically hostile to the element of life. In the face of the enormous lethal potential of our era, the Rebellion should not be distracted by pseudo-problems such as the Marxist class struggle or the trade union struggle for cash. " Bergflet protests against technocracy, which destroys the surrounding nature, but does not notice what Marx saw: technocracy destroys human nature. For Bergflet's man is an abstraction, while the conveyor belt destroys the nature of a very specific class - the worker.

We find the "general theory of uprising" in the book of the conspiracy theorist Alexander Dugin. There is no theory in it, there is a remark that the origins of aggression are in the desire to expand one's capabilities at the expense of someone. In pursuit of the divine.

Dugin does not understand that for a socialist revolution as an act of aggression, the expansion of opportunities due to the bourgeoisie (redistribution) is of an auxiliary nature, its goal is to "shed the snake skin", the transformation of the working class from a class-for-itself into a class-for-other, disappearance of not only the bourgeoisie, but also the working class.

It is obvious that Dugin considers development only in an extensive plan, for him, as well as for physicists, there is no qualitative leap forward. In forecasting, Dugin's "theory", executed in a Nietzschean-existentialist spirit, cannot be used, for example, such a fundamental statement that "a

hammer blow cannot kill, just as it cannot revive the clean morning air full of ozone." The statement precedes the statement that "These fields and trees do not really exist. They left long ago with the dogs torn to shreds. The dogs took them with them, into the funnel of eternity, turning the landscape inside out."

Bergflet and Dugin have something in common. They, like Gramsci, think in a liberal spirit, because for Dugin the most important thing is special people, the vanguard of the hegemon, a kind of "order of the sword" that Stalin dreamed of: "agents of the Inner Continent."

Classes and strata

The Marxist theory was created in the second half of the XIX century. However, already at the beginning of the XX century, it became clear that the social structure of society was evolving somewhat differently than Marx had predicted. Instead of being simplified to two polar elements (bourgeois - proletarians), it became more complex and multi-layered. Political life has also become more complicated. The class model of its subjects began to look too general and simplified, although Marx also pointed out that within classes there are many independent groups (professional, regional) with their own interests that differ from those of the general class. In addition, class analysis explains the change in socio-economic formations, which does not happen every century, and Marx himself wrote that feudalism replaced slavery by no means through class struggle. It is difficult to interpret with the help of class analysis the less global dynamics of political conflicts, the rapid change of political situations within the framework of local historical periods.

Marx discovers tendencies - but these tendencies are not obligatory, rigid.

Therefore, at the beginning of the XX century, American sociologist and political scientist Arthur Bentley proposed the concept of "interest group", which is still used in political and conflict analysis. This concept denotes the unification of people on the basis of a community of interests and actions in a specific political situation. They take on the functions of representing the interests of their members in interaction with political power and, accordingly, are involved in political conflicts. Among such interest groups, as a rule, business associations, trade unions, youth and veteran organizations, unions and societies of farmers, scientists, culture, religion, environmental, feminist and other movements and organizations. According to A. Bentley, the interaction of such groups and the state is the core of the political process. Moreover, even the state institutions themselves can be regarded as an official group of interests. Therefore, they should be

considered the real subjects of political activity and conflicts in this area.

Ultimately, politics is a way of reconciling the interests of various social groups in conflict. In their dynamics today, two oppositely directed tendencies are noted. The first, more traditional, is expressed in the consolidation, aggregation of political interests by two or three leading political forces. Soberly assessing their real opportunities to break through to power, relatively small interest groups consider it good to support one of the powerful political groupings that have real power. In this case, a small political conflict is, as it were, absorbed, dissolves into a larger one, which in principle contributes to the stability and stability of the political system as a whole.

Another trend in the modern dynamics of political interests has the exact opposite meaning: it consists in the diversification of political interests, that is, in the growth of their diversity and the increase in points of intersection. This is explained both by the "loosening" of the former rigid social-class structure, and by the growth of "heterogeneity of the spheres of life" (R. Dahrendorf's term). The latter means that more and more people find themselves in situations where certain common interests in one of the spheres of life (for example, interest in preserving the environment) can coexist quite peacefully with the difference of interests in other spheres (for example, labor). People no longer consider themselves rigidly belonging to any specific socio-political group, but change their "orientation" depending on which of the many problems seems to them to be the most important today. All this, of course, complicates the overall picture of political conflicts and makes it multidimensional.

Thus, modern interest groups are quite justifiably recognized as real subjects of political conflicts. But formal political institutions (president, government, parliament) have no less reason to claim this role. Indeed, in addition to group interests, there are also national interests - ensuring sovereignty, security, law and order, the implementation of large-scale economic projects, etc. They cannot be decomposed into group components or, at least, are not completely reducible to them. In addition, government agencies, despite all their social and group engagement, still have to perform arbitration or mediation functions in resolving conflicts between competing groups. Indeed, even within the dominant groups, contradictions may arise (for our exporters, for example, a cheap ruble is beneficial, and for importers, on the contrary, an expensive one; both of them will not fail to lobby their interests in state structures). Moreover, contradictions and conflicts can arise within the state structures themselves (a clash of the executive and legislative branches of government, for example). So, political institutions should also be recognized as full subjects of political conflicts.

It is argued that in the middle of the XX century, the dominant stratification order was based not on classes and private property in the sphere of production, but on the state and various organizational systems (corporate, professional, municipal, etc.). Accordingly, the nature of intergroup conflicts has changed: they have become smaller, but more diverse. The subjects of conflicts are more and more groups not only "social", that is, created on the basis of belonging to a social and professional category, but also target or initiative groups, that is, uniting people in accordance with a specific task that they solve (environmental, consumer, human rights). The unevenness of the social development of the modern world adds to the diversity of the fabric of intergroup conflicts: in some countries, conflicts of the traditional type, determined by class and even tribal structures, prevail; in others, more "advanced", new social movements set the tone.

In fact, all "target" conflicts "are imposed and are designed to channel class conflicts into a channel that is safe for the authorities. The theory of strata reduces the number of attributes of a social group, moreover, it throws out the most essential - the attitude towards the means of production.

Different determinism. Lack of revolution

The standard comparative method in the scientific community was not used in the most interesting place: a comparison of the revolutions of the late XIX and early XX centuries. The pioneer was the engineer of the Yaroslavl Engine-Building Plant N. N. Kovalev, who in 1986 led the first major legal strike in the history of the USSR against black Saturdays and Sundays, which did not end with repression. His brochure, published by samizdat in 1989, did not find a reader.

Let us compare the development of the understanding of determinism in the natural sciences with the understanding of determinism in history.

Today, the opposite question is relevant: not why revolutions occur (we do not consider theories of the origin of social conflicts due to magnetic storms or original sin), but why they do not occur. In [6], well-known historical examples of the passivity of the masses with a sharp increase in oppression in various countries are given: "The British deliberately ruined the Indian textile industry of a competitor of British textile workers. As a result, in 1769-70, famine broke out in the main center of Indian cotton production in Bengal, which took away a third of the population - 7 million people, and according to other estimates, all 10 ... In the 80s - 90s, the tragedy in Bengal repeated itself and died out of hunger already half of the population - 10 million people Since the beginning of the nineteenth century, as the power of the British spread throughout India, mass famine has become common-

place in the country. According to British official data in British India, 1800-25 1 million people died of hunger, in 1825-50 - 400 thousand, in 1850-75 - 5 million people, in 1875-1900 - 26 million people ... not counting small local episodes or the "holy Islamic war" of the Indian Wahhabis (started in 1823), ... the first serious act of resistance from ... the Indian population was the uprising of the Faraisites in Bengal in 1823, 60 years after the start of the mass famine. ... the Indians dying of hunger were not at all Buddhists, who fundamentally denied violence, but followers of Hinduism and Islam - militant (in comparison with Christianity) beliefs. ... However, since 1838, uprisings in India began to flare up regularly, in 1857 the famous uprising of the sepoys began, which turned into a national one"(p. 33).

Another example: "The first massive artificial famine was organized in Ireland by the British in the XVI century. It was the result of the tactics of ousting the indigenous population from the lands belonging to them, which was carried out in the form of military operations: the British destroyed crops, stole livestock, robbed property, burned buildings, physically exterminated those who did not know (or could not) escape to the forests and mountains. ... The extermination of the Irish by starvation lasted two decades before the first major rebellion broke out ... of the northern clans led by Shan O'Neill (1559-67). True, since that time, the uprisings in Ireland followed one after another, and in the XVII century a nationwide Irish uprising (1641-52) even broke out, which essentially turned into a national liberation war, which almost ended in victory (by August 1649, when in Cromwell's troops landed in Ireland, the British held in their hands only Dublin and Londonderry). In the XIX century, history repeated itself. After the suppression of the Irish uprising in 1798 .... the British authorities imposed ... high duties on the export of Irish woolen goods to England and abroad and thus destroyed the most dynamically developing branch of Irish industry. ... Workers from ruined factories turned into super-cheap labor ... In 1845, the disease of the potato (the staple food ... of the Irish population) caused famine in the country ... in 1846 the "grain laws" were abolished in England, which caused a sharp drop in the price of bread and prompted ... landlords in Ireland to drive out peasants from the land and reorientation of the country's agriculture from agriculture to pasture animal husbandry. The famine took on the character of a national tragedy. Over the course of several years, over 1 million people died of starvation in Ireland ... An attempt at an uprising led by the "Irish Confederation" in July 1848 failed. Scattered disturbances in the spring and summer of 1848 in Ireland were easily suppressed. The predominant reaction of the Irish was not resistance, but flight ... "(p. 37).

Here, in parentheses, one can note the fatalistic, dialectical attitudes of various political leftists: "The bourgeois revolution in England was objectively progressive ..." Or: "Thanks to Hiroshima and Nagasaki, mankind avoided a global nuclear war ..." Or: "US expansion in Yugoslavia, Libya, Iraq, etc. - a manifestation of objective globalization, "and so on. So, if the starving Irish destroyed Cromwell, they would have acted from the position of backward production? Regression is an inalienable and in particulars (which may later turn out to be decisive) moment of progress, progress is not complete without blood. But the cutlets must be separated from the flies, progress is not identical with regression, the bombing of Hiroshima or Belgrade is a crime.

(An interesting remark from Engels: "I understand that capitalism develops the productive forces, displacing the non-competitive (i.e., not only by force, but also by the price or quality of the goods, B. I.), ... but I don't want to participate in this".)

The flip side of crude objectivism is the idea of society as a mechanical system. Namely: in order to change anything in society, it is assumed that an organized force is needed. Further, the wrong conclusion is drawn from the correct premise: this organization must be a party. Self-organization is replaced by the party, the activity of the lower classes, including in the economy - by voting for the organization. It is understood that this organization has the ability, by pressing some levers, to manage society. Let us even assume that the party is trying to go not ten steps forward, but one step away from the practice of the labor movement. But one way or another - only the party generalizes, but this is not given to the workers. In this case, there is no question of any consciousness. Obviously, the class-party relationship cannot be maintained the same as it was in 1917.

Third example: "According to various estimates, in the process of the conquest of America ... from 90 to 120 million people were exterminated ... with the conquest of America and the establishment, for example, in the Spanish possessions of a stable colonial regime, the genocide of the Indians did not stop. It just took on a different form of classical exploitation ... In Peru ... 100% of the workforce was killed in mercury mines, 80 out of every 100 workers in silver ... It is believed that over 8 million Indians died in the mines of Peru during the colonial period. ... At the beginning of the conquest of Peru, up to 10 million Indians lived on the territory of the viceroyalty, and according to the census of the 90s of XVIII century, there were no more than 600 thousand in them ... Of course ... it was a process stretched out in time and territorially, and the behavior of the Indians is by no means fatal humility. But it is still obvious that the scale of the resistance

of the Indians as a whole did not correspond to the scale of the genocide against them"(p. 39).

Eduardo Galeano wrote about this back in 1971 - in the book "Opened Veins of Latin America". An estimate using the Verhulst equation turns out to be 15 million destroyed using the official data on the initial number of Indians and 103 million using data on the real number.

"The European Middle Ages," the author further writes, "in general was a period of not sporadic, but constant famine. ... But if you read the Russian chronicles, then the same thing there ... According to A. Ya. Shevelenko's calculations, in Europe in the Middle Ages "hunger strikes happened on average every 6 years and often led to catastrophic consequences." In Russia, where the climate is harsher ... happened every 3 years until the XX century. ... In Italy, the XIV century was a century of crop failures, associated with hunger and an extraordinary increase in social oppression, ... burdened by the plague. From 1300 to 1450, the population of Italy decreased from 11 million to 8 million. Life expectancy has declined over the course of a century from 40 to 20 years. ... We ... can count serious acts of resistance on one hand ... the uprising led by Dolcino in 1304-7, the Cola di Rienzo uprising in 1347, the clothmakers uprising in Perugia in 1371, the chompi uprising in 1378, the Tukin uprising in 1386-87. … If we turn to the era of slavery, then the picture there is even more bleak."(P. 40).

The helots' obedience to Sparta is similar to the behavior of their Messenian neighbors. However, the Messenians, like the Hindus, rebelled only a century after the seizure in the VIII part of Messenia by Sparta and the compulsion to give 1/2 of the harvest (the 2nd Messenian War). 120 thousand Egyptian fellahs resignedly died during the construction of the Suez Canal, etc.

Revolution is a type of social conflict. A similar "revolutionary situation" is needed for social conflict. It could be argued that a certain level of development of the productive forces is required for the development of a conflict, which the Indians or Indians did not have.

However, the closure of factories in Russia in 1992, mass layoffs, and a double jump in mortality did not cause any resistance from workers.

On the other hand, accelerated and violent collectivization since 1928, famine in the Urals, Transcaucasia and other regions of the USSR in 1932-1933, together with dispossession of the middle peasants, instantly provoked tens of thousands of peasant uprisings.

It is noted in [6] that the statement "increased oppression leads to an intensification of social struggle" is not even grossly sociological, but simply has nothing to do with science. It is clear that in modern Russia the price

press does not connect, but separates people. Let us add that Lenin's formula for revolution does not work either: the upper classes cannot, the lower classes do not want, plus a sharp deterioration in the position of the masses above the usual. The author is looking for the reasons for passivity in the psychology of the philistine, the philistine, in egoism, which, of course, does not add anything to the laws of history. Of course, each and every generation has a choice, because we are dealing with a human society. However, in the examples set forth in [6], something quite different can be traced: ultimately, uprisings do occur, and the period of their "preparation" - to be precise - self-organization depends, rather, not on the accidental birth of a leader or a leading group, but on technical means communication, uniting production base and other objective factors.

The exalted appeal in [6] to weapons and "subjective efforts" ("... the country has no new leaders and new ideas that could inspire people to fight ... new ideologies are not developed in a couple of years") is traditional for Moscow the public. It leaves aside the practice of the masses themselves (social creativity) both in protests and in the development of an ideology that can arise only from this very practice of the masses, but is not invented by any leader or group of theoreticians. Such a "romantic" approach is an insurmountable wall in front of many researchers.

But in [6] there is a serious confusion: in the case of the Indians and Indians, there is no increase in oppression, there is an invasion of the enemy forces, far superior in technology. Cases of famine or plague are a completely different area, but even here there is no personalized increase in oppression, it is pointless to raise an uprising against the virus or crop failure.

Today there is a necessary process of mastering the mass of property relations from scratch (for more details see [7]), it is impossible to skip it, as they tried to do after 1917 by legal abolition of private property. Not to mention the fact that today not only an armed uprising, but also an all-Russian strike is unattainable for the workers, although there were plenty of subjective efforts. At the same time, despite all sorts of explanations, their classification and some practical conclusions, the question remains of which factors should be considered the main ones at a given point in space-time, which are insignificant, how social dynamics occurs under the influence of these factors and what is meant by social dynamics.

For example, the replacement of historical dynamics by class struggle, which at one time turned out to be extremely productive, means not only the exclusion of relatively independent ethnic dynamics from the integral process, but the reduction of the general to the particular. Evolution is de-

clared a vegetation period, a preparatory period, development is made in strict dependence on the so-called historical necessity ("Darwin needed Darwin was born"). A criticism of this reduction will be developed below. On the other hand, deliberate inattention to the struggle of classes is only an attempt to pass off wishful thinking. Ethnicity has now been supplanted by class, for example, it is difficult to call the events in Nagorno-Karabakh, Yugoslavia or Chechnya national conflicts, these conflicts are not caused by national oppression, the leaders of national groups play the role of puppets in the hands of the United States and its satellites.

However, the use of classical Marxist schemes runs up against the rudimentary nature of the historical method. History as a science, in the words of Mark Blok, is too young, its logic is less developed than the logic of natural sciences or literature. Although Marx (and modern researchers) drew a semblance of theory even from illustrations (for example, "The 18th Brumaire of Louis Bonaparte," which strikingly anticipated the events of 1991 and 1993, as if confirming the method of analogies).

The transfer in the spirit of Freud (i.e. the spread of the ideas of psychiatry to sociology) of the methods of the natural sciences into history also does not determine the historical-mathematical equation, that is, its own, independent logic of history. Although the connection between natural science methodology and social dynamics is obvious, and they interpenetrate (Marx writes that in the future the science of man will include the natural sciences just like the natural sciences, human studies, it will be a single science).

Criticism of the method

It is obvious that the general pattern, which would seem to be visible from a number of examples, can be questioned and requires clarification. The fact is that in [6] the time frame is not limited by anything, therefore, if the degrees of influence on the masses are comparable, then the state of the masses and the conditions in which they were found are significantly different, and in general the events turn out to be incomparable. (In general terms, on the one hand, we have no right to talk about the nature of the protest, having a short period of time at hand, and on the other hand, to transfer macroscopic regularities to a microscale.)

The Hegelian interjection "history repeats itself twice" or Marx's addition "the second time in the form of a farce" is confirmed by events in Russia, the USSR is a vivid example of the cyclical nature of social development with repetitions of the features of feudalism (A.B. Razlatsky, 1975) and the Asian mode of production. However, the idea of cyclicity comes from the scheme of dialectical development from opposition to synthesis, then to

the denial of the synthesized, i.e. to the return on a different level of what was removed in the process of synthesis. First, the sides of the future contradiction are distinguished, then their opposite arises, then its aggravation to a contradiction. In this diagram, it is not clear what is the source of the movement from discrimination to opposition and further to contradiction. Also a contradiction? (F.F.Vyakkerev, 1966).

Dialectical determinism assumes that if there is a contradiction in the system (which drives history), then its mechanics - the divergence of sides into opposites and further synthesis - makes it possible to predict. If the system disintegrates in the course of removing the contradiction, then, Hegel writes, there were no forces in the system that kept the opposing sides in unity. Moreover, at what point in time decay or synthesis will occur, it is not known, forecasting in this case is impossible.

B. Porshnev, L. Gumilev, A. Fomenko and G. Nosovsky tried to comprehend the temporal scales of history. (Let us cut off in advance the direction of searches in the spirit of Kozyrev, see, for example, a number of works in [8], trying to reduce physical time to biological processes or to find a special biological time.) If A. Fomenko, despite many mistakes and outrage on linguistics, raised the question of the reliability of chronology (it turns out that astronomical data do not confirm historical data; secondly, if history was rewritten in the twentieth century, then it was previously distorted by the authorities), if Porshnev pointed to the acceleration of history, then Gumilev discovered the structure of history, described by fractals, which describe other forms of motion of matter. (The phenomenology of ethnic dynamics with an assessment of the maximum life span of an ethnos is, of course, important, but the introduced concept of passionarity is akin to the phantoms of caloric or phlogiston). The point is that when the historical scale is reduced, the forecast may change to the exact opposite. For example, a wind direction factor that is not taken into account on a larger scale can change the outcome of the battle (the wind helps the commander to hear the enemy's approach, the troops deploy and repel the attack).

Nechaevism stood aloof both from the social democratic trend and from other social movements. In The Possessed, Dostoevsky clearly distorted the history of the strike at the Neva paper mill (Plekhanov writes about it in a completely different way), but it was nechaevism that manifested itself in the future as a general feature of the Stalinist regime (see M. A. Bakunin's letter to S. G. Nechaev June 2, 1870, where he actually agrees with Nechaev regarding the management of society by a narrow group, [9]). Becquerel accidentally puts photographic plates in his pocket with radioactive samples, resulting in Hiroshima and Nagasaki, not without the help of

the Einstein-Hilbert theory. Obviously, no class struggle would have led to such a result in science.

The situation can be compared not with the lack of model parameters, say, in the theory of catastrophes (such as a fold, where the "parameter" of the photographic plate slowly changes), but rather with supercritical instability: a weak disturbance breaks away from the roughness of the pipe, a vortex, which is maintained due to the type of vortex by the main current, since it is so arranged, the vortex grows and soon becomes the main current itself. Lydia Ginzburg believed that Stalinism was precisely this type of disaster: "Even a child, playing with matches, can burn a city if the city is wooden."

Is this true? Was it possible to avoid totalitarianism by replacing the superstructure with a democratic one, as representatives of the Trotskyist trends think? For example, blood flows through our veins at a speed exceeding the critical one, but turbulence does not arise precisely because of the absence of roughness. However, what scale should the historical roughness be? Is it possible to take into account all their types when gradually refining the search scale?

On the contrary, a larger shot allows you to detect patterns and make predictions that are not visible when trying to take into account absolutely all factors. That is, with a large number of events, it becomes possible to track something in between, just as in thermodynamics we are doomed to ignorance of the trajectories of all particles, but due to their large number, we can determine some average characteristics of the system and find a connection between them.

Obviously, the larger plan already implies generalization. The circle has closed: in order to deduce a pattern, we need to determine the time scale, but to do this, we need to know it. For physics, this situation is standard when it comes to choosing not a scale, but a number of factors: at some step it is necessary to interrupt the reasoning, to limit the problem, and the limitation looks less fair than the objection to it. So, Newton, unlike Giordano Bruno, broke the chain of reasoning, presenting space-time as independent of material bodies, but got a working theory. As far as the choice of scale is concerned, reductionist-finalist concepts are preserved in physics in this respect. In particular, it is assumed that the same laws apply in the models of the early Universe as in the modern world. It is allowed to change the world constants, but the types of connections remain unchanged, the Friedman model is projected onto the era of inflation.

There is another form of reductionism, which runs like a red thread both throughout physics and throughout society. If the moon falls from above,

we are looking for a button with the inscription "destroyer of moons". In physics, nobody knows what a charge is. This is a button that must be pressed to explain a limited number of phenomena (electrodynamics is not meant, but, for example, hypercharge or color). It is only known that mass is a qualitatively different button in comparison with a charge, since it can be split, there is no unit mass, and, therefore, the equations with mass cannot be made dimensionless, in contrast to electrodynamics, where it is possible to measure the charge in the charges of an electron, and the speed - at the speeds of light. There is no button in thermal phenomena either. A charged electron can interact as a unit with a vacuum. You can enter a test charge or mass. But, just as it is impossible to write down the law of conservation of thermal energy (the first law of thermodynamics) in differential form or to connect it through the Hamiltonian formalism with the homogeneity of time or symmetries of space, so it is impossible to represent the heat charge. Caloric does not exist, no hidden parameters or summation of energies will give a qualitative difference between a thermodynamic system and a mechanical one, for example, irreversibility of processes.

According to the definitions given by R. von Bertalanffy (1973), a system is a complex of interacting components, or: a set of elements that are in certain relationships with each other and with the environment. In the standard definition, a system is a set of elements in relationships and connections with each other, which forms a certain integrity, unity.

The definition of F.I.Peregudov and F.P. Tarasenko also adds little: a system is a set of interrelated elements, isolated from the environment and interacting with it as a whole.

In these definitions, the system remains undefined, because these definitions include, except for some elementary particles, literally everything in the Universe, starting with baryons and ending with stellar superclusters. Consequently, the so-called systems approach, systems analysis based on these definitions are meaningless verbiage.

To a certain extent, this approach is brought to life by the development of electronics, endowing electronic circuits, in particular robots, with human qualities - a kind of religion that brings the best qualities of a person outside of a person and places these qualities in heaven. Electronic systems are important for the observer, but from the point of view of the development of the Universe they are not systems, their structures are not distinguished. As we remember, Aristotle, in the spirit of teleology and rain, attributed the goal to moisten the soil for the harvest.

The main drawback of systems theory is an attempt to combine het-

erogeneous spheres that are described by different sciences, while the understanding by specialists in the field of systems analysis that there is a system in physics, chemistry, biology, especially in a society divided into classes, is completely absent, not let alone the fact that these sciences themselves are still far from united.

It would seem that synergetics describes physical, chemical, and biological processes, however, like the theory of probability, it describes only one side of the phenomena. Synergetics distinguishes self-organizing processes, the theory of probability operates with many of the same repetitive events. At the same time, in understanding systems, it is necessary to highlight their functional side - but not in the utilitarian-subjective sense, not for the observer. Substance - system № 1, decaying system, water cycle in nature - a process in a conserved system, № 2, coacervate - developing from simple to complex system, type № 3.

Let's give a new definition: a system is understood as a set of objects that has a SIGNIFICANT quality that is absent in a single one outside the given system (for example, a structure in the sense of G. Birkhoff) in a manifested form, which determines a specific type of functioning.

It is clear that the quality of statistics is inherent in the singular, but it manifests itself only in the system. However, this quality is different from the mass-charge quality. In the system of electrons (or their qualities, for example, spins), it is not a new "electronic" quality that manifests itself, but only the same statistical nature manifests itself. (In experiments of the early 80s, it was proved that Bell's inequality does not hold, therefore, hidden parameters do not exist, although disputes over inequality and the search for hidden parameters continue to this day, if only because of the Einstein-Podolsky-Rosen paradox, therefore, not manifested qualities cannot be hidden parameters.)

And yet, in physics, until now, in many cases, it was decided to repeat the experiment, which in history is present in a very controversial version, only as a comparison of different countries in similar conditions or as a repetition of the same schemes of mass suggestion, which, by the way, often leads to opposite results. (As for the Universe as a whole, which is also unrepeatable, unique, the method of research is the extrapolation of the quotient into the whole, corrected by astronomical data.) But repeatability does not mean anything yet. Analysts at Kommersant-Daily are fond of plotting and evaluating the correlation coefficients R within the framework of regression analysis, even when it comes to detecting some connection between the electorates of various politicians using the R coefficient. Is it legal?

Consider the samples: the sizes of audiences and the average sizes of the ears of students in the classrooms. The machine will plot the dependence and, if R is close to one, it can be assumed that there is a connection. However, R can be randomly close to unity, with a sufficiently large number of experiments the machine will show R close to zero. By itself, the Kolmogorov version of the theory of probability assumes the existence of a stable frequency with an infinite number of experiments. But another example: NMR spectra are taken in the laboratory. A shift in the spectra was found. It can be seen that the more flies in the room, the greater the shift. With a large number of experiments, the machine will show that there is a physical connection between the number of flies and the magnitude of the shifts, the correlation coefficient is close to unity. Although there is no correlation, there is a correlation between the number of flies and the temperature in the room and between the increase in temperature and the malfunctioning of the device.

In the sense of the methodology of science, it is interesting to cite as an example the experiments of S. E. Shnol, carried out over thirty years. Initially, a connection was found between colonies of bacteria, separated by an impenetrable partition, one colony was inoculated with the disease, the second showed signs of the same disease. Then the colonies were smashed - one in Pushchino, the other in Kiev. Then the experiment was repeated with chemical systems. Then with radioactive samples. If the Geiger counters were turned on simultaneously, then the deviations from the Gaussian energy distribution of electrons in Pushchino and Kiev coincided. True, not at all seasons. Attempts by Eidus (Institute of Biophysics in Pushchino) to find a connection with the location of stars or any global atmospheric and geological factors ended in failure.

The existence of a Gaussian and other distributions, as Shnoll himself explains, means the existence of a special connection between objects (some researchers believe that this is a non-physical connection, and statistical physics, therefore, is not physics at all). It follows from the above experiments that there is another connection, which is not described by the apparatus of the theory of probability.

It is possible that Shnol, through many experiments, discovered space-time inhomogeneities in various positions of the Earth in the Solar System, since the theory of probability reflects the symmetry of space, but this is a different matter.

Such a connection is not exclusive: for example, causally unrelated electrons in the Einstein-Podolsky-Rosen experiment turn out to be dependent on each other. The most general formulation was given by Lenin

in the Philosophical Notebooks: "The causal connection, which we usually understand, is only a part of the universal connection." (The reversal of time, the hypothesis of which is considered by some researchers, actually retains the type of the causal structure of the world). The lack of the necessary repeatability arising from the causal structure makes it impossible to formulate the concept of "experiment" not only in biology, but even in pharmacology. Timofeev-Ressovsky said about the same: "Nature cannot be an automaton with a single formula, where a person has nothing to do," about the same Goethe: "In life, it is about life, and not about some of its goals."

Thus, natural sciences indicate that attempts to formalize historical determinism in mathematical form are incorrect.

Laplace's determinism in society

The impossibility of reducing biology and history (Akchurin, seeking in mathematical models suitable for describing biological systems, Bonifatius Kedrov, covering chemistry with quantum mechanics, etc.) or attempts to use the methodology of biology in history led to the revival of sensationalist ideas. A kind of intuitive determinism in the spirit of Bergson reappears, where the phenomenon is understood by ideation (Husserl), or meditation, a process inherent in the teacher (mahatma). An exceptionally strong objection to rational knowledge from the standpoint of materialist dialectics can be found in K. A. Svasyan [15]. Such phenomena as the psyche, the state of a person, partly expressed in art, through which history is manifested, can be comprehended, as Bakhtin believed, only in communication, therefore, in cognition of subjective reality, one cannot in principle do without a teacher.

Alas, predictions based on idealistic ideas, as a rule, do not come true, a vivid example is Spengler's prophecies. The forecasting of the leading economists, Galbraith or Friedrich Hayek, does not justify itself either. The various facts about the ability to predict during sleep are realistic, but they are not history. "Predictions" of Nostradamus, Blavatsky, or modern soothsayers like Paul Globa, invented by the journalists of Edgar Cayce's or Vanga's prophecies in actual fact - media falsifications - in comparison with the impressionist Marxist (phenomenological, based on the logic of communist movements) prophecy, revolutionary Trotsky, who in 1938 predicted the collapse of the USSR.

A number of economic problems can be formulated in the old statistical paradigm, for example, as optimization of the preparation and transportation of concrete in a probabilistic description of the process [10]. Today, models of this type, as well as the theory of catastrophes, are success-

fully applied in local problems of stock exchange games. Previously, the English school of statistical methods dominated in economics (Pearson, Fisher; see also [11]. Today, there are known attempts at computer analysis of options for the development of the industry (Leontiev, USA) and the territorial economic complex (A. Raskopin, G. Kashevarova, Perm). Unfortunately, in their models there is only a certain zoological mechanism of self-development of production, without taking into account social dynamics, and A. Raskopin considers his models not as an obligatory formula for the life of an urban planning complex, but only as a tool for determining a number of options, and understands that the elimination of social dynamics is The criticism of the method is given, for example, in the works of B.G. Ploshko [12], S.M. Sargsyan, G.B. Yuzbashyan [13], B.G. Mirkin [14] and a number of other authors.

Sargsyan and Yuzbashyan note: "Before the implementation of the interregional optimization of the country's development model, it is impossible to determine the closing costs for each type of product for each region. on the bottom ... "(" Identification and formation of options for the dynamic development of the inter-sectoral complex in the national economy "," Integer formulation of the model of optimal territorial planning for the development of the economy of the region, divided into districts "). That is, we have the same picture: for the formation of a model, a limitation is necessary, but for a limitation, a model must be assumed. Try to build a model of the dynamics of the country's economy without the dynamics of the intra-regional one, but the intra-regional dynamics is understandable only if the dynamics of the whole are known. We return to the fact that we do not know the essential factors of historical development.

On the other hand, "the interpretation of the mathematical concept of sampling, writes Mirkin, as a collection of randomly selected objects, is not always obvious and accurate." The point is that "the random mechanism must be modeled by the researcher himself" (p. 217). Mirkin gives an example of an incorrect forecast of the results of the presidential elections in the United States before the war: the opinion poll was conducted using the telephone book, so the event could not be accidental. The fact that the event is not accidental can only be verified after the experiment. Let the sample be random, but testing statistical hypotheses about socio-economic observations in canonical terms of confidence significance levels in many cases does not make any sense (the example of flies, B.I.) ... all the same, the question of the dependence of signs is decided by a willful way.

The key to understanding is not an increase in the number of experiments, but culture, defined as the possession of a physical projection of the

logic of nature. Only a necessary connection, a tendency, makes sense. Understanding this, which, in our opinion, is absent from the developers of evolutionary computer models, allows us to approach a more specific formulation of the problem of determinism in history.

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WHAT IS HISTORY? FROM THE POINT OF VIEW OF A PHYSICIST. PART II

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Abstract. *The form of historical determinism and the conditions for the possibility of forecasting are determined.*

Keywords*: statistics, synergetics, indeterminism, labor, complicity*

Statistical approach

Let's take a closer look at physical determinism in history.

The social system, like many physical systems, is sometimes statistical. Examples of using the theory of probability in describing the mechanism of Mendel's genetic inheritance and the work of a telephone exchange can be found at least in P. Whitl [16]. According to probabilistic laws, psychiatric hospitals are filled, there is a statistical regularity of citizens getting hit by cars (since there is a physical connection, both of them move in the same plane, plus inattention, ignorance of traffic rules by both, drunkenness and those, and others. These are conditions that do not oblige a citizen to get hit by a car. He gets there according to a different law. An accident is the intersection of endless logical chains).

The fact of the applicability of the theory of probability in sciences other than physics, gave rise to the assertion that thermodynamics is not physics in general, like the equation of heat conduction. It has the first derivative with respect to time, while in all other fundamental equations of physics, the second derivative appears. In any case, the existence of the heat conduction equation indicates the identity of time in various forms of motion of matter and testifies against the assertion of the non-physicality of statistics (and also against a special biological time: statistical time and physical time are related by a system of equations, and there are no experimental data where the identity of times would be violated. Although the second law of thermodynamics itself does not have derivatives with respect to time. This point is an obstacle, in particular, in the generalization of thermodynamics and gravitation. Schemes for formulating the second law of ther-

modynamics in terms of the Hamiltonian formalism have not yet yielded tangible results (see, for example, [17]).

Of course, for statistical purposes, symmetry is also necessary, symmetry of space (for example, in order for the distribution to have a maximum of 50%, the coin must be symmetrical). If we try to choose not two, but three or more possible options (or we poorly mix, say, seeds of red and yellow flowers before planting in a flower bed, then they will grow in spots, the size patterns of which are not described by the theory of probability), we get fractional dimensions in p-adic theories. It is curious that the p-adic integral describing Brownian processes corresponds to the *SU*(2) symmetry group. One could try, by analogy with mechanics, to connect the conservation law in thermodynamics with symmetry. However, as far as classical dissipative systems are concerned, the presence of spatial symmetry, which is only a condition for the conservation of momentum, still does not make it possible to use the variational principle.

The problem is similar to that arising in the generalization of gravity and quantum field theory (QFT), in particular, the standard temperature technique in the theory of many particles (see [18]). It cannot be resolved in supersymmetric models either. The gravitational field breaks the spatial symmetry: already in the special theory of relativity (SRT) in the 4-vector of displacement there is an additional time component. The classical theory of probability implies precisely spatial symmetry, for example, the symmetry of a coin toss. Consequently, the gravitational field violates the axiomatics of the theory of probability, and with it the logic of probabilistic determinism and modal logic in general. That is, there are difficulties in using statistical methods already within physics.

If we nevertheless assume a priori that there are a number of periods in history described by the theory of probability (with some kind of spiral symmetry), an event in history must be defined as the preparation of conditions Z and the effect <A> on object H under conditions of Z. Conditions Z should be an order of magnitude more severe than <A> and H: the experimenter should not be able to toss a coin so that it always falls, for example, in tails, i.e. should not know all the reasons affecting the coin, only in this case a statistical pattern will appear. So, roughly speaking, the event

$$E = Z + AH$$

If we know what will fall out, i.e. if we know how to toss, then we are talking about another event. If we talk about the result in an event (heads or tails), then it is necessary to supplement the result X with the method of tossing r, which splits into conditions Z and the type of tossing, which varies (with a machine or hand), therefore, only conditions Z can be consid-

ered. If Z are such that P (X) = 1, then we always have the same result and knowledge about Z is complete. The more knowledge about Z, and from a series of repetitive Z ', Z' ', Z'" ..., more and more identical Z are prepared, the more P (X) tends to 1.It is clear that the difference in Z is limited if we understand by Z a set of state parameters that still need to be defined as parameters of the state of the socio-ethnic system. If the difference in Z is comparable to Z, then we cannot even approximately indicate whether this or that result is possible, based on the theory of probability. In general, we must be prepared for the fact that only a limited number of phenomena are described by probability. "And, finally, since you do not think that every body / Smell and sound emits, then it comes out undoubtedly / That it is impossible to attribute sound or smell to everything." (Lucretius, "On the nature of things", 830). In this case, the concept of probability is meaningless, but this does not mean that there is no possibility of describing an event using other characteristics (quantitative or qualitative) of the random. For example, you can determine: for "approximately" equal, but rather rough (Z (i,j) - Z (m,n)<< Z) and unknown to the experimenter Z in cases of the type of a coin P (X) = 1/2. Moreover, complete knowledge of Z is impossible, however, changing the experiment, recognizing Z, we abolish spontaneity, introduce a monopoly. Thus, returning to [6], in the study, in any case, whether the epoch is described by the probabilistic method or not, it is necessary:

I. Determine the necessary, essential points of Z (conditions). Note the neglect of conditions in Stalinism and Trotskyism. For the former, the dictatorship of the proletariat and socialism are possible at any stage in the development of capitalism; the second complements the external conditions: a world revolution, but the level of productive forces is unimportant, the proletarian consciousness is assumed to be the determining factor. That is, it is not social being that determines social consciousness, but the socialist (dictatorial) superstructure governs social matter.

S. Smith argues that "Marx had no theory at all ... The goal of his forty years of work was not at all to establish a system of ideas that could explain the world" [19]. However, in contrast to himself, he writes: "The followers of Marx ... like the materialists of the XVIII century, presented the social world as a type of complex mechanism, the parts of which interact according to open laws. The revolutionary party knows the secret of these laws ..." Smith does not understand Marxism and identifies it with mechanism, which is the opposite and identity of the Trocist-Stalinist voluntarism.

II. Before entering the data into the table, it is necessary to highlight the assumed necessary connections (which we are going to establish and

investigate). If we have in mind commodity-money relations, then it is obvious that knowledge of Z does not at all cancel the old division of labor. Secondly, the leader cannot know Z, because Z is formed by the entire socio-ethnic system: alienation is universal. In order to more fully embrace Z, the apparatus of owner-managers must grow. Further, in order to preserve himself as an elite, he must stop growth and push out echelons of candidates for managers. At the same time, mediating economic functions and, due to the impossibility of embracing Z, the apparatus collapses. This is exactly what happened in the USSR.

It is obvious that the presentation of history as a struggle of classes, which was the most effective generalization, nevertheless reduces the general to the abstract particular. The class struggle turns out to be divorced from evolution, while in evolution itself progress as an ascent from the simple to the complex and regression turn out to be indefinite. Despite the apparent (due to its extensiveness) technical progress, labor is still partial: professionalism as mastery of logic turns into "professional cretinism" in the process of de-objectification. And not only in the case of manual labor. The programmer begins to think like a machine, which makes it impossible to adequately assess the social situation. Only because of this it is impossible to talk about the coverage of all historical conditions by a narrow social (party) group. (Obviously, we are talking about this type of identity of phenomenon and essence, about which L. Tolstoy said: "In the future, literature will not be needed - life will be more interesting than books." Of course, the description of each atom in a crystal is not part of the traditional science, and this is impossible. However, imagine that each of them is a person.). It is easy to see that the "romantic" understanding of the qualitative transition (Trotskyism, anarchism, Stalinism) concerns only changes in working conditions, changes in social forms, but does not affect the qualitative change in the content of labor. This is the other extreme in understanding historical determinism.

It is possible, of course, to think that the nature of labor is being transformed in an evolutionary way, but in practice modern technologies not only lead to replenishment of the reserve army of labor, but produce an army of push-button workers with the same depersonalization and alienation of partial labor, and also displace skilled labor in service sector with labor degradation.

On the other hand, modern social democratic and liberal currents focus on changing the nature of labor from above, that is, a competent group followed by the masses, while the subjects of history are classes. Therefore, the conditions of the "experiment" are left aside. (We will return to the sub-

ject of history below.) Even Ilyenkov ignored the nature of labor. conveyor, values of the highest order appeared ("Philosophy and Culture").

In fact, it is obvious that the content and nature of labor are related to each other. For example, creative work is not only obtaining something new with the need to define something new. It is associated with the involvement in the management of what is the planning of the whole, the general, in miniature, isolated in the planes of science or art. Or: to overcome the non-creative nature of labor, it is necessary to redistribute social funds.

It would seem that the content of labor rises from the abstract to the concrete, more and more creative. The share of living labor per unit of labor power is declining. The amount of required working time is reduced. But people don't change. On the contrary, the number of victims is growing from war to war, from ecology to ecology. The increasing complexity of the economic mechanism inevitably leads to an increase in the alienation of workers from management (to the polarization of the population, but not to the emergence of a middle class throughout the entire class), despite the increase in the number of workers with higher education in the 80s.

It should be remembered that the contradiction between labor and capital in material form fades into the background after October 1917. Although the upward trend in wages was clearly outlined in the last century, so the classics abandoned the thesis of the absolute impoverishment of the proletariat. It is removed within the capitalist mode of production - after the top could not manage absolutely impoverished workers who could not produce anything but low-quality non-competitive goods. The controversy was resolved through a reformist change in working conditions. And not with the filing of a group of competent economists - the "idea" of increasing workers' wages and improving working conditions and reproduction of labor was prompted by the same October (that is, someone's practical activity).

The contradiction is being transformed, even Bakunin wrote that the privilege of education is enough for the bourgeoisie to maintain its position.

Obviously, the antithesis between the growth of concrete labor and the growth of alienation from management and changes in the nature of labor intensifies to a contradiction. "The upper classes will not be able to," since the apparatus will not be able to cover all the wealth of economic ties, and will be forced to "share," "the lower classes will not want to," since the material form of exploitation in developed countries will soon be finally overcome. Reproduction of labor power increasingly requires a different nature of labor, therefore, overcoming alienation from management in order to change the nature of labor. This, in turn, requires universal higher education, the funds for which are forced out: in Canada, trade unions are

fighting for universal education for workers, in France there are powerful demonstrations against elite schools to redistribute money for a higher level of universal secondary education, in Lebanon in December 1996, the protesters also demanded universal secondary education. The top may not be able to, but they cannot be willing to share. i.e,

III. it is necessary to understand that in the old scientific paradigm (namely: in the conditions of the old division of labor into those who think and those who do) it is impossible to encompass Z. It is only possible, having risen above clearly unknown conditions - after all, every single historical information has been obtained and presented by representatives of individual social groups, but not of the whole society as a whole, which, moreover, does not represent a whole due to the same division of labor, to find some "thermodynamic »Patterns in the past or take a step away from the old understanding of historical patterns. That is, there is no possibility of forecasting.

On the other hand, overcoming the anarchy of social life, we are trying to establish certain patterns, for example, how to live better, more profitably if we follow them, that is, cancel the accidental thing that is called individual independent thinking and action. Let us recall how Labriola, Plekhanov, Lukach and even Ilyenkov understood dialectics: as the most general laws of being and thinking, therefore, pouring out of a bath with water and a child - for a person it is the deviations from the abstract, averaged general that are important, on the contrary, the universal in a specific deviation, which Ilyenkov considered insignificant (see, for example, "Dialectical Logic" or "Art and the Communist Ideal"). Even worse:

IV. as we understood from the criticism of the statistical method, it is impossible to establish a pattern prior to experiment. It is established by will. The actual statistical (mathematical) regularity does not have to coincide with the historical necessary connection. Where is the exit?

About the so-called activity

Either we know how the social system moves, according to some objective laws that do not depend on consciousness, and therefore we cannot influence the situation (fatalism), or we bring something into the system of laws so that we get the opportunity to influence the movement of the system.

What are we bringing? Mathematically not formalized activity of the superstructure, consciousness, will.

The necessary conditions of the revolution are not canceled, the basis inexorably brings the superstructure into line with itself, instead of the world revolution, capitalism is legalized in the USSR.

Lenin, contradicting Kautsky, restricts: the introduction not from the side of the government "going to meet the proletariat", but into the government subordinate to the proletariat. In general, the role of Social Democracy is only to help organize the proletariat. As Marx emphasized: Communists can only ease the pain of childbirth for society, but they cannot give birth for society.

Obviously, the quality of the subjects of history is objective for the revolution - but not the activity of the working class.

If we focus on the primacy of social being, then the subjects of history and individual individuals cannot radically change anything. If the role of activity is reduced to facilitating the childbirth of society, then they can give birth even without active ones. If the appearance of active people in society is a pattern, then everything is natural. Therefore, everything is accidental.

The filling of the dialectical unity "natural - accidental" with the simplest specifics immediately leads romantics to a logical contradiction. The facts are that the old understanding of activity as a scheme "the party that understands the laws of motion the most, gives the program the masses penetrate and follow the program, the party comes to power and makes economic transformations" does not work. That is, it is necessary to reassess not only the role of the party, but also determinism in history - as in the natural sciences. Prigogine argues that the mechanistic understanding of determinism has migrated to all special sciences, and, consequently, to philosophy.

Society cannot take a step without planning, whether the plan is being implemented or not is the second question. Of course, Ilyenkov is right in particular: the most general laws of motion of the external world coincide with the laws of thinking. From the fact that it is light during the day and dark at night, it follows that the world cannot be arranged in any way. We shoot at the Turk, and the Turk is killed because he was hit by a bullet. Naturally, it was only possible to achieve such a brilliant result through long-term social practice. However, it is enough to ask the question: how does the eye form an image of a Turk (and the eye creates a lot of false images before sculpting an adequate one (see, for example, [20]), as well as which part of the Turk's body was hit by a bullet, and we return the previous reasoning, because the distribution of bullets over the target has a Poisson character.

The equation of social movement, including the laws of society, must answer the question of what will happen to the system, taken under certain conditions, after a certain period of time. If we introduce the activity of subjects, the equation should get the future that we would like to see. Then the

inverse problem can be solved. It is necessary not only to determine the initial conditions for the desired future, but to change the real initial conditions so as to get the picture we need in the future.

Here we know at best the method of change, which, moreover, changes depending on the circumstances. Added to this is the expectation that the conditions will "ripen" (either on their own or with the help of subjects) until the moment in time when there is only "obstetrics" left.

Is the problem still correct? For example, in the inverse problem of scattering or heat conduction, when it is necessary to determine the initial conditions from the final result, the solutions are unstable, but they can be obtained in principle. The situation is different in society.

On the one hand, if history is determined in the Cartesian spirit, there is no point in predicting (divining, etc.). On the other hand, if there is an equation of history, and we have received a solution of what will happen tomorrow, and if it is negative tomorrow, then with the available information the subject is able to avoid it tomorrow. So the social mathematical equation is false. History becomes non-deterministic. But only in the sense of mathematical formalization.

VI. Stochastic approach

A. Classification.

1) Laplace determinism: there is a point with initial parameters P (V, r, m, f). The future is derived from the present unambiguously.

2) Probabilistic-quantum: from P, regions of future values (V, r) are unambiguously deduced.

3) Intuitive-prophetic: from communication with something or an unknown way, the future is uniquely determined.

4) Cultural, civilizational (Toynbee), Marx: from the logic of a holistic culture (Marx includes the culture of production) a possible future is determined. Earlier it was assumed that physicists, for example, are not only "spontaneous materialists", but since they own a part of the logic of nature, which cannot be formal, thus also "spontaneous dialectics" (Ilyenkov, "Philosophy and Culture"). It was also assumed that dialectics brings together particular logics (A. Grigoriev, following Bibler et al., Preferred "polylectics", see [21]). Meanwhile, none of the logics is undeveloped, especially biology and history. Regarding the Marxian method, it should be noted that in the last century, the relationship between the subject of history (class) and the superstructure (for example, the party) was determined due to the underdevelopment of production in the spirit of Bernstein-Kautsky (for more details, see [22]). The idea of the last century about the physical impossibility of self-development of the working class, the need to bring the party

(intellectual) consciousness (meaning the consciousness of the external social group) from "situational was raised to the rank of conceptual."

Therefore, it makes no sense to talk about modern unified logic, as well as culturology in its real meaning. The proof of this is the armada of political soothsayers.

5) Cluster approach in sociology.

6) Pluralistic approach. Yu. Olsevich [23] suggests looking for the logic of social science, in particular, economics, generally bypassing the specifics of correlating theory with reality. Proceeding from the fact that opposite doctrines appear in completely identical social conditions, Olsevich declares that "the pluralism of theories is precisely the locator that allows observing the internal multidimensional changeable space of the economic system." That is, pluralism itself is a reflection of reality, although in reality it is "unobservable", pluralism belongs to the elite. The rest of society is dictated by the media.

Olsevich counts Keynes and Walter Euken as his predecessors (Fundamentals of National Economy, 1940). Many theories are being investigated, the discrepancy between theories of reality is being questioned (and indeed the theory is built on the basis of empiricism and reflects the level of social development. Or its side). For example, the degradation of the Russian economy to a raw material appendage of the developed countries, according to Olsevich, should lead to the resuscitation of the parcels of physiocrats.

Is it permissible to ignore the connection between social theory and what really exists - with class interests? To mix into a single operator positions belonging to antagonistic social strata and to consider a specific theory as one of its eigenvalues, projections, which alone are, in contrast to the operator itself, observable?

In this case, the mechanistic understanding of determinism has led to the reduction of social dynamics to the group properties of a number of theories, known only to the degree of proximity of theorists to the elite. But Olsevich's idea is not interesting already because theories are mixed, firstly, dissatisfying practice, and secondly, deliberately built within the framework of the old understanding of determinism, while practice insistently advises us to come to a new one.

The anarchist and neo-positivist Paul Feyerabend argues much more transparently, from different positions and about the same thing (see [24]). The premise of his objection to "methodological coercion" is an objection to scientific bureaucracy: when choosing theories, only non-theoretical motives prevail, just the supporters of one theory by any means defeat the

supporters of the other. Who exactly wins? Who is close to the elite. I.e. we are talking about an objection to liberalism and its identity - Stalinism: "Idealism believes that practice ... is only raw material, which is shaped by reason. Practice is capable of creating in itself the elements of reason, but only in a random and unsystematic way "(p. 470). Secondly, reason is ascribed to a narrow group of persons: "... we are gradually inspired that such theories (ie theories needed to solve social problems, BI) should be developed by specialists, ie. intellectuals; intellectuals determine the structure of society, intellectuals explain what is possible and what is impossible, intellectuals tell everyone what to do "(p. 471).

At the same time, "problems are solved not by specialists ... but by interested persons," while the desired democracy "is a gathering of mature people, and not a bunch of fools, led by a small group of smart people." Therefore, Feyerabend, quoting Lenin abundantly, asserts that "theoretical anarchism is more humane and progressive than its alternatives based on law and order" (p. 142).

Feyerabend, unlike Olsevich, takes as a fact not the manifestation of class interests, but the very dependence of social theory on social interest, considering it as a phenomenon, but takes a step "for the fact", declaring it to be a reflection of the actual development of all science, not only social. Cognition as a whole, according to Feyerabend, is random, the development of science is chaotic. Moreover, he, like Olsevich, uses examples of correct "incorrect" hypotheses, but from the natural sciences. In fact, pluralism or anarchism is a reflection of something very different. The point is that in the course of dialectical development, society is not always at the points of revolution, i.e. in moments of exacerbation of contradiction, integrity (totality, in the words of Berdyaev). The working class of Russia in 1917 represented something unified, while today it is infinitely fragmented - for the anarchic period lasts, the period of accumulation of diversity.

Thus, Feyerabend, despite accurate observations, makes the mistake of denying determinism in history.

7) Synergetic, stochastic approaches, the approach of the theory of catastrophes.

For example, G. Bystray, D. Pivovarov [25], recalling that sociologists are unable to predict and even explain sharp changes in public opinion or the behavior of any social group, draw analogies in the behavior of a statistical ensemble described using the theory of catastrophes, originating from the general theory of systems by A. A. Bogdanov and L. von Bertalanffy. Social phenomena, the authors believe, like synergetic ones, are essentially non-linear, while most sociological models are based on the

ideas of linearity and convexity. The authors believe that "in the methodology of sociological research, the theory of catastrophes and the principle of stochasticity should take their proper, if not leading, place" (p. 159). Of course, one cannot pose a bare problem: there is a method, so shouldn't it be transferred to the area of problems that are not native to him? But synergetics arose as a combination of problems that were not related to each other in physics (billiards, pendulums with friction), chemistry (Belousov-Zhabotinsky reactions) and biology. Quantum mechanics can be viewed as a method of group theory in describing the behavior of particles, and GRT - as a rewriting of Newtonian mechanics in the pseudo-Riemannian metric. Who is stopping the row from continuing?

B. Malinetskiy G.G. in his work "Nonlinear dynamics and" historical mechanics "[26], summarizing the research on this topic, notes that it is impossible to extrapolate the historical trajectory, since" the equilibrium is irreversibly violated. " It is unlikely that the latter can be considered a premise for thought: 1) there are laminar processes in history, 2) if the matter is only in the openness of the system, then sources can be introduced, 3) if the trajectory exists, then we need to talk not about extrapolation, but about finding patterns ... The leitmotif of Malinetskiy's work is obvious. He writes: "With the help of these concepts (historical materialism, the methods of Sartre, Jaspers, Popper; B.I.), it is not possible to build a bridge to the specific tasks that arise before the state and interstate associations in strategic planning ... After the meeting in Rio de "Janeiro, who showed that the concept of sustainable development, shared by the main historical actors, is absent, the need for such planning is difficult to question." I.e., services are offered to any political group. In fact, the concept was absent not only at the 1st "Global Forum" in Rio de Janeiro in 1992, but also at the 2nd in Manchester in 1994, and at the 3rd in Istanbul in 1996 ... For example, in Manchester there were over 1,500 people, of which only 600 were delegates. But Malinetskiy oddly identified the main historical subjects. Until now, subjects have been thought of as social strata or parties, but not their individual representatives.

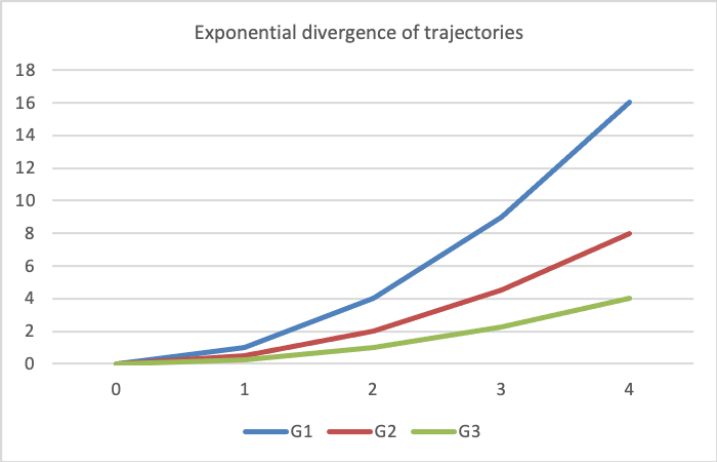
As an argument in favor of the need to develop a unified formula for state (more precisely, party) programs, Malinetskii cites the work of A. Andreev and M. Lewandovsky [27], where "an analysis of the time series characterizing the strike activity ... process and identify the presence in this dynamics of a special period of chaos. "The work, as the authors themselves write, is" the first step in creating adequate mathematical models of the internal mechanisms of the development of social conflicts. "

The statistics of strikes in the Vladimir province from 1895 to 1905 were

studied. The following restrictions were introduced: 1) information is transmitted through personal communication without the participation of professional agitators (but there are workers who become agitators), 2) the constancy of the number of workers employed in production is assumed; 4) in a given locality; it is believed that the Vladimir region was not in the study period in a state of qualitatively accelerated development. The result obtained by stochastic methods is trivial: the authors noticed seasonal activity of workers. V. Ponomarev, researching the strikes of 1988-90 in the USSR, noticed the same thing without resorting to mathematical models), which "makes it possible to supplement the missing historical facts."

Does the repetition of the result by Ponomarev mean confirmation of the adequacy of the method? After all, the conclusion about the localization of the result within the Vladimir province suggested itself. There is no objection to the use of stochastic methods for the analysis of history. But if the climate has changed, or the workers, having learned about the Andreev-Lewandovsky method, decided to change their tactics?

Stochasticity, in contrast to the bifurcation of the transition from one limit cycle (an attractor, an equilibrium point near a pendulum or a circle, or a strange attractor in the three-dimensional case) and from a catastrophe, a sharp change with a known slow change in the parameter, means the fundamental unpredictability of the particle behavior. Small random deviations of the initial conditions lead to exponential divergence of trajectories. Beams of trajectories G1, G2, G3, G0 emerge from the region G0 - the origin of coordinates. Due to random deviations, a particle enters each of the beams with probability P1, P2, and P3, respectively.



Malinetskiy introduces jokers of the region inside G1, G2, G3 with Laplacian determinism. In G0 "the dominant role is played by volitional decisions that lead to paths with probabilities P1, P2, P3."

The scheme is somewhat similar to the one outlined in Mein Kampf. "Society is an amplifier," writes Malinetskiy, "of individual actions and thoughts." The proposed program is enough, and if you are in power, you can change the course of history. Society will strengthen. More precisely, the media will strengthen, the society, like an automatic machine, will repeat. Malinetskiy cites in confirmation the book by Ch. Snow "Two Cultures", where the author writes: "... one of the difficult problems is the selection and promotion of talented, energetic people to lead society at the top of the social hierarchy."

Also quoted is the work of the Trotskyist D. North [28]. North conducted a comparative analysis of the economic development of Spain and England, which, according to North, since the XV century have had similar economic indicators, and came to the conclusion that the organizational structures that "reflected at the time of the emergence of the traditions of society ... the alignment of political forces and the psychological state of the elite "(for Lenin:" the one who explains political actions by the character traits of a politician is a swindler ").

In order for the actions of a politician to be clear to the voter, it is possible to use the spin glass model. It allows one to take into account the influence of the media on public opinion, its polarization and consolidation, as well as provide for mass sobering up when the influence of the media ceases (Malinetskiy quotes [29]). In a word, society is understood as a Cartesian system, which, like Kozma Prutkov's horse, if snapped on the nose, flaps its tail.

In fact, it is obvious that the influence of the media is possible only when the employee is alienated from the means of production and working conditions. In this case, the intermediary between them (capital) is free to substitute mass media fetishes for real relations between people.

In general, the meaning of such theories is obvious: a group of competent people determines how everyone will live. That is, the position of Ortega y Gasset [30], Keynes, modern social democrats, and finally, the CPRF, have been repeated without distortion. Obviously, it is necessary to reject the application of the "new thermodynamics" to the dynamics of society as unscientific, opportunistic.

You can also find a direct discrepancy: in order to get into the most acceptable region G (i), it is useless to write programs, a small deviation must be random, unknown. The main objection to the application of stochastics

to history, in fact to the stochastic plan, is the fact of the collapse of the plan in the USSR, starting with the first and ending with the last.

As for the work of Andreev-Lewandovsky, to a positive example of which Malinetskiy refers, there is a suspicion that the authors, instead of finding new historical facts from extrapolation, threw out of consideration a lot of existing ones: they were based on a more complete analysis of V. Bavykin, L. Borodkin and Yu. Kiryanov strike movement in Russia in 1895-1913.

In addition, the criticism of purely mathematical models is given above and previously given by Mirkin, Sargsyan and Sargsyan. The factors determining the dynamics of strikes and the connection between them remained behind the scenes. The meaning of the work is absent, as well as the meaning of the machine's work to identify the relationship between the number of flies in the room and the shift of the NMR spectra. The authors explain the shortcomings of the model (overestimated figures) by the shortcomings of the source and the need to consider even smaller territorial units (the latter, on the contrary, see above the link to Sargsyan and Yuzbashyan, it is impossible without knowledge of the dynamics as a whole. That is, the explanation is an obvious excuse).

But Lewandovsky and Andreev object to scientism, oppose abstract history divorced from people. "Creation," the Whitehead authors quote, "is the actualization of potentiality, and the process of actualization is an event of human experience ..." It would seem that there is one step to Marx's thesis about Feuerbach (if we add to the thesis a change in history not by philosophers, but by the masses, following Marx's formula: socialism is the living creativity of the masses, and understanding by creativity not only political activity). Unfortunately, they also have a liberal attitude. The authors reduce the analysis of living history to Popper's logic of the situation: "For the historian, the actions, the history of which he deals with, are not spectacles given to observation, but a living experience that he must go through in his own mind; they ... can be cognized by him only because they are simultaneously subjective, that is, they are the actions of his own consciousness."

Of course, the authors would like to formalize historical causality, but they believe that 1) it is impossible to make predictions at a "critical point", since during this period a choice is made between different paths of development; 2) this choice is subjective, depends on one person or subject of history and can be analyzed only within the framework of the specific logic of the situation; 3) only tendencies can be formulated that include many paths.

The unsatisfactory transfer of the ideology of statistics or synergetics

to society is explained by the well-known fact of the qualitative difference between the laws of society and natural science laws. Transference ideologists operate in the spirit of reductionism, although biology is not reduced to chemistry, and chemistry is not reduced to physics.

Let's say a mathematical model should be supplemented by the specifics of the situation. This is the understanding of many Marxists: the general scheme has already been discovered, it remains to fill it with the specifics of the moment. However, how exactly the choice takes place and whether the result is the embodiment of the will of the subject is not explained.

In addition, due to the disintegration of the productive forces, the most productive Marxist scheme has not been overcome, although it is based on the old understanding of dialectics, which brings together the logic of the sciences of a century ago. This is also manifested in the understanding of overcoming alienation by reducing the necessary labor to a vanishingly small amount (Capital, Volume III), to equalization in the form of a change in labor (formal equality), and not by transforming the socially necessary labor itself.

Marx, unlike Popper (or Friedrich Schlegel), could hardly have reduced living experience to "experiencing the mind" or "actions of consciousness" instead of social practice. Or consider the general scheme unchanged. Let's say we supplement the diagram with a situation. If the result of the additive changes radically, then there is no scheme. If it is insignificant, then the Popper addition does not eliminate fatality. Meanwhile, it is not that the additive, but the random deviation from the general contains the essential, these are not small fluctuations over equilibrium, narrowed down to the law. The essence is in individuality, in deviation from the general. The thesis about Feuerbach, which contains the definition of the essence of a person, through the external, like the intersection of social lines, is contradictory, which reflects, rather, not a contradiction in the scheme noted by A. B. Grigoriev, but a social contradiction (Heidegger's "technicalization of the soul" or Marx's depersonalization abstract work as dominant, see [31]).

Marx is forced to state that by virtue of depersonalizing socially necessary labor, the party of the class is made up of representatives of other social strata (see [22]). However, the consolidation of situational thought at the conceptual level logically leads to the same Bernstein-Kautsky scheme: a group of competent people gives a program and forms a government "meeting the proletariat halfway."

This practice has become obsolete today, although the armies of the "active" have not yet realized that in the dialectical pair "class-party" the class is primary, the party is secondary.

On the relationship between changes in social conditions and the nature of work

In the aforementioned work "The strike movement of Russia in 1895-1913. Bavykin, Borodkin and Kiryanov tried to establish a rigid connection between the structure, connections and development of industry and the change in the economic situation of the proletariat. " Although the very posing of the question of the level of economic development is positive - against the Trotskyist-Stalinist-anarchist romanticism with the denial of the necessary conditions for the revolution. Lewandovsky and Andreev move away from this specifics, wanting to distinguish their point of view from the work of Bavykin et al. [27].

However, in general, the mathematical formalization of history, the selection of essential factors run into the following difficulties:

1) Incomplete knowledge of events, from which researchers also exclude conditions.

1a) Lack of acceptable time coordinates, it doesn't matter if we want Laplace determinism, quantum, or whatever.

1b) The rudimentary understanding of determinism already in the natural sciences. The world is not arranged in such a way as to determine the future by owning the initial conditions. This is an incorrect formulation of the question, just as one cannot ask which of the two slits a particle will fly into if we want to have an interference pattern on the screen; a particle is not so arranged as to be considered structureless or with a structure identical to a macroscopic body.

The identification of statistical or stochastic patterns is impossible, because

2) historical and economic parameters are not immanent properties of objects (for example, the value of goods), as mass is a property of a particle. Unlike Toynbee or Gumilyov, Marx analyzed a holistic process, linking political and economic factors with historical ones, although he was far from economic fatalism.

3) For example, in a quantum experiment, the way the device and the subject change (under the influence of a particle) are unchanged. In the process of objectification-de-objectification, the subject of history becomes identical with the object (not in Popper's sense) and changes itself: classes arise and are destroyed.

4) Unlike electrons, which in the system must be identical to each other, despite the fact that individual consciousness depends even on the mass media, not to mention the primacy of production relations, from the beginning of the emergence of society there is a special parameter: the unique-

ness of the "I". The growth of the creative principle in labor (the ascent of labor from the abstract to the concrete) means an ever greater uniqueness of the product of socially necessary labor. But there are no quantitative parameters to measure the uniqueness of the manifestation of "I". Does this mean that the emancipation of labor is a transition to the realm of free will, that is, the disappearance of any social determinism at all?

5) The consequence of paragraphs 2), 3) and 4) is the difference from natural science laws that these laws are objective, independent of the observer (although they change over time). In history, subjects change social laws. A regularity that does not depend on the subject exists only in periods between radical changes in social relations and productive forces.

It would seem that even the history of Peter I convinces of the opposite: nothing significant would have changed if he had not come to power. He only continued the traditional expansionist policy of Russia, and began with defeats in military campaigns in the same way as his rival Vasily Golitsyn, who, moreover, was going to abolish serfdom and allot land to the peasants (see at least [32]). In history, contingency, despite the ridicule of Marx and Russell, hastens after the Hegelian idea and unfolds like a fatal necessity. Is human life really predetermined, as in the physiological example given by Haken: if you simultaneously wave the fingers of different hands, placing them in parallel, then regardless of the will, with an increase in frequency, a jump occurs, the fingers, instead of parallel movement, will move towards each other.

Is Saint Augustine really right in opposing the skeptics who asserted the possibility of only probabilistic knowledge (now we can say - not Laplacian determinism) - no matter that the methodology chosen by Augustine for comprehending the truth is Holy Scripture or divine enlightenment ("Against the Academicians"). The point is in principle: is the world really arranged according to Tolstoy: "the worm gnaws the cabbage, but before it perishes" and "not by our mind, but by God's judgment"? Do I need to judge Annushka for spilling oil? If you do not put the restrictive second "shoe", a train accident can occur. And when it happens, it seems that all the little things begin to play a threateningly fatal natural role. All reasons wind up around one moment into an extraneous contradiction, which is presented as the main one. It turns out that the more holistic the research, the tougher the "primacy of the general over the particular" and the less room for chance. In the limit, infinite wisdom - Sophia - will always give an accurate forecast, and the probability, according to Locke, is just "the appearance of a correspondence based on not entirely reliable conclusions."

It would seem that with ignorance of the laws, everything is accidental,

and, therefore, rigidly regular, fatal. But is it possible to derive historical categories when they have not yet matured in society? For example, Aristotle was unable to deduce the category of value with undeveloped commodity-money relations (see Ilyenkov, "Dialectics of the abstract and the concrete in Marx's Capital"). But this pattern cannot be such as to manifest itself independently of consciousness.

Fyodor Dostoevsky argued most strongly about the existence of a pattern in history.

First - an objection to the law standing above man, even if it comes from God, according to the principle of morality. Alexey Karamazov denies the existence of God (and his law!) If the law humiliates a person (depersonalizes, teaches, etc.) ("The Brothers Karamazov"). The existence of a lawmaker is illogical: "Let the consciousness be kindled by the will of a higher power ... and let it suddenly be ordered by this higher power to be destroyed, because there it is ... it's necessary ... Can't you just eat me without demanding praise from me that eaten me? Will anyone really be offended that I don't want to wait two weeks? I don't believe it; and it would be much more accurate to assume that my insignificant life, the life of an atom, was needed here to replenish some universal harmony as a whole, for some plus and minus ... how every day the life of many creatures will need to be sacrificed, without whose death the rest of the world cannot stand ... but ... if once I have already been given to realize that 'I am', then what do I care about the fact that the world is arranged with errors and that otherwise it cannot stand? " ("Idiot").

In essence, a person is not a "tablet" or "piano keys"; he does not need someone's will (or fate), but an independent desire. Sometimes whim or destruction, and not at all benefits and benefits. Moreover, one can theoretically talk about this problem ad infinitum ("Notes from the Underground").

That is, the next step should be the transition to a thinking and active electron, to changing the law in practical social activity. That is, the pattern can be found only in one's own social practice, primarily political, which corresponds to the Marxian scheme (not referring to bad practice).

Further, Dostoevsky's objection to the already impersonal, natural law follows: "... - Ugliness and chaos are everywhere, madam, you will find," said Lebedev's nephew, significantly, however, puzzled. - Yes, not like that! Not the same, priests, as you have now, not like that! - Lizaveta Prokofievna chimed in gloatingly, as if in hysterics. - Yes, will you leave me, she shouted at those who persuaded her, no, since you yourself, Evgeny Pavlych, have just announced that even the defense lawyer himself announced at the trial that there is nothing more natural than to kill six people

out of poverty, so it really is the last times have come. I haven't heard that yet. Now everything has been explained to me!" ("Idiot"). There is no talk of an objection to fatalism: Dostoevsky, as if on purpose outside of time, confronts objective and subjective causes, systemic and accidental, when the contradiction between them in society has not yet matured.

Of course, we are not talking about imagining free floating in the universe, where any desires are fulfilled, where thoughts create the world. It is necessary to imagine the universe of people with the presence of abstract labor with the ensuing laws. Another thing is that abstract labor, as determining at the level of the universal, must give way to the concrete, creative.

It remains to combine practice with consistent theoretical approximations, to follow Descartes' advice: in order to know, you need to "pass"? Or, according to Feyerabend, "connect reason with practice"? To create the predicted by force, if there is no power to predict before experience? True, but only not in the divided social strata according to Bernstein-Kautsky, but in the same subject of history. There is a prohibition against stealing fire from the gods alone. The point is not in collective creativity (collective intelligence does not exist) or in technical difficulties such as life expectancy, but in the impossibility of cognition by a narrow dependent social group in general.

Secondly, even God (king, general secretary or other owner) "does not foresee the future if we are endowed with will, or he is unjust if we are deprived of free will." (Lorenzo Valla, On Free Will). The prohibition can be formulated in the following anti-Gödel form: it is impossible, being outside the relations of the system, to cognize the system. Let's turn the Marxian thesis about Feuerbach: it is impossible not only to change the world outside of social practice, but also to understand and predict it (Augustine spoke about will, but a separate will is not enough to reveal the essence of man).

The second moment of non-participation, alienation, is a person's separation of himself from his activities; it is obvious that there is a return to animal beingness, "naturalness", identification of oneself with one's activity at a new level, the transformation of man into a kind of thinking-acting superman.) When the contradiction between the need to reproduce labor force in the process of creative production and its impossibility ripens the identification of patterns, in particular, in history can be considered formulated.

It's a paradox, but the mechanics are such that only a soldier can predict the outcome of a war.

P. S. The article was written in 1997, in a truncated form was published in the journal "CLIO" (St. Petersburg, 1998, № 1 (4), P. 16-24), criticism of

the transfer of the philosophy of synergetics to society was given; a few years later, Immanuel Wallerstein came up with the idea of transferring. The article is published in full for the first time.

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DETERMINISM AND FREEDOM

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Abstract. *The understanding of chance and necessity by Kant, Hegel, Spinoza, Goethe, Toland, Soviet philosophers, classics of Marxism is analyzed. The question of the relation of thinking to being is considered.*

Keywords*: reductionism, religion, fatalism, dialectics, practice*

Introduction

In the 60-80s in Soviet philosophy, there was a discussion about the relationship between the laws of various forms of motion of matter. The idea of reductionism was proposed (Akhundov, Kedrov, etc.), that is, the reduction of the laws of biology to chemistry, and the laws of chemistry to physics. Reductionism proved to be untenable. The idea of subordination of the laws of lower forms to the laws of higher forms was also put forward, but it did not find development. Indeed, are the laws of biology, chemistry or physics in a person subject to his will, can he cancel them? On the other hand, for example, quantum mechanics in entangled states supposedly "cancels" the special theory of relativity, and in black holes - and the general theory of relativity, at birth from a vacuum in a strong gravitational field of pairs of particles, particles are able to fly away from a black hole due to CP-symmetry. But in this case we are not talking about the confrontation of laws, but about the imperfection of theories.

At the same time, the very imperfection of theories indicates a limited understanding of the relationship between regularity and chance, and the inconsistency of reductionism indicates the impossibility of programming higher forms. And this impossibility, as it turned out, is already inherent in physics.

It is obvious that social consciousness is determined by social being; historical experience convinces us of the presence of this connection by thousands of examples. We are talking about both social conflicts and such a social being when manipulation of mass consciousness is possible.

It is worth pointing out that concrete historical connection between ob-

jective reality and the subjective world, which they are so diligently trying to eliminate. Namely: the subjective creative world turns out to be surprisingly not unique, on the contrary, standard, completely determined by market social relations.

At the same time, a person cannot be free 1) from the laws of nature that act "from the outside" 2) from such laws of nature that take place in anatomy and physiology (with systemic quality), as well as biochemistry and biophysics of the organism. In the existing paradigm, in terms of the laws of physics, chemistry and biology, the concrete being of a person, including both himself and him as a system open to society, seems to determine his consciousness.

Is this true? As Epicurus objected to Democritus, it is better to believe in God than to live in such a rigid fatal predestination. Do quantum and stochastic uncertainties give free will, are they related to it?

Attempts are being made to make the laws of the lower forms of motion dependent on consciousness. In this case, the question arises: can any lower regularity be considered a regularity, if it depends on the different consciousness of different subjects. The main thing is different: is the influence of consciousness on experience natural?

Kant's determinism

I will cite one of the Kantian cosmological antinomies.

Thesis: "According to the laws of nature, causality is not the only causality by which all phenomena in the world can be derived. To explain the phenomena, it is also necessary to admit free causality. " Where "free causality" comes from, Kant does not specify.

Antithesis: "There is no freedom, everything is done in the world only according to the laws of nature."

A mechanistic, Cartesian view of human nature was formed even by Locke, in a systemic form - by the French materialists Diderot, Helvetius, Holbach. Descartes (Cartesius) and further Lametrie presented man as a complex machine. Descartes reserved for a person the right to have a living, feeling soul, an incomprehensible substance, La Mettrie delivered a person from it, including the soul in a nature comprehensible in the distant future.

In his thesis, Kant takes freedom beyond the laws of nature. That is, it makes it either a "particle" of an indeterminate deity, or assumes the presence of another extranatural.

Many Soviet philosophers did not go beyond the framework of Kant's antithesis. For example, we are talking about challenging the substantial understanding of activity. Therefore, it is incorrect, because it is impossible

to deduce the materiality of the social process from activity, i.e. able to unfold independently - as the law of inanimate nature - from the consciousness of the subjects implementing it. "... V. Zh. Kelle and M. Ya. Kovalzon," writes Momdzhyan, "are convinced that the concept of activity itself cannot be considered as an initial explanatory material, since activity itself needs to be explained, proceeding from no other substantial definitions, but from the essential connections of the social process itself. ... The authors believe that the materiality of the social form of movement cannot be understood (deduced) from activity as such, since it is a subjective phenomenon of social life, determined by its material factors (social relations). Hence the main argument of V. Zh. Kelle and M. Ya. Kovalzon: "Science cannot make a conscious purposeful activity the initial basis of social theory, because this basis must be something independent of the subject and his consciousness." it contains in itself all the basic processes and contradictions of social life.

The perestroika book "Dialectics of Social Development", published under the editorship of Kelle and D. A. Gushchin at LSU in 1988, also shows a lack of understanding of this problem; it is an eclectic mixture of mutilated Marxism with Western clichés about personal freedom, ecumene, etc. And even the drastic changes in the country in the late 80s added little to the understanding of social laws: economic laws, the laws of the relationship between the basis and the superstructure, the laws of communication between the mode of production and all other aspects of social life, the laws of the relationship between social life and social consciousness (I.I. Matveenkov), political laws, laws of the spiritual sphere, the so-called general laws that do not relate to either the basis or the superstructure, general historical laws operating in all spheres and all formations (V.P. Tugarinov), sociological - the laws of the structure, functioning and development of society (A.K. Ugledov), etc. [2]. 1991-1993 convincingly showed this.

How does Kant himself resolve his antinomy? As an idealist - in the regulatory application of reason. You can be afraid of electricity, but you can build a hydroelectric power station. In fact, it is a resolution into Hegel's conscious necessity, but taking into account practice. In a word, into Trotskyism-anarchism-quixoticism: in order to cognize and free oneself, it is necessary, as Mamardashvili put it in Cartesian Reflections, "to pass".

Hegel's determinism

Let us compare the Kantian point of view with what Hegel says: in its development, chance unfolds as a pattern, in turn, a pattern manifests itself by chance. In categories: the law is essential in the phenomenon. In the definition: "The kingdom of law is a calm reflection of the existing or

emerging world" [3].

Further, in Hegel - "breaking off", in the expression of Lenin, and "twisting" of words and concepts in order to eliminate the absolutized, fetishized understanding of the law. Hegel opposes chance (external to reality) not immediately, but possibility (internal, potential reality). Opportunities are formal (everything is possible that does not contradict itself) and real. A real opportunity is almost the same as a necessity. In turn, the need is relative and real. Moreover, there can be only one real possibility, and not a variety of struggling opportunities (which, as social contradictions grow, are split into two camps). Hence the conclusion: everything that really is reasonable.

For Hegel, chance is only the outer side of reality. But this is just a detail. In fact, randomness is a necessary side of a regularity, "touching" the essence, as shown by stochastics, and in the microcosm - just an essence, as shown by quantum mechanics. Chance is not inherent in limiting consideration of the system. Such an accident, of course, disappears with the expansion of the consideration, it becomes a regularity. Randomness is a property of the substance itself.

I.e. the same event at each point is both random and natural, and not only in the sense of the development of events or in terms of expanding the boundaries of the system under consideration.

Consider, for example, an event such as a person hitting a car. On the one hand, the event looks completely random. It is hard to imagine that the confluence of the most varied little things that led to the catastrophe would be natural. If we deal with the so-called deductive method, with the help of which Sherlock Holmes discovered causal connections between phenomena, we will see, writes Svasian, that the chains of events were chosen by the detective quite by accident [4], which we will return to later. The reason in deduction is depreciated, becomes indistinguishable, coincides with the reason.

However, there is a statistical pattern that obliges passers-by to get hit by cars. Because there is a connection between passers-by and cars: they move in the same plane.

Now we will go beyond the "human-nearest environment" system and expand it with the "cars" system. In addition, we will take into account EVERYTHING in these systems. It seems that in the extended, refined system, hitting a car is inevitable.

For Hegel in the world, "everything is connected with everything" (he was not yet familiar with the special theory of relativity). Next, we need to expand it even more. Let's remember that the Universe can be closed. If

the hypotheses of the multiverse are correct, there is still no way to compare.

What follows from this construction? Approximately the same conclusion as Hegel's: "Blind is a necessity only insofar as it is not comprehended in the concept ..." [5]. And freedom arises as the need is realized. A person in prison is imprisoned. But if he realizes the full gravity of his crime, then, according to Hegel, he will become free.

Spinoza

We return in time from Hegel to Spinoza because it was not Hegel, but Spinoza who brought the mechanistic understanding of determinism to its logical conclusion: "Possibility and chance are only shortcomings of our reason. … If people clearly knew the whole order of nature, they would find everything as necessary as everything that mathematics teaches "[6].

That is: having overcome the dualism of Descartes, Spinoza remains true to Cartesianism.

If Spinoza knew that the Universe could be closed, and that, in any case, its mass is not infinite, he would not have to turn to potential infinity, which a person, clearly, cannot fully cognize, not to mention the actual infinity. For Spinoza, the world contains an infinite number of things. But in order for everything in the world to move with absolute necessity, in the Universe "the same relationship between movement and rest is always maintained", nature preserves "an eternal, lasting and unchanging order" [Ibid., II, p. 514, 88]. And the Heraclitean "you cannot enter the same river twice," and the "deviations of atoms" recognized by Democritus do not concern Spinoza.

One ball moves because it is hit by another, and the other because it was hit by a third, etc., ad infinitum. Not only is a single cause not singled out in the chain of causes (hence, everything is accidental, Spinoza repeats Empedocles). There is also no connection between potential infinity and the singular. The main thing: the cause turns out to be only external, it does not lie in the substance itself.

Spinoza was accused of fatalism, but he fought a different fatalism.

Determinism in theology

I will cite the statement of one of the philosophers of the mystical direction in Hinduism, Ramacharaka (Atkinson): "... karma ... just a connection between cause and effect. ... A follower of Karma Yoga must first of all learn that a person is one of the units that make up the whole mechanism of life or its general scheme. ... We are far from being simple automata, of course, but our interests are connected with the interests of all mankind, and we touch all of mankind at some points. We must willingly put our-

selves at the disposal of a Higher Power and we will make sure that such willingness can prevent friction and suffering. " [7]

Various religions, ranging from ancient Greek mythology (Moira, Tyukhe), ancient Roman mythology (Fortune), ancient Egyptian mythology (Termutis) and the concept of karma and Tao, adhered to the concept that the fate of man and the world is a foregone conclusion. Khayyam writes:

You and I are prey, and the world is a trap.
The eternal hunter is hunting us, driving us to the grave,
Himself to blame for everything that happens in the world,
He accuses you and me of sins.

This is how the world and the followers of Ibn Rushd understood the world, but determinism for them is not from God, but in nature, and since man is natural, his thinking and actions are rigidly determined, therefore, there can be no talk of any sin. (Curiously, for the Alawites or the Ismailis, on the contrary, free will is unlimited.)

In one of the teachings, the rabbi points out to his disciples a leaf that fell from a tree on a hot day and sheltered the ant from the rays of the sun. The rabbi claims that the Lord even cares for the ant. Although Maimonides bequeathed to recognize the existence of free will.

Nikolai Gogol was convinced that his fate was in the hands of God, but not doctors, and therefore refused to receive treatment: "If it pleases God that I still live, I will live ..." Theologian and historian Kartashev writes that Gogol "is repentant he rejected everything fleshly and starved himself to death in the exploit of spiritualism"[8].

In the views of Thomas Aquinas, fatalism reigns: not only man, but all things move at the will of a higher being.

For Luther, mechanistic determinism is absolute, free will is fiction.

The theologically-minded writer Clive Stays Lewis provides the reader with a mixture of subjective and objective idealism. On the one hand, he repeats Mach: "... we are not able to know anything, except for momentary sensations." He also repeats Kant: "you cannot grasp nature at all, you can only approach it, and even then not too much". On the other hand, it recognizes a person's ability to cognize the external world, but not in a scientific way. [9]. So, Aristotle believed that the soul is a property of the body, but denied this to the mind, according to Aristotle, mind is not the entelechy of the body, thinking is not the implementation, not the function of any human organ. Although even the Pythagorean Alcmeon considered the brain as the organ of thinking (today we can add that thinking is a somatic process as well). Of course, as a materialist, Aristotle recognizes that existence is thinkable, nature is displayed in a person, like a coin is imprinted on heated

wax - therefore, being and thinking are identical. At the same time, Aristotle considers form to be primary.

Lewis ascribes to materialists-"natural believers" a lot of inadequate statements: "... no consistent naturalist can recognize free will". One thought becomes the cause of another because we see the foundation in it, he writes, denying that the connection between thoughts, the logic of the connection of thoughts is conditioned by the logic of the external world.

Lewis defines the writer (Dickens) as the creator of what is not in nature, his characters are only in the mind of the creator. For Lewis, there is no connection between Dickens's characters and nature. Lewis assigns the connection, logic, orderliness between human feelings, between natural phenomena to God and even considers quantum mechanics to be something extranatural [ibid., P. 155].

At the same time, not only Lewis, all idealistic philosophy rightly saw in the "dialectical" mechanism the weakness of the position of the materialists. She opposed the necessity of a *changeable* world, but completely subordinate to the laws of nature, not freedom of will, but freedom of choice. This is a tendency in modern religions, and an opportunistic one. In fact, the choice itself remains predetermined, ignoring the given choice is not encouraged. Of course, you can think of any activity as a choice. But in this case, emergence disappears, "inner anxiety" disappears, the nonexistence of matter, discovered by Leucippus and Democritus, the world becomes mechanistic again.

Lewis even allowed man to have freedom of choice regardless of God's will.

Otherwise, it would be necessary, following Spinoza, again to mechanically lay inside matter itself, some *activity*, such as charge, spin, or, as for almost all particles, rest mass. It is even possible to lay down a "hidden" parameter, not in the spirit of finalism, but as a kind of potential possibility, on which idealistic thinking cannot decide.

Lewis cannot answer the question of where freedom in a person comes from. How this freedom unites with the material in man and outside of him. Look: as soon as we asked this question, we have already received the answer: if this "from where" exists, we immediately fall into the zone of determinism, the conditionality of freedom by some law of nature.

The ideologeme of choice does not get rid of the mechanism, since it is fictitious. In individual action, thinking does not construct several alternative, competing plans. On the other hand, the choice between two or more slave owners is not freedom.

Goethe and Toland

Opposing theological fatalism, Kant, like Spinoza, substantiated natural fatalism. Thanks to Spinoza, Galileo, Hooke, Newton, Laplace, Huygens, the dialectical Leibniz and many other geniuses, Cartesianism and mechanism spread throughout the world, to physics, chemistry, biology, society, *and individuality*.

Johann Goethe is considered in a sense to be the antipode of Kant - in the sense that, in opposition to the "mathematical" type of cognition, he proclaims intuitive cognition.

Nevertheless, Goethe was the same mechanist as Kant. His "intuitionism" is ahistorical. Here is Goethe's formula: "Nature! We are surrounded and embraced by it and can neither get out of it, nor penetrate deeper into it. …*Its laws are obeyed even when they are opposed; even then they act in accordance with it when they want to act against it*…» [10]

That is - quixoticism is also natural. Thus, we are all programmed, if not by God, then by nature.

Marxism is against crude objectivism, but Marx's objection is not formulated. It concerns only the laws of the social form of movement, to which we will return. Or is there no free will, but it is simply impossible in principle to predict his behavior? For example, in stochastics, at the very beginning of the movement, we immediately find ourselves either in the zone of predictive "determinism" or in the zone of "indeterminism".

But we obviously cannot change the laws of physics, chemistry, biology, we are completely subordinate to them. Even our resistance will be generated by the same laws. But here we find a phenomenon that completely contradicts this subordination: chemistry is not reduced to physics, biology to chemistry and physics, social dynamics to natural sciences.

The question is - what then is the pattern? Is the question correctly asked, is it not itself a reflection of our incorrect, crude understanding of nature, such as, for example, the question into which of the holes in the first screen a particular electron flew in before the interference pattern formed on the second screen? Do we have enough categorical apparatus?

Spinoza did not bother to make even motion an attribute of matter. This was done after him by Toland: "I affirm that motion is an essential property of matter, in other words, it is as inseparable from nature as impenetrability and extension are inseparable from it ... I deny that matter is or has ever been an inactive, dead lump ... " [11].

In Ireland XVII-XVIII, it was not known that, say, an electron has no extension (this would contradict the special theory of relativity, an electron has a spin, it rotates, on the surface of an electron the speed would be greater than the speed of light), that the volume of atoms is basically,

vacuum, all the more they did not know that vacuum is not emptiness at all. Note, however, that Toland has no first impulse, no deism, no God. No party, no order of the Swordsmen pushes matter from the outside. Bernstein, Lenin for a short time (in the only work "What to do"), the generalists of the Stalinist school, and even B. Porshnev in "Social Psychology", returned to the mechanism of Spinoza, they presented the working class as a motionless, unchanging lump, dark, inert matter for centuries. in need of a guide, a shepherd who brings political consciousness to her. Porshnev also absolutizes the role of the leader. As Ortega y Gasset put it in his book The Rise of the Masses, not everyone can rule, but only a special caste of people who "hear the underground rumble of history".

And we see how a person resists this mechanism - absenteeism is growing all over the world, not as a lack of citizenship, but as an objection to useless, discredited parties, as a natural desire of a person to learn about the world, to be different from an animal, to think and act independently, and not by party resolutions.

It would seem that Goethe is an idealist, an "intuitive" mechanist. " But it is Goethe, unlike Schelling, who brings into play the critical category - development. According to Engels, it is an ascent from simple to complex. Stalin adds: from the lowest to the highest. As opposed to transformism, as opposed to the version of the Ecclesiastes cycle implemented today in superstring M-theory.

Hegel, on the other hand, has something with which to correct Hegel.

For example, billiards with friction is a system where not only Newton's laws, but stochastics apply. The point is that small deviations from the initial conditions, even in classical systems, can lead to large deviations from the final design point. These deviations of the initial conditions can produce *random* perturbations, fluctuations. I.e. you cannot write an equation of motion that will unambiguously indicate the destination.

But we don't need to know if the deviation has occurred or not. After all, we are talking about determinism, causality, we can imagine a similar calculation of fluctuations. And so on to the quantum level, where the coordinate and momentum cannot be determined exactly at the same time. Nature is such that, trying to define it, we misunderstand nature, we ask the wrong questions.

In an experiment with interference, we fire electrons at a screen with two holes. There is another screen behind this screen, and an alternation of maxima and minima of the electron density appears on it. If we install a device that detects which hole the electron flew into, the interference pattern disappears. One maximum arises, the usual probability distribution of

the electron density. Soviet philosophers at one time had a sharp rejection of such determinism, the "materialists" argued that with the development of science, mankind will know into which hole the electron flew. The impossibility of "knowing" and such an understanding of causality is incorrect because we proceeded from an *unshakable*, *unchanging* substance, and in Hegel's dialectic, due to immanent "inner anxiety," it changes from itself, not only under the influence of the external.

Social form

As we found out above, Hegel was mistaken in taking out the source of chance outside of substance. That is, I considered only one manifestation of randomness. Secondly, his understanding of freedom is contemplative, he ignores material historical practice. Historical materialism addresses it.

"Since Marx," Heidegger writes, "by comprehending alienation, penetrates into the essential dimension of history, the Marxist view of history surpasses other historical theories. Since, on the contrary, neither Husserl nor, as far as I can see, Sartre recognize the importance of the historical aspect in being, to the extent that neither phenomenology nor existentialism reach the dimension within which a productive dialogue with Marxism becomes possible for the first time "[12]. That is why Lenin asserts: practice is higher than theory.

Is this assertion a return to Kantian regulation, to the use of regularity either for good, or for evil, or not? Does not the will, the individual "I" disappear at the same time?

The difference between the laws of the social form of motion of matter and the laws of physical, chemical and biological forms is obvious. The point is that parameters such as, for example, value are involved in the "mechanics" of society. But, unlike mass or charge, value, as Marx noted, is not an immanent, intrinsic property of a commodity. It is contained only in the heads of people. Accordingly, all social laws, as Engels wrote, are realized only through people, through their will.

Nevertheless, Marx, like Hegel and Kant, in their assessment of the laws in history proceeded from the Cartesian, Newtonian picture of the world, since there was no other. And only in the last quarter of the 20th century physicists apologized to the world community for misleading the world community with their mechanistic picture of the world.

In 1986, Sir James Lighthill, who later became President of the International Union of Pure and Applied Mathematics, apologized on behalf of his colleagues for the fact that "for three centuries the educated public was deceived by the apology of determinism based on Newton's system, whereas, at least since 1960, that this determinism is an erroneous posi-

tion "[13].

Quantum mechanics, synergetics (stochastics, theory of singularities, theory of catastrophes) dictate quite rigidly the need to take a step forward from the materialistic understanding of determinism in history. It is about the opposite: to make the latest discoveries in the natural sciences the property of historical materialism. Such an agenda was formulated in 1995 (see, eg. [14]) several years before Wallerstein.

Moreover: it is necessary to understand what follows from the "non-materiality" of social law. So far, it is clear, at least, that the variability of the material social law is qualitatively higher than in quantum mechanics or stochastics - for the indicated reason of its existence only in the minds of people. After all, material conditions by themselves (tools, objects of labor, etc.) outside of society do not produce any laws. Under the perverted form of the tendency in physics to the primacy of geometry (see, for example, Wheeler's Geometrodynamics), one should see the need for a greater understanding of the ideal, the subjective.

How does social law work? For example, the operation of the law of supply and demand, as noted by Ricardo, is limited by a monopoly. Including monopoly (as in the USSR) limits the game of the law of value, for example, in relation to such a commodity as labor. The limitation is also imposed by the institution of life employment legally introduced by the state - in Japan, until 1991. Even this or that activity of the trade unions, as Marx emphasized in Capital, modifies the law of value.

Hobbes wrote that a person's "choice" is just a random combination of certain feelings that do not depend on the person. Following Hobbes, Marx states in the theses about Feuerbach: personality is the totality of social relations.

Schelling, constructing God from the categories of being, essence and existence, defined the essence of God as identity with being, the ability to contain the basis. And the existence of God is in distinction from the basis (see [15]). It is easy to see that in Schelling's definition Marx put man instead of God, and social being instead of abstract being.

It remains only, as if, in social life to distinguish between class-in-itself and class-for-itself, so that the "destruction of the working class" would lead not to disintegration, but to synthesis - "human society."

"The material of labor" (Engels) is not only "everything that exists", but man himself. This forms in him a non-biological need for labor (satisfaction of biological needs is a condition), if labor is creative, and the need to avoid labor (Marx), if labor is depersonalizing.

The contradiction lies in the division of labor, the driving force is the

need to move away from depersonalization (for example, the strike in the United States against the conveyor system in the late 60s) and the need for creativity, which is limited by existing social relations. Both of them to this day are not manifested at the level of the universal.

However, it is clear that the definitions of Hobbes-Schelling-Marx are at the same time the essence of the definition of the social form of motion of matter, higher in relation to the lower, and any. For an individual, on the contrary, the definition should be inverted: the s i d e (not two or poly-essences!) Of essence - in *distinction* with activity, with social relations, and existence - in identity with social being.

Just a side - because the phenomenon of human uniqueness is still not revealed. And it cannot be revealed.

The point is not only that human creativity within the framework of dominant idealism is ontologically understood as a manifestation of the supernatural. In this case, life exists forever, it is she, as the highest form, in the spirit of Augustine that determines time (duration, according to Bergson), and the relation "subject - object" is understood in a finalist way, identical with the present historical moment.

Disclosure of uniqueness through "awareness of oneself", through self-awareness slightly adds to the distinction of human uniqueness (especially since self-isolation, the ability to self-organize exists not only in social, but also in biological, chemical and even hydrodynamic systems, which is described within synergetics by nonlinear equations of the Hadronov type).

The impossibility of disclosure is associated at least with the absence of phenomenological material in biology, where the difference between living matter and inanimate matter has not yet been comprehended, that is, the *previous* step has not been completed.

It is only clear that the uniqueness of the "I", which can influence social laws, but is unable to change the laws of its basis (they, if they change, then independently), is essential and cannot be understood within the framework of social, biochemical or physical determinism.

The second aspect is not freedom from the laws of nature - the impossibility for a person to change the laws of nature. Which, as indicated in the introduction, is being questioned. On the other hand, the inconsistency of the concepts of reality is emphasized. But this discrepancy is a law that by no means puts a ban on the scientific approach. "The approach of the mind ... to a separate thing, making a cast (= concept) from it *is not* a simple, immediate, mirror-dead act, but a complex, bifurcated, zigzag-like one, which includes the possibility of fantasy flying away from life; moreover: the possibility of transformation (and, moreover, an imperceptible,

unrecognizable transformation by a person) of an abstract concept, an idea into a fantasy ... For even in the simplest generalization, in the most elementary general idea ... there is a certain piece of fantasy.)"[16].

"The most decisive refutation," writes Engels, "of these, like all others, philosophical quirks lies in practice, in experiment and in industry" [17].

"The question of whether human thinking possesses objective truth," emphasizes Marx, "is not at all a question of theory, but a practical question. In practice, a person must prove the truth, that is, the reality and power, this-sidedness of his thinking. The dispute about the validity or invalidity of thinking, isolated from practice, is a purely scholastic question" ("Theses on Feuerbach").

At the same time, the question of the conformity of concepts to reality is by no means idle. Each concept is internal contradictory, it cannot be considered statically, the manifestation of the contradiction of the concept in scientific practice is a sure sign that the content of the concept will be replaced by a qualitatively new one.

If a person is a set of social relations, this means that a society consisting of machine people is doomed to follow its unchanging laws. In this case, a person acts as an abstract point of intersection of social lines, the word "concrete" does not distinguish a person with social relations.

The source of fatal predetermination is the dominant abstract content in labor, which also limits concrete labor.

Identity of thinking and being

It means that thinking reflects the external world, corresponds to it, that is, the world is knowable. Objective idealists also agree with this.

Let's note the obvious points. Of course, 1) thinking is ideal, therefore it is opposite to being; 2) thinking is not only abstract, but also intuitive.

At the same time, thinking is not identical with being in the literal sense. Landau and Peierls proved theoretically that two-dimensional crystals cannot exist because they are unstable. However, the experimenters then created graphene.

But cases of non-identity are natural. Consequently, the non-identity of thinking with being also has a general character.

For example, Ilyenkov, understanding law and determinism fatalistically (like Labriola, Plekhanov, D. Lukach, Stalin or Trotsky, but not Marx or Lenin), did not see the general content in the "insignificant" deviations, in their specifics.

But that's not all.

Thinking is not simultaneously identical with being, not in the Kantian sense of the thing-in-itself, not in the sense of imprecision (subjectivity)

and not in the sense of ideality. In any process of abstraction, a new content arises, which both includes reality and does not include it, instead it includes something that does not seem to belong to reality. The classical equations of motion make it possible to predict reality, but they contain the reversibility of time and "travel to the future" that do not exist in nature. Namely: in those processes of which they are abstracts. Delayed and advanced solutions in these processes have a completely clear physical meaning, but they are a reflection of the deep general symmetry of physical laws. The contradictions that arise in connection with theoretical time travel are the sources of further development of the theory.

Secondly, thinking also reveals what has not yet been realized in the world, what it cannot display - not only actual, but also hidden in potency. Of course, thinking does this on the basis of the previous identity with being. "This supplying disclosure of everything can be carried out only to the extent that a person, for his part, is already involved in the extraction of natural energies in advance. If a person is involved in this, put on it, then does not a person - even more primordial than nature - belong to the being-in-existence? " - asks Heidegger [18].

But in this autopsy, there is something that was not contained in the basis. At least on the simple basis that subjective reality develops not only thanks to objective reality, but also, to a certain extent, independently.

Consequently, free will exists and is realized in thinking. And in activity?

Conclusion

Of course, free will is not something that is excreted, like the liver is bile, at the same time it is not something extra-natural. It is, like thinking itself, only the presence of a new systemic quality, limited by the lower forms of movement.

At the same time, embedding in the freedom of will in the Procrustean bed of regularity, including the quantum-stochastic one, is an incorrect task. For not just mechanism is limited, but on the whole "causality (causality, B.I.), which we usually understand, is only a small part of the universal connection. [19].

Abstract analysis is certainly important, but it is not the main task.

In science, Marx argues, there is nothing but its practical application. The task is not to explain, but to change the world. The practical conclusion, although trivial, has not yet been comprehended, for example, by representatives of political parties: freedom of will can be realized only when the abstract content of labor ceases to dominate in social relations.

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THE IDEAS ABOUT THE PROFESSION OF "TEACHER" IN THE NAIVE PICTURE OF THE WORLD OF NATIVE SPEAKERS OF THE RUSSIAN LANGUAGE ACCORDING TO THE DATA OF THE ASSOCIATIVE EXPERIMENT[1]

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Abstract. *The research is devoted to the analysis of the "teacher" fragment in the representations of Russian speakers on the basis of associative dictionaries created as a result of a psycholinguistic experiment. It is generally accepted that associative dictionaries, which are a projection of linguistic consciousness, reflect a naive picture of the world of native speakers. As a result of the analysis of the associative field "teacher" in the Russian Associative Dictionary (RAD) and the Electronic Associative Dictionary of the Yenisei Siberia (EADYS), the model of the ideal teacher and the portrait of the "bad" teacher, formed in the naive picture of the world of the native speakers of the Russian language, are presented.*

Keywords: *profession, teacher, associative vocabulary, associative field, associates, "from reaction to stimulus".*

In the context of the intensive introduction of reforms in the general education system, the figure of the teacher is becoming more and more relevant. On the part of the state, the necessary set of competencies is determined by the Professional Standard of a teacher; on the part of society, its requests are presented in relation to this profession. The professional qualities of a teacher are studied by teachers, psychologists, sociologists using various methods and techniques. Within the framework of psycholinguistics, research is

1 The study was carried out within the framework of the project of the Russian Foundation for Basic Research, the Government of the Krasnoyarsk Krai, the Krasnoyarsk Regional Fund for the Support of Scientific and Scientific and Technical Activities in the framework of the scientific project № 20-412-242001\20 "Study of the value picture of the world of the professional group" teacher "of the Krasnoyarsk Krai"

proposed experimentally, by the method of a free associative experiment, recognized by researchers as the most objectified way of studying linguistic consciousness (a naive picture of the world).

The use of such a method as a free associative experiment allows obtaining data on the implicit, hidden meanings of consciousness, in particular, value orientations, the fundamental features of the worldview, the mentality of the people [Ufimtseva, 2015, p. 115-119]. In this case, we refer to the materials of associative dictionaries containing the results of a mass associative experiment.

Objective of the study: to reveal the specifics of the "teacher" fragment in the linguistic consciousness (naive picture of the world) of Russian speakers by the method of analyzing the formal and content structure of the associative field "teacher" in the "Russian Associative Dictionary" [RAD] and the regional database "Electronic Associative Dictionary of the Yenisei Siberia "[EADYS].

In modern Russian, the word "teacher" is defined by the verb "to teach" - the one who teaches.

In special dictionaries, the functions and role of the teacher are significantly specified. Let's highlight the keywords of the considered definitions.

The shortest and, in our opinion, the most succinct definition: a teacher is "a pedagogical worker whose tasks include teaching and upbringing of students, taking into account the specifics of the subject being taught, the formation of a general culture of personality" [Dictionary of psychological and pedagogical concepts].

The key words that can convey the essence of the definition are: training, education, personality formation. Other of the definitions reviewed include some additional keywords: thinker, helping [A Brief Dictionary of Contemporary Pedagogy]; organizer [Pedagogical dictionary-reference book, 2016]; spiritual guide, mediator between the general cultural experience of mankind and the new generation [Fundamentals of Spiritual Culture]; personal growth; a researcher, a sophisticated psychologist, implements innovative processes [Student's Dictionary of Terminology, 2016].

Based on the above definitions, we present a general set of keywords characterizing a teacher as a representative of the teaching profession: 1) teaching, 2) education, 3) personality formation, 4) thinker, 5) helping, 6) organizer, 7) exercising spiritual leadership, 8) an intermediary between the general cultural experience of mankind and the new generation, 9) personal growth; 10) a researcher, 11) a subtle psychologist, 12) implements innovative processes.

We will assume that this list represents the demands of society for the value (axiological) model of the teacher. The axiological and social aspects

convey the idea of value problems from the point of view of "the possibility of predicting the social behavior of people, adherents of certain values, as well as the problem of the formation of value orientations that perform the function of feedback between the individual and society" [Samoilova, 2011, p. 10].

Analyzing the associative field "teacher" in two dictionaries "from reaction to stimulus", we reveal a fragment of the value picture of the world of Russian speakers. It is important to note that the time of creation of RAD (1994–1998) and EADYS (2013–2017) and the EADYS region differ markedly, so we can assume the presence of specific features of regional linguistic consciousness from the data of the all-Russian associative thesaurus [Vasilieva, Vasiliev, Mamaeva, Ustyantseva, 2017, p. 22 - 23].

An associative field (AF) is understood as an analogue of a semantic field, an extensive association of words related in meaning, conditioning and predetermining each other's meanings, reflecting connections and dependencies between elements of reality - objects, processes, properties, therefore, naturally, it includes the vocabulary of significant parts speech - nouns, adjectives, verbs. Each semantic field has a semantic core - a certain concept expressed by a word called "field archilexeme" around which vocabulary is grouped, forming the center and periphery of the field [Zherebilo, 2016]. The ratio of stimulus and response in the associative field (S - R) can be considered from different points of view: formal, semantic, pragmatic, cultural, psychological [Goroshko, 2015]. We are primarily interested in the formal and semantic structure of AF "teacher".

The formal grammatical structure of AF "teacher" is shown in the diagrams.

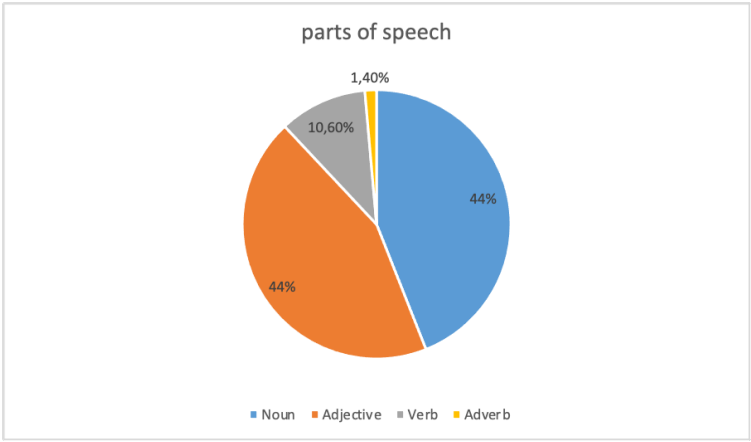

Figure 1. Formal grammatical structure of AF "teacher" (RAD).

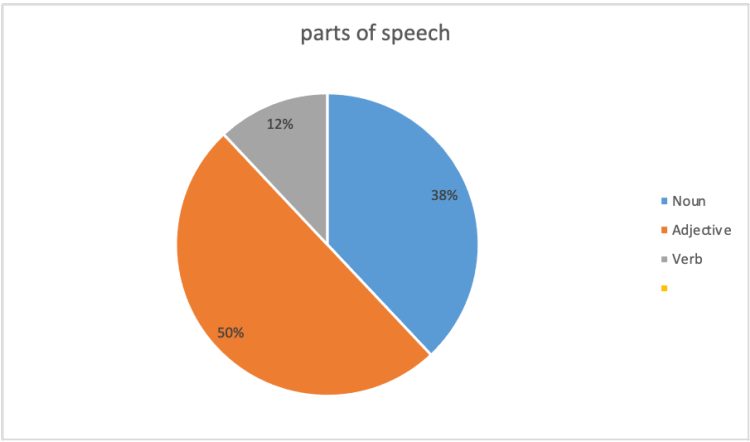

Figure 2. Formal grammatical structure of AF "teacher" (EADYS).

Despite the fact that the name of the profession "teacher" is motivated by a verb, there are much fewer verbs in the structure of AF "teacher" than nouns and adjectives, both in the general Russian linguistic consciousness (RAD) and in the regional (EADYS). It is logical to assume that the naive picture of the world of native speakers of the Russian language is thought of as substantive, objective, including the qualities of conceivable objects.

Next, we will focus on the semantic structure of the nuclear zone (most AF "teacher." The nuclear zone of the associative field is represented by the most frequent associates.

Analyzing the ranking of associates by quantitative indicators, we identify the axiological dominants of the linguistic consciousness of speakers and possible dynamic processes associated with extralinguistic factors (era, social, political and economic situation of a particular time), as well as regional specifics that are relevant for our study [Vasilieva, 2020, p. 32].

The first three most numerous associates of the AF nuclear zone "teacher" can be read as text: in RAD teacher – *strict mentor, tormentor*; in EADYS teacher – *wise intellectual*.

Note that in the general Russian linguistic consciousness (RAD), the teacher is represented as a subject whose action is directed at the object of learning (subject-object relations). In the regional (EADYS), it is an evaluative characteristic of an independent subject who is on an equal footing with the object (subject-subject relationship), emphasizing a high degree of intelligence, culture and professional skill.

In the Explanatory Dictionary of the Russian Language, the word "intel-

lectual" is interpreted with reference to the word "intelligentsia": "People of mental labor with education and special knowledge in various fields of science, technology and culture; the social stratum of people engaged in such work "[Ozhegov, Shvedova, p. 889].

The core zone of the associative field "teacher" RAD (the number next to the word indicates the frequency): mentor 35, future 27, strict 18, tormentor 13, school 12, rural 11, persistent 8, instructor 8, lesson 8, student 8, miss teacher 7, you are 6, young 6, serious 6, cool 5, experienced 5, profession 5, fellow student 5, physicist 5.

The core zone of the associative field "teacher" EADYS (the number next to the word denotes the frequency): intelligent 8, school 7, wise 4, fellow student 4, teach 3, smart 2, you 2, ask 2, chief 2, student 2, master 2, best 2, future 2, laconic 2, authority 2.

In the semantic structure of the nuclear zone AF "teacher" in both dictionaries there are 4 general semantic groups of associates out of 7: **1) identifying, 2) designating the object of learning, 3) time and place, 4) evaluative.**

The RAD nuclear zone associates are distinguished by the fact that they include two more semantic groups that are not in EADYS: **gender** associates (*lady teacher*), **subject specialization** (*physicist*). And in EADYS there is a semantic **action** group (*teach*), which is not represented in the RAD core zone.

There are coincidences and differences in the composition of semantic groups. In the semantic structure of identifying associates, as we have already noted, in RAD the word *mentor* dominates in frequency, in EADYS it is an *intellectual*. In the semantic group, the **time and place** of the teacher's activity, we note the coincidences: *future, school, school*. In addition, in RAD this group is more numerous and supplemented with the words: *lesson, rural*. Note that in the associative field EADYS, the word *lesson* is in the marginal zone, and the word *rural* is not represented at all. As you can see, the concept of a *rural teacher* has left the regional linguistic consciousness, despite various programs aimed at attracting young initiative specialists to a rural school. These are the programs "Zemsky Teacher" [Zemsky Teacher Program], "Teacher for Russia" [Teacher for Russia Program] and others.

The most interesting is the semantic group of **evaluative** associates. This is how teachers imagine the carriers of the general Russian language consciousness (RAD): *strict, persistent, young, serious, cool, experienced*. In the first place in terms of frequency are the definitions of *strict and persistent*. At the same time, the teacher appears to be *young*, *serious* and

experienced. There is also a characteristic with an expressive connotation - *cool*! However, one cannot fail to notice that in the semantic group of identifying associates of the nuclear zone RAD there is a negative evaluative word - *tormentor*. We think this phenomenon requires a comment: firstly, there is a phonetic coincidence of the *teacher-tormentor* verbal complexes in Russian, and secondly, the semantics due to the verb torment cannot be ruled out, that teaching can be understood as torment, and the teacher, respectively, as a tormentor.

The regional linguistic consciousness (EADYS) is dominated by the emphasis on the intellectual characteristics of the teacher: *wise*, *intelligent*; the leading role is noted - the *main* one; speech characteristics - *laconic*; expression is expressed by the superlative degree of the adjective - *the best*, which is supported by identifying evaluative nouns: *master*, *authority*.

It is obvious that the nuclear zone of the linguistic consciousness of native speakers, according to the two associative dictionaries, contains mainly positive characteristics.

The RAD near-nuclear zone is expressed by the following negative definitions: *boring, bad, angry, old, harmful, arrogant, malicious, pompous, nervous.*

The marginal zone (single associates) of RAD includes the following set of negative definitions: *inactive, brainless (colloquial), shameless, formless, sick, arrogant, stupid, deaf, rotten, cruel, frozen, angry, obnoxious, retarded, lousy (colloquial), sneaky, suspicious, disgusting, empty-headed, drunk, nasty, stupid, sick.*

The EADYS near-nuclear zone includes definitions: *insidious, beggar.*

The marginal zone of EADYS is represented by definitions: *arrogant, unpredictable, stubborn.*

As you can see, the negative characteristic of the teacher's image in the general Russian linguistic consciousness (RAD) is presented more vividly in quantitative and semantic diversity.

Based on the associations represented in the nuclear and marginal zones, we will try to present a portrait of a teacher with a negative characteristic, one that causes rejection in society.

Obviously, in both RAD and EADYS, the set of negative characteristics of a teacher reflects the following parameters of the personality of a "bad" teacher, ranking in descending order of associates: 1) **behavior** (*boring, harmful, arrogant, arrogant, insidious, inactive, arrogant, cruel, unpredictable, stubborn*); 2) **intelligence** (*brainless (colloquial), stupid, frozen, retarded, empty-headed, dumb*), 3) **expressive-evaluative characteristics** (*bad, rotten, obnoxious, lousy (colloquial), nasty, nasty*), 4) e**motional and**

psychological condition (a*ngry, malicious, nervous, shameless, angry,*), 5) **health** (*sick, deaf, sick*), 6) **age** (*old*) and **financial situation** (*beggar*).

Thus, it is obvious that not only the set of positive characteristics of the teacher's image is important in the analysis, but also the set of negative ones, representing the teacher's model "by contradiction", focusing on which teacher is in demand and which is not.

Conclusions. Analyzing the formal and content structure of the associative field "teacher" in the "Russian Associative Dictionary" (RAD) and the regional database "Electronic Associative Dictionary of the Yenisei Siberia" (EADYS), we found a number of general and specific regional features.

According to the formal characteristics of the composition of associative fields, a common feature is the representation of the nominal parts of speech, the noun and the adjective, with 44% of nouns and adjectives in RAD, and 50% of adjectives in EADYS, 38% of nouns. The verbs in RAD are 10.6%, in EADYS - 12%. Other parts of speech are present only in RAD - 1.4%.

As a result of the semantic analysis of the nuclear zone of the associative fields of both dictionaries, 4 coinciding semantic groups of associates out of 7 were found, which represent a model of the image of an ideal teacher in the naive picture of the world (linguistic consciousness) of Russian speakers: 1) identifying (*mentor*, *intellectual*), 2) designating an object learning (*pupil*, *student*), 3) time and place (*lesson*, *school*), 4) evaluative (*strict, wise*).

The specificity of the RAD nuclear zone differs in that it also includes gender associations (*lady teacher*) and specialization in the subject (*physicist*). And in EADYS there is a semantic action group (*teach*), which is not represented in the RAD core zone.

In the semantic structure of identifying associates in RAD, the word *mentor* dominates in frequency, in EADYS, the word *intelligent*.

At the level of the perinuclear and marginal zones of the associative field, the "teacher" presents a set of negative characteristics, which can form a portrait of a "bad" teacher, including those features that are rejected by the collective consciousness. In the first place is the assessment of the behavior of the "bad" teacher: (*boring, harmful,* etc.), in the second, the deficiencies of the intellect (*brainless (colloquial), stupid,* etc.) are assessed, then: expressive-evaluative characteristics (*bad, rotten, obnoxious* and etc.), emotional and psychological state (*grumpy, nervous, angry*, etc.), health (*sick, deaf, ailing*), age (*old*) and financial situation (*beggar*).

Thus, it is obvious that in the analysis it is not only the set of positive characteristics of the teacher's image that matters, but also the set of

negative ones, representing the teacher's model "by contradiction", focusing on which teacher is in demand by the collective and which is not.

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"OH, LET'S REMEMBER, YOU, OH KUBAN BROTHERS" MARCHING SONG OF THE DON COSSACKS (FOLKLORE OF THE WAR YEARS)

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Abstract. *In this report, dedicated to the folklore of the war years, we will consider the transformation of one military song that exists among the Cossacks of the Kuban [historical references № 1 - 10] and, as it turned out in the process of research, in other regions of Russia [comments № 1, Internet № 1]. The song is very popular, it is included in the repertoire of the Kuban Cossack Choir and the ensemble of the "Cossack Circle" organization [Internet № 1]. However, research shows that the song is not being played quite right. The author has repeatedly heard this song from her father, Zaporozhets Vasil Andreevich, a hereditary Kuban Cossack. The song "Oh, let's remember, you, oh Kuban brothers" was constantly performed on holidays, especially on May 9, Victory Day, by a chorus or ensemble consisting of the author's relatives, the lead singer and leader of which was the author's father. I must say that Zaporozhets Vasily Andreevich was one of the active participants in the stanitsa Cossack choir, which regularly performed at the local house of culture. He was one of the brightest performers of folk songs and the lead singer in the choir. Having gone through the Great Patriotic War as a simple soldier, he was wounded, had awards, so the song was especially loved by them and was often simply sung at home, both solo and together with the villagers. As a true natural performer and connoisseur of folk art, he knew not only the melody of his part, but also the voice leading of any choir member and could replace everyone at any moment. Later, while studying professionally in musical institutions, the author realized that such a skill is a rare natural gift. But my father knew not only folk songs, in scientific journals the author more than once published stories, legends, tales, jokes, proverbs, etc., heard from her father, mother (members of the labor front), grandfather (order bearer, the second grandfather died in a concentration camp), grandmothers and*

other relatives. [Zaporozhets 2003, 2005 a), b) 2006; 2009 a), b); 2010 b); 2011; 2012; 2014; 2017 a), b); 2020 b.]. My father told me how in his youth, before the war, he self-taught to play various folk instruments: balalaika, mandolin, guitar (accordion - the dream of his life, he never mastered, to buy, in those years - there was no financial opportunity). He told me how he played in a folk ensemble, consisting of relatives. Unfortunately, the author never managed to hear the instrumental music performed by his father, since he came from the war with a damaged hand and could no longer play. But he was a great master of singing. Until now, his portrait hangs in the house of culture on the board of honor, as an excellent performer of folk songs. Following in her father's footsteps, the author first graduated from a music school in the village, then a music institute in the city of Krasnodar, and then in Moscow, which was a huge incentive to further engage in ethnography in general.

Keywords: *folklore of the Great Patriotic War, folk songs.*

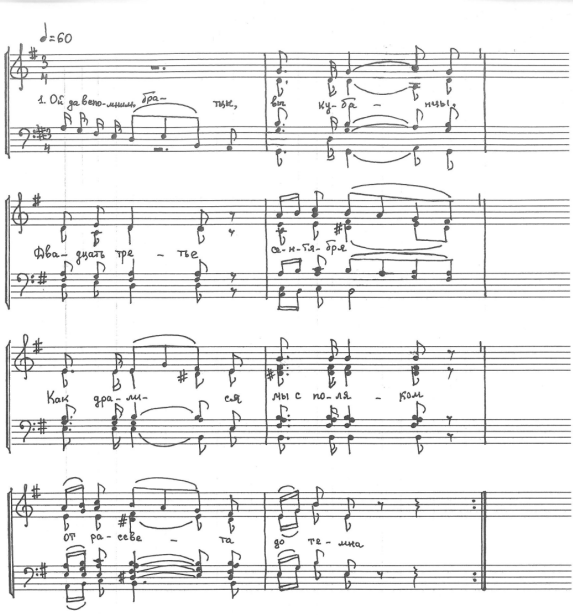
May 9 is coming soon! Victory Day! And the topic of our report corresponds to the red date of the calendar - one of the brightest dates in the whole world - the Victory over the fascist invaders. It must be said that of the entire folklore heritage, the folklore of the war years occupies a leading place in the research of scientists. These are: signs associated with the beginning, course and end of the war; conspiracies and prayers used in war, folk medicine, etc. …. The author was fortunate enough to record a huge amount of interesting material not only in expedition trips, but also from his parents and relatives, which is periodically published in various publications and in reports at conferences [Zaporozhets 2002; 2010 a); 2020 a); also see "Abstracts"]. One of the most popular and least studied topics is folk songs from the times of the war. This report presents a study of the song "Oh, let's remember, you, oh Kuban brothers", its history, and its reconstruction.

Among the Cossacks, singing is one of the most widespread types of folk art. This dominance of the creative heritage is not accidental. It evolved from wartime therapeutic art practices. The songs not only raised the fighting spirit of the soldiers before the battle. Singing, as art therapy, as treatment with music, sound - was used in the intervals between hostilities and after battles. During periods of short or long term rest, singing was used as one of the most active forms of treatment for soldiers. After providing medical assistance, the wounded Cossacks were placed in the center on a flat area, stood around them, forming a circle, and sang. At the same time, the wounds healed much faster [Zaporozhets 2020 c)]. So, the marching

song of the Don Cossacks "Oh, let's remember, you, oh Kuban brothers".

Oh, let's remember, you, oh Kuban brothers

1. Oh, let's remember, you, oh Kuban brothers, /Twenty-third of September!
How we fought with the Pole /From dawn to dark!
2. Oh, how we fought with the Pole /From dawn to dark!
The music played with us, /The drums beat loud!
3. Oh, the music played with us, /The drums beat loudly!
Signalists began to play: /"Take out the checkers bald!"
4. Oh, the signalmen began to play: /"Take out the checkers bald!"
And we took out the checkers /And rushed to the attack.
5. Oh, and we took out the checkers /And rushed to the attack,
Our commander was brave /He walked ahead all the time!
6. Oh, our commander was brave /He walked all the time in front!
Got a big wound /From a Pole on my chest!
7. Oh I got a big wound /From a Pole on my chest!
"Oh you, oh Kuban brothers, /Do not leave me!"
8. "Oh you, oh Kuban brothers, /Do not leave me -
I will never forget, /I will let everyone go home! "
[Comment № 1].



So what does this song tell us?

1. In the annotation, the author has already indicated that this is a marching song of the Don Cossacks. The information was taken from the sites of such reputable organizations as: Kuban Cossack Choir and "Cossack Spas" ... [Internet №. 1]. In this case, the question that constantly arose in the author's childhood becomes immediately clear: why the song, unlike other folk songs performed in the Kuban, does not sound in the Ukrainian dialect, but in Russian. This suggests that the song appeared among the Don Cossacks, and then it was already borrowed by the Kuban Cossacks. Thus, the words are correct - an appeal to the brothers-Kuban "YOU, the Kubans", and not "WE the Kubans", as the Kuban Cossack Choir later began to perform [Internet № 1].

2. Another interesting fact. The melody of the song, as befits a military chant, is replete with quarto-fifth leaps. But! The song size is 3/4! That is - this is not a 4/4 march, as a marching song should be! What, then, is it? A song or instrumental music performed at a slow pace in a 3/4 size is a ***polonaise***, a dance-procession. (Translated from French - Polish dance. ... As a musical genre has been known since the 17th century. ... Origins in folk dance). (SED p. 1044). Polonaise is a dance of knights, which was performed by soldiers in full uniform: in armor with weapons in their hands, after which the soldiers went into battle. (Later, the polonaise, like many other folk dances, became ballroom). Ukraine is geographically located next to Poland and, naturally, a lot from the peoples of the neighboring states was borrowed from each other. But why has polonaise become so popular in general, even in Europe? Because in the 17th century, Rzeczpospolita entered into a great force, and the Poles even invaded Moscow! There was an attempt to capture Russia! The beginning of the aggression was manifested in the siege of Smolensk in **September 1609.** [Historical references № 11, 12]. This fact is recorded in the song! Later, about the time of Poland's aggression against Russia, the opera Ivan Susanin (composer M.I. Glinka) was written about the feat of a Russian peasant who, at the cost of his life, did not let the enemy's detachment reach Moscow. (I must say that during the Great Patriotic War, the military-patriotic song **"Sacred War"** was also written in the size of 3/4. This is also a procession song (polonaise), and therefore was perceived as a march. (Composer A. V. Aleksandrov, poet V. I. Lebedev-Kumach)). The borrowing of the Polish dance in the music of the song "Oh, let's remember, brothers", which is not at all typical for the Don Cossacks, indicates that the melody was introduced by the Cossacks of the Zaporizhzhya Sich. Consequently, the initial appeal of the Don Cossacks was: "Oh, let's remember, brothers

- Zaporozhtsi!" This is understandable even from the syllable composition of the sentence. "You, Kubantsi" appeared later, after Catherine II moved the Zaporozhye Cossacks to the Kuban. But since the word "Kubantsi" consists of three syllables, in contrast to the "Zaporozhian" - four syllables, then the pronoun "you" appeared as "the fourth syllable".

3. Further. Where did the conversion "brothers" come from? And is it accidental? What is Brotherhood? Is this just a designation: are all Slavs brothers? Of course yes! But there is one more designation for this word. "Brotherhoods are national-religious and educational public organizations of the 15-18th centuries at the Orthodox churches of Belarus, Ukraine, Lithuania ... (Lvov Brotherhood, founded in 1586; Kiev Brotherhood in 1615 ...). They fought against national oppression and forcible catholicization of the Orthodox population ... (SED p. 165). When did the Cossacks enter the Kiev Brotherhood? ***In September 1621*** the famous Khotyn battle took place, the combined forces of the Polish and Cossack troops (about 80 thousand people), opposed the Turkish army (about 200 thousand people). The Turks suffered heavy losses and with the onset of the winter cold they had to conclude a peace that was unfavorable for them. But these victories gave nothing to the Zaporozhye Cossacks. According to the Khotin peace, the Poles pledged to curb the willfulness of the Cossacks and prevent them from military action against Turkey. In fact, it was a betrayal on the part of the Poles. Deeply outraged by the conditions of peace, the Cossacks did not allow the Poles to disarm themselves and left Khotin in an organized manner [Historical note № 13]. It was then, at the beginning of the 17th century, that the Zaporozhye army entered the Kiev Orthodox Brotherhood.

4. Further. a) The song mentions, for example, not "ataman", but - "commander". This is probably the same late designation of the head of the Cossack army, as well as the appeal to the Cossack-Cossacks already as to the Kuban. b) Why does the commander ask the Kuban people not to abandon him? In general, I must say - a strange request. The soldiers are already protecting their leaders to the end. This is the norm in military combat. Most likely, such a text sounds in the song precisely because the "commander" was not from the Zaporozhye Sich, but a Don Cossack. Here he is to the Zaporozhian brothers and addresses that: even though he is Russian, not Ukrainian, all Slavs are brothers! And the Cossacks are brothers! Don't leave each other in trouble! That's the point!

5. But! When do some warriors turn to others to remember past victories? Just? Not. No wonder this song is designated as "Marching". Usually, such calls to memories arise at the time of a military threat, mortal danger. It is then that the moments of mutual assistance, mutual support

and brotherhood come to mind. When did it become necessary to recall the battles with the Poles? During the uprising on the Don, led by Kondrat Bulavin. The Bulavin uprising (1707 - early 1709) covered the Don, the Left-Bank and Sloboda Ukraine and the Middle Volga region. Considering all of the above, it becomes clear such a wide area of distribution of the song [Historical information № 14, 15]. (In the expeditionary practice, the fact of the wide distribution of the song repertoire of different regions during the Great Patriotic War was noted more than once).

In the reviews on the Cossack Circle website, we read: "My father said that before the war this song was often sung in the village by our relatives. Where the Kuban song came from in the Volga village is not clear. Another thing is strange - in 1941, **in the three-day battles from September 21 to 23 on the shores of the Upper Volga Lake Sterzh**, almost everyone who had been drafted from the village, including my grandfather, perished"(Sergei 2) [Internet № 1].

From the review we see that the author of the letter considers the song to be Kuban. Probably, this conclusion is made by the people on the first line of the song - an appeal to the Kuban people. But this is not the main thing. It is interesting to pay attention to **the coincidence of the dates of the battles with the Poles, Turks - and with the Germans four centuries later**. Maybe that's why in our village, unlike other regions, they sang not "21st" but, "23rd September"? The author saw the difference between the indicated dates (only two days), but at first she did not know how much to attach importance to this. (In this case: a) there was simply an association with the festive Day of the Defender of the Fatherland - February 23rd, or b) - with the Battle of Sterz? The question remains open). Apparently - importance should be attached to each stroke and nuance. Everything can have informational value.

This reference also confirms the author's assumption about the rapid spread of the song and its widespread popularity during the Bulavinsky uprising that swept the Don, Ukraine and the Volga region. All of the above confirms the correctness of the performance of the beginning of the song "Oh, let's remember, brothers, YOU, Kubantsi", and not "We are Kubantsi", since in this case, the song sounds an appeal of the Don Cossacks to the Kuban Cossacks - to recall past victories gained together! The song is sung as a memory of past battles, when the Cossacks of one region went to the aid of the Cossacks of the other region, and when the "Kubantsi" were still called "the Zaporozhtsi", the ***Kubantsi were no longer at war with the Poles***, they guarded completely different borders.

The village of Dinskaya of the Krasnodar region - is the birthplace of my

ancestors on the line of my father - the Zaporozhye Cossacks. "Dinskaya" in translation into Russian from the leadership of Kondrat Bulavin and the Zaporozhye Cossacks went to the aid of the Don Cossacks. And upon their return from the Don, their kuren began to be called "Dinsky", that is, "those who went Ukrainian means - "Donskaya". This name of a kuren in the Zaporizhzhya Sich appeared in the 17th century, when an uprising broke out on the Don under to help fight in the uprising on the Don", "those who returned from the Don". And when the Cossacks were resettled in kurens to the Kuban, and villages were formed from the kurens, then the villages began to be called by the kurens: Dinskaya, Plastunovskaya, etc. ... Plastun-cossacks gave name to special crawling technique “po-plastunsky”, which was reflected in the song dedicated to the Great Patriotic War "We plowed half of Europe on our bellies". [Historical references № 16, 17] This is how the songs contain information about the historical facts of the Fatherland.

So, "Oh, let’s remember, you, oh Kuban brothers." Before us is a 17th century Cossack song! About the fight against the Polish intervention of the early 17th century. About brotherhood and friendship of the Cossacks of the Slavic peoples! A song that has undergone many changes, but has not lost its popularity throughout the country to this day!

Comments

1. The version of the song was recorded by S. A. Samodelova in the Kaluga region (1985). [Zaporozhets 2005 b)]. In this version, performed on the fronts of the Second World War, the word "Pole" (as was often the case in folk songs) was replaced by "fascist" (author's note). Here and in other versions, the date is indicated - September 21st.

Historical references.

1. **Cossacks** – the military estate in pre-revolutionary Russia in the 18th - early 20th centuries. In the 14th - 17th centuries, free people, ... persons who carried out military service in the border areas; in the 15th - 16th centuries, outside the borders of Russia and the Polish-Lithuanian state (on the Dnieper, Don, Volga, Ural, Terek) self-governing communities ... of free Cossacks (mainly from fugitive peasants) appeared, which were the main driving force of popular uprisings in Ukraine 16 - 17th century and peasant wars in Russia in the 17th - 18th centuries. The tsarist government strove to use the Cossacks to guard the borders, in wars, etc., and in the 18th century subjugated it, turning it into a privileged military class, the support of the autocracy. At the beginning of the 20th century, there were 11 Cossack troops. ... In the 1st World War, about 300 thousand

people were sent ... ... In 1920, the Cossacks as an estate were abolished. In 1936, the Don, Kuban and Terek Caucasian Cossack formations were created, which participated in the Great Patriotic War (disbanded in the 2nd half of the 40s). (SED p. 529).

2. **Don, Dnieper, Volga, Kuban** – the largest rivers of the Russia, and later – the USSR.

3. **Zaporizhzhya Sich** – organization of Ukrainian Cossacks in the 16-18th century beyond the Dnieper rapids. The name comes from the name of the main fortification (Sich)…. Divided into kurens .... In 1709 ... Old Sich was liquidated, in 1734 the government created ... New Sich, liquidated by tsarism in 1775 .... (SED, p. 456). The name comes from "***Sich***, which is ***beyond the rapids*** of the Dnieper - ***Zaporozhye Sich***" - ed.

4. **Rapids** – a short section of a river with a relatively high level of water decrease and an increased flow rate ... (SED, p. 1052)

5. **Kuren** – (Turkic origin of the name). ... In the Zaporizhzhya Sich - a military unit ... and its living quarters. (SED, p. 682).

6. **Don Cossack army**, arose in the 2nd half of the 16th century in the Lower and Middle Don from fugitive peasants. Since the end of the 16th century, it has been protecting the southern borders of Russia. Placed in the area of the Donskoy army ... In the First World War, 66 cavalry regiments, 45 batteries, 6 battalions, 110 hundred were deployed, in 1918 it was abolished. (SED, p. 411.).

7. **Black Sea Cossack army**, created in 1787 in southern Ukraine from the majority of the Cossacks. In the 90s of the 18th century, it was resettled to the Kuban. It defended the Caucasian fortified line from the mouth of the Kuban to the Laba River. In 1860 it became part of the Kuban Cossack army. (SED, p. 1507.)

8. **Kuban Cossack army**, created in 1860 in the Kuban Oblast (center of Yekaterinodar, now Krasnodar) from the Black Sea Cossack and part of the Caucasian Linear Cossack troops….. In the First World War, 41 cavalry regiment, 2 cavalry and foot divisions, 25 battalions, 10 batteries, 35 hundreds were deployed. Abolished in 1918. (SED, p. 672.).

9. **Stanitsa** –…A large Cossack rural settlement or administrative-territorial unit that united several small Cossack families.

10. **Ataman**– …The supreme commander of the Cossack army, the head of the Cossack administrative-territorial unit or koshevoy unit (SED p. 85).

11. **Polish intervention** of the beginning of the 17th century, an attempt by the ruling circles of the Commonwealth and the Catholic Church to dismember Russia and eliminate its state independence. ... Open aggression

under the leadership of King Sigismund III was expressed **in the siege of Smolensk from September 1609**, a campaign against Moscow and its capture (1610). After the liberation (October 1612) of Moscow by the Second Militia, the failure of the attempts (1612, 1617) of Sigismund and the prince Vladislav to seize Moscow again, the Polish intervention ended with the Deulinsky truce of 1618 (SED p. 1046).

12.**Rech Pospolita** – …the official name of the united Polish-Lithuanian state during the Union of Lublin from 1569 to 1795. (SED p. 1134).

13. **Battle of Khotin. Khotin** – city in Chernivtsi Oblast on the Dniester River. ... Known since the 10th century. It entered Kievan Rus, ... Turkey. Since 1812 it has been a part of Russia, ... since 1940 - the Ukrainian SSR. Turkish fortress of the 17th - 18th centuries. ***In September - October 1621, near Khotin, Polish-Ukrainian troops ... defeated the Turkish army ...*** (SED p. 1476)

14. **Bulavin Kondrat Afanasyevich** (about 1660 - 1708), Don Cossack, leader of an antifeudal uprising. …***In October 1707 he raised a revolt,*** from May 1708 the military ataman ... (SED p. 176).

15. **Bulavin uprising,** antifeudal peasant-Cossack uprising of 1707 - early 1709 in the Don, Left-Bank and Sloboda Ukraine and in the Middle Volga region under the leadership of K. A. Bulavin...

16. **Cossacks Plastuns (village Plastunovskaya Krasnodar region) –** personnel of foot teams and units of the Black Sea and Kuban Cossack troops in the 19th - early 20th centuries. During the Great Patriotic War, some Cossack battalions and regiments, as well as the 9th Krasnodar Infantry Division (SED p. 1023), had the name "Plastun". The name came from how the Cossacks and their horses crawled so spread out on the ground - "in plastun", practically merging with the landscape that they were completely invisible. Of course, when, at the right moment, a whole cavalry army rose from the ground and went on the attack, then the enemy, shouting: "Urus Shaitan!" - ("Russian sorcerers!"), Ran away in horror from the battlefield. There is a song about the Great Patriotic War, which mentions the tactics of moving troops on their bellies, crawled spread out on the ground - "in plastun".

17. **Song "The Last Battle".** Words and music by composer Mikhail Ivanovich Nozhkin, written for the film epic (consisting of 5 films) "Liberation", 1969

We for so long, we have not rested for so long.
We just had no time to rest with you.
We plowed half of Europe ***in plastun***,
And tomorrow, tomorrow, finally, the last battle will come ...

Information for photograph.

1. Zaporozhets Vasily Andreevich, 1925 - 1981, local, Kuban Cossack. (Author's father). Member of the Great Patriotic War. Awarded with medals. (His father (the author's grandfather) Zaporozhets Andrei Nazarovich, born in 1902, a participant in the Great Patriotic War, died in a concentration camp in Poland in 1944).

2. Zaporozhets Anna Petrovna, 1925 - 2007, (nee Vasiliev), originally from the Orenburg region, Ivanovo district, the village of Yegoryevka. She moved to Kuban in the mid-1950s. (Author's mother). Member of the labor front. Awarded with medals. (Her father (the author's grandfather) Vasiliev Pyotr Yegorovich 1899 - 1996, participant of the Great Patriotic War, order bearer).

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6. Zaporozhets 2009 b) – Article "Songs of the Cossacks of the village of Dinskaya, Krasnodar region". "LA", № 1, 2009, P. 40-42.

7. Zaporozhets 2010 b) – Article "Etiological legends". "LA", № 4, 2010, P. 15. (Moscow, Krasnodar region, late XX and early XX1 centuries).

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12. Zaporozhets 2017 b) – Article "Stories about dreams" (the village of Dinskaya, Krasnodar region). "LA", № 1 (93), 2017. P. 37 – 38. (Recorded in 2004).

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VASCULAR ANATOMY OF THE VILLISIAN CIRCLE IN CEREBROVASCULAR PATHOLOGY

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Abstract. *Variants of the structure of the vessels of the circle of Willis are currently gaining relevance, since the adequacy of blood circulation in the brain is provided not only by local regulation of blood flow, but also by the peculiarities of the morphological structure of the vessels of the arterial circle of the large brain. The obtained results of intravital brain imaging methods in 250 patients made it possible to determine the anatomical features of the vessels of the circle of Willis, which can be used in the prevention of cerebrovascular pathology.*

Keywords: *cerebrovascular pathology; circle of willis; anatomical variants of the vessels of the circle of willis.*

Relevance

Cerebrovascular diseases still occupy a leading position among all neurological pathologies, lead to long-term disability, decrease in the quality of life and are the leading cause of death in the world. Cerebrovascular diseases include conditions in which the cerebral vessels are pathologically altered, causing disorders of cerebral blood flow. Features of the anatomical structure of the vessels of the Willis circle is of indisputable importance in the diagnosis of cerebrovascular pathology, which allows you to make a timely decision in therapeutic tactics, prevention of complications and rehabilitation of patients.

The purpose of the study

Determination of the anatomical features of the vessels of the Willis

circle using in vivo imaging methods as a method for effective diagnosis of cerebrovascular pathology. In addition, it is of interest to determine the ratio of the Willis circle anomaly to the frequency of occurrence of cerebrovascular diseases, in particular, acute cerebral circulatory disorders in the studied patients in the catamnesis. To achieve this goal, you need to solve the following **tasks**:

1. Consider the anatomical structure of the Willis circle using in vivo visualization methods.

2. To distinguish the anatomical structure of the classical and modified Willisian circle using in vivo visualization methods.

3. Consider the relationship of clinical symptoms in the classical structure of the Willis circle and its modified variants.

Materials and methods

The study was conducted for 5 years on the basis of the regional state budgetary health institution of Vladivostok. A sample of the able-bodied urban population aged 65 ±3 years was formed using a random number table. The response of patients exceeded more than 70%, as is customary in epidemiological studies. The study used a developed questionnaire to determine the prevalence of cerebrovascular pathology and the number of patients with various “cerebral complaints”. The identification of patients with cerebrovascular complaints was carried out as part of the medical examination of the adult population. The study included 250 patients who went to a neurologist with the presence of cerebral complaints. The patients were divided into gender-age and clinical-statistical groups with the same category of ICD-10. All patients underwent intravital imaging methods - ultrasound Dopplerography of the main arteries of the head (USDG). In case of changes in the parameters of USDG, radiation neuroimaging methods of research were performed – magnetic resonance imaging with contrast, cerebral angiography. Patients complaining of dizziness underwent an otoneurological examination in accordance with clinical guidelines or standards of care for cerebrovascular pathology.

Results and discussions

In the classical anatomical description, the Willis circle is an anastomosis between the internal carotid and vertebral arteries of the right and left sides. The existence of the Willisian circle makes it possible to compensate for the decrease or absence of blood flow in one of the arteries at the expense of other vessels responsible for feeding the brain. According to most researchers, the structure of the Willisian circle is subject to numerous variations, its "classic" version is found in more than half of the cases [1, 3].

In the classic version, the arterial circle of the large brain is divided into 2 sections: anterior and posterior. The anterior part includes the initial sections of the anterior cerebral arteries that branch off from the cerebral part of the internal carotid arteries, and the anterior connective artery. The posterior part includes the initial segments of the posterior cerebral arteries (the final branches of the basilar artery) and the posterior connective arteries. The left and right vertebral arteries merge and form the main one (its multiple branches feed the brain stem and cerebellum). It then forms two posterior cerebral arteries that supply blood to the mediabasal parts of the temporal lobes and most of the occipital lobes. [2] In more than 65% of cases, the vessels of the Willisian circle have a classical structure. Moreover, in the anterior part of the arterial circle of the large brain in an adult, the classical structure of its vessels is noted according to various researchers more than 55%, in the posterior-about 50% [3, 4].

According to a number of authors [1, 3], the uneven distribution of blood flow in certain variants of the structure of the arterial circle of the large brain can lead to the occurrence of vascular aneurysms, the rupture of which ends in such a terrible complication as hemorrhagic stroke, and with a pathologically caused decrease or cessation of blood flow through the supply vessels, it can cause the development of transient transient cerebral ischemic attacks and ischemic stroke.

The results of the neuroimaging study were evaluated in 250 patients, including 150 female patients (60%) and 100 male patients (40%). The median age was 65±3 years.

The main complaints presented by patients were complaints of dizziness (76%), noise in the head (64%), memory impairment (46%), headache (21%), decreased performance (15%). In 98% of cases, there was an increase in blood pressure to 160 and 100 mm Hg and above. The above complaints were made equally often by male and female patients ((p<0,01)). In the course of diagnostic measures, obesity 1-3 degrees (28%), fasting hyperglycemia (21%), an increase in triglycerides (56%), an increase in LDL cholesterol (62%), and an increase in the atherogenicity coefficient of more than 4 (32%) were detected. More than half of the patients had a combination of the above elements of the metabolic syndrome. According to the clinical recommendations for cerebrovascular pathology, all patients underwent MRI SCAN of the brain with contrast. The classical structure of the vessels of the Willisian circle was not revealed in any patient from the observed group. In 100% of cases, non-classical variants of the arterial circle of the large brain were determined (Fig.1).

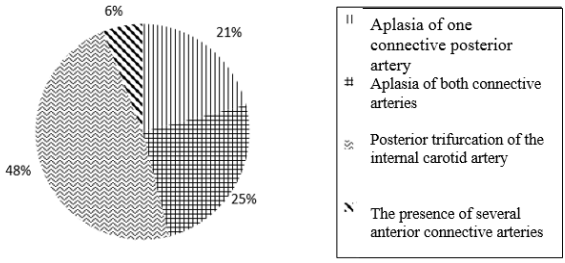

Fig. 1. Non-classical variants of the Willisian circle in the intravital brain imaging of patients with cerebrovascular pathology.

As can be seen from Figure 1, the most common changes are in the posterior parts of the Willisian circle, in the vessels of the anterior part - in 6 % of cases. Aplasia of one connective posterior artery was detected in 21% of patients, aplasia of both posterior connective arteries was detected in a quarter of the examined patients, posterior trifurcation of the internal carotid artery was noted in 48 % of patients; the presence of several anterior connective arteries was detected in 6% of cases.

When studying the five-year history, it was revealed that acute cerebral circulatory disorder of the type of ischemic stroke occurred in 14% of the subjects, hemorrhagic stroke-in 5 patients (2%), repeated stroke was diagnosed in 4 patients. The most common stroke was observed in male patients (82%). All patients were obese, systolic blood pressure was elevated, and lipid metabolism was beyond the reference values in 65% of the subjects. Ischemic stroke most often occurred in patients with posterior trifurcation of the internal carotid artery (58%), hemorrhagic stroke was suffered by patients with aplasia of both posterior connective arteries (100%).

Conclusions

The study allows us to draw the following conclusions.

1.More than half of the examined patients presented cerebrovascular complaints – the most common were dizziness (76%) and noise in the head (64%). Almost all the subjects had elevated systolic and diastolic blood pressure (160 and 100 mm Hg and higher). More than half of the patients had a combination of symptoms of the metabolic syndrome: obesity of 1-3 degrees, excess of the reference values of lipid metabolism, fasting hyperglycemia.

2. In the five-year history, acute cerebrovascular accident of the type of ischemic stroke was diagnosed in 14% of the subjects, hemorrhagic stroke

- in 2% of patients, repeated stroke was diagnosed in 4 patients.

3. The use of intravital imaging in cerebrovascular pathology, namely, MRI of the brain with contrast, cerebral angiography, allows us to determine non-classical anatomical variants of the arteries of the vessels of the brain. These neuroimaging techniques were performed in patients with altered parameters of ultrasound dopplerography of the main arteries of the head.

4. The most common changes are in the posterior parts of the Willisian circle (95%), only in 6% of cases changes were detected in the anterior parts of the Willisian circle. Patients with a non-classical variant of the arteries of the vessels of the large brain presented cerebral complaints in 100 % of cases. Ischemic stroke most often occurred in patients with posterior trifurcation of the internal carotid artery (58%), hemorrhagic stroke was suffered by patients with aplasia of both posterior connective arteries (100%).

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COMPARATIVE CHARACTERISTICS OF EDUCATIONAL METHODS OF THE PRE-UNIVERSITY MEDICAL PROGRAMS OF THE RUSSIAN FEDERATION AND THE REPUBLIC OF KOREA

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Abstract*. This article examines and compares educational methods which are used to prepare students for admission to medical universities in South Korea and Russia, identifies and describes differences between those methods connected with the history of medical education, attitude to studying, mentality and other cultural and social characteristics. Medical universities and chemical and biological classes in both countries have something to learn from their foreign colleagues.*

Keywords: *pre-university medical education, South Korea, Russia, university, Seoul National University, Medical Sechenov Pre-University, medical sciences*

Introduction

Medicine is one of the most important bodies of sciences in the modern world. This system allows people to recognize, treat and prevent diseases, strengthen the health and work capacity of people and prolong lives. It is especially important that students of medical classes become qualified specialists. The pre-medical curriculum is a mandatory period for medical students to prepare before they move on to higher medical education institutions.

We reviewed the experience of South Korea, as a leading country in terms of economic growth and the level of education of the population, and Russia, because graduates of Russian medical school work in more than 100 countries around the world and Russian universities have a rich his-

tory of training doctors.

Korean medicine has its own unique features. The legendary textbook of Korean traditional medicine "TonyiPogam" is included in the UNESCO "Memory of the World" program, which means that Korean traditional medicine is internationally recognized and functions on a par with Western medicine.

History of the development of medical education in Russia and South Korea

In Korea, traditional medicine has been widespread for centuries. Western medicine began to spread around 1700, but was criticized by scientists, which made it difficult to develop. Traditional Korean medicine is now officially recognized and regulated in the same way as Western medicine. Vocational education in traditional medicine has a structure similar to vocational education in other medical programs: doctors take a six-year bachelor's program or a four-year master's program, then they take an exam.

Early medicine of Russia, despite its leaping development after the adoption of Christianity, was still based on beliefs and superstitions. Nevertheless, monastic medicine began to apply new practical methods of medicine and improved them. Only during the reign of Yaroslav the Wise did secular medicine appear, which tried to be based on reliable facts [3].

The first hospital school was opened at a permanent land hospital in Moscow and for 26 years (1706-1733) was the only medical educational institution in Russia. More of such schools were opened in 1733. In hospital schools, future doctors showed a high general education level, knowledge of Latin, philosophy and the works of Greek and Roman writers. Hospital schools were the prototype of the Russian university, which did not yet exist at that time [4].

In the 19th century, large scientific medical schools gained international prestige, Russian medical science and health care were flourishing, which is proved by the awarding of the Nobel Prize to I.P. Pavlov and I.I. Mechnikov, the school of S.P. Botkin and G.A. Zakharyin [3].

At the same time, Western medicine was first introduced to Korea by the Korean government, and the first Jejungwon clinic was opened in Seoul. Since then, several private hospitals have been established, with the Severance Hospital in 2020 being the most renowned international institution. Here robotic technologies are used for operations and the clinic is provided with an artificial intelligence system Yubikont (Ubiquitous computing), which allows getting an accurate analysis of patients' anamnesis and examination results, and saves the time of medical personnel.

In contrast to Russian schools, until the 1970s, the typical Korean

medical school was characterized by a clear division between preclinical and clinical education and between subject-oriented and lecture-oriented teaching exams focused on testing theoretical knowledge. However, since the early 1980s, there have been gradual changes in the curriculum [5].

Most Korean medical schools now combine integrated courses with conventional courses in basic medical science and clinical medicine; they can differ only in their duration. The study by E. B. Evladova proved that an integrated program is a product of the joint activities of teachers, uniting separate educational areas into a single whole. In this case, this term implies the concept of interrelation, interdependence, and interpenetration of two or more leading ideas or objects, which implies a qualitative and quantitative change in the parameters of a new idea or a new object.

One of the most important developments in medical education over the past 10 years has been the adoption of the PBL method, first tested in the Netherlands. PBL was first introduced to Korea by one of the medical schools in 1994 and is now actively practiced in all Korean medical schools. The PBL (Problem-Based Learning) method is considered a successful innovative teaching method that provides freedom to the student, which contributes to the independent search and application of information, the development of communication skills, and the ability to work independently.

In this method, the teaching emphasis shifts from a teacher to a student, who takes a more active role, trying to solve a practical problem set for them. This technique teaches students to broader and deeper comprehend everything said by a teacher during lectures and written in textbooks, it promotes original thinking and a personal approach and arouses interest to the subject. This method is most effective for seminars in the humanities, but it will also be useful in preparing, for example, for team scientific and natural works.

The OSCE method - the objective structured clinical examination, which is not widespread in Russia, is also gaining popularity in Korea. Most Korean medical schools use OSCE to test the competence of students. During the clinical objective examination (CQE), candidates are observed and evaluated and passed through the stations where the interview, examination, and treatment of standardized patients (ST) is carried out. OSKE has proven to be so effective that it is now applied not only in medicine but also in other disciplines such as dentistry, nursing, obstetrics, pharmaceuticals, engineering, and law [6].

Medical education in Korea has changed over the past 20 years. A new medical education system has emerged, the so-called "4 + 4" system.

Previously, every medical school in Korea recruited 12-year high school graduate medical students, however, since 2005, several medical schools have begun recruiting college graduate students.

The second change is that many medical schools have begun to pay more attention to the development of humanitarian and communication skills, subjects such as medical ethics and professionalism, medicine and society, etc. have appeared in the curriculum.

Features of the mentality and preparation for admission to higher education

In the process of collecting information, studying, and comparing the education systems in Russia and South Korea, we came across such a concept as" mentality", which had a great role not only in the attitude to study, but also to work, and to life itself in general. The following are some examples:

1. In South Korea, compared to Russia, there are much fewer official holidays and vacations. In Russia, the school year begins on September 1, and all schools hold a solemn line-up. In South Korea, the beginning of school is not celebrated. The academic year is divided into two semesters. Summer holidays are held from the end of July to the end of August, winter holidays -from December to February. This is due to the fact that in Korea academic competition is extremely high, a student can only cope with it by working constantly.

2. Discipline in South Korean schools is strict. School uniform, hairstyle, manicure, make-up, and hair coloring are strictly regulated. All the gadgets are stored by teachers until the end of classes. Similar practice can be observed only in a few Russian schools.

3. Exams are important for students of both countries, a failure in the exam is equated with a failure in life. Students are under enormous pressure, and in South Korea it is even higher because of the constant competition. Stress due to exams is the main cause of depression and suicidal moods in teenagers, and statistics in this regard in Korea is one of the saddest in the world. According to a 2013 Statistics Korea report, suicide was the leading cause of death for Koreans aged 9-24. Russia's situation is not comforting either. Russia occupies the fifth place in this list.

4. Teachers are respected implicitly. Teachers in Korea do not earn a lot of money, but they are absolutely respected. Education is one of the main values of Korean society, and teachers are considered its honorary guardians [8].

Studying is the main priority in the life of Koreans until graduation. There is a saying: "If in high school you sleep for three hours, then you may get

into SKY (abbreviation according to the first letters of the three most prestigious universities in South Korea: Seoul, Korea, Yonsei), if four – then in a less prestigious university, if five – then you will not be a student."

In Russia, a teacher's qualification is determined not only by their diploma, but also by the skills and abilities based on the specialist's own life experience.

Differences in preparation for admission to medical universities in South Korea and in Russia

In South Korea, high school students are prepared for admission to medical universities in specialized programs and courses:

I. Seoul National University

There is a Premedical Course. The program encourages close collaboration and integration between the medical, natural, engineering and social sciences, which helps to enhance the excellence of future doctors. The following methods are used there:

- Personalized training: individual programs are created. They match the student's abilities to optimize the amount, time, and sequence of training.
- Problem-based education: the main focus is on students' thinking process, finding ways to solve problems, and extensive analysis. This method expands the possibilities of solving problems in various situations.
- Exploring queries: Discovering and refining basic ideas and responses to them. This promotes divergent and creative thinking. Laboratory experiments, discussions, educational games, etc. increase the skills needed to solve daily tasks and to perform scientific research.
- Project-based learning: an autonomous and subjective learning method that allows students to plan and implement their projects, to develop learning activities and creativity.
- Discussion-based and presentation-based education: students exchange information and opinions and draw conclusions through interactions.
- Education using multimedia/high-tech media: using advanced devices, equipment, software, and multimedia to create live learning activities. All the sensory organs of students are used, which helps to develop their thinking abilities [7].

II. Seoul National University College of Medicine

In SNUCM, basic medical education is underpinned by personal growth, leadership skills, and altruistic principles. Students develop their clinical skills to correctly diagnose, treat patients and create research.

There are classes teaching how to use medical equipment, classrooms

with simulations of various situations that the student must solve, and a 3D scanning department. A lot of sports is available to students as well.

III. There are 13 schools of natural science in South Korea

The share of graduates of specialized schools who entered the university is many times higher than that of ordinary ones. Thus, in 1995 graduates of specialized schools made up 16.2% among the applicants who successfully passed the exams at Seoul State University, which is especially impressive.

In Russia pre-university medical education is provided at universities and in schools with medical classes.

I. Pre-university education at Moscow State Medical University (Sechenov University).

The task of the faculty is to prepare applicants for admission to Sechenov University at a high level and to form their professional motivation. Students of medical and biological classes have a high level of knowledge and consciously choose the direction of their future professional activity. Excursions and classes in clinics are held for students of medical and biological classes.

The program includes the course "Step into medicine". During the course, students take part in the work of the clinics of Sechenov University, as well as learn practical skills using innovative technologies in the Virtual Training Complex "Mentor Medicus" at the Center for Continuing Professional Education.

II. The project «Medical class in a Moscow school»

The participants of the project "Medical class in the Moscow school" in 2020 are 71 schools in Moscow.

The main subjects of the program are chemistry and biology. The classes are organized five times a week. Students of medical classes with individual interests can choose additional courses: basic medical knowledge, practical training in microbiology, basic physiology and anatomy, first aid, etc. The practice of future doctors takes place in laboratories equipped with medical simulators, measuring devices, models of organs. Students learn to give injections or take blood from a vein on the mannequins.

The innovative direction of the project are the training programs developed by the University: "Chemistry in English" and "Biology in English". The purposes of the courses: mastering the culture of bilingual scientific thinking, the ability to build oral and written scientific speech in English.

Various subject Olympiads, pre-professional master classes, conferences and other events are held during a school year.

At the end of the 11th form, students take a pre-professional exam at

the University. The results of the exam are taken into account when entering the University. In addition to the pre-professional exam, students of the 10th and 11th medical classes traditionally pass an Independent Assessment of the Quality of knowledge of chemistry and biology.

III. Resource Center «Medical Sechenov Pre-University»

In 2016 First Moscow State Medical University (Sechenov University) established the Resource Center «Medical Sechenov Pre-University».

Classes are given by leading teachers of the University. Students are immersed in specialized subjects, get through some disciplines of the first year of medical school, prepare for Olympiads and conduct various scientific activities in modern biological and chemical laboratories.

Students of the Pre-university combine training in the programs of secondary general education and the university system of classes in specialized subjects with individual creative scientific and practical work. Graduates are provided with a serious preparation for admission to the best medical universities in the country.

In the spring of 2019 the rating agency RAEX performed a study of the admission of Russian schoolchildren to the best universities in the country. According to the results of the rating of schools in Russia based on the data on the admission of school graduates to 35 leading Russian universities in 99 cities of the country, Medical Sechenov Pre-University became the leader, in the field of medicine, in the number of its graduates who successfully entered the university.

Korean National SUNYUNG Exam

High school students in Korea who want to enter university must pass a national test called the SUNYUNG (it is similar to the Unified State Exam in Russia) in Korean, set by the Korean Ministry of Education Quality. Depending on their preferences, students choose nine subjects to take. Korean history is a compulsory exam to pass. Some items can be selected at two different difficulty levels. The test mainly consists of tasks with multiple choice answers. Students who fail the exam or choose a different study profile can retake it.

Exam results are a key criterion for admission to many universities in Korea.

Admission to Korean universities is very difficult because of the competition. The top institutions accept only 2% of the students who passed the SUNYUNG with the highest score.

The Korean government believes that SUNYOUNG is the most objective and socially balanced criterion for admission, and seeks to increase the use of test results for university admission. But this exam has one

big problem – it is almost impossible to prepare for it due to the lack of a collection of standard tasks. In South Korea, students do not have the opportunity to simulate a situation similar to the exam, and therefore there is no opportunity to come to the exam confident in their abilities, and this is one of the reasons why it is very difficult to study and pass exams in this country. Moreover, due to the lack of this opportunity – the solution of trial versions – parents hire their children tutors to increase the amount of knowledge that may be useful for the exam. However, not every family can afford to hire a tutor, thus it is obvious that SUNYOUNG is socially unbalanced.

According to research and interviews with teachers at Hagwong School, high school students in South Korea are less likely to take chemistry and tend to remove this subject from their curriculum. This is due to the fact that all the exam questions are aimed at understanding those chemical processes that are almost not considered in the curriculum. During the test, students need to apply skills and knowledge that they cannot master after completing their studies in high school. In addition, the examinees are given only thirty minutes to complete twenty tasks. Teachers themselves admit that they cannot solve so many tasks in such a short period of time. Such conditions test not the competence of the student in the field of chemistry, but rather his luck on the day of passing the exam.

The purpose of this work is to compare two education systems, South Korean and Russian, in order to find possible advantages in the Korean system and offer their implementation in the domestic one.

Materials and methods of research

To achieve this goal, we used systematic, documentary and structural-logical methods, monitoring and content analysis of scientific articles in periodicals, statistical reports of Statistics Korea.

We also visited exhibitions dedicated to foreign education and interviewed Korean teachers from Seoul National University.

Results and discussion

Having analyzed the experience of South Korea and of the Russian Federation in the field of medical education, we see that, despite the great difference in mentality and cultural traits, there are certain features and principals in Korean system of medical education than can be implemented by medical universities and chemical and biological classes in Russia:

1. Educational principles in Korea take into account the characteristics of each student and give a degree of freedom that will strengthen responsibility and self-motivation. Students will draw on their own strengths and weaknesses to help them become independent thinkers through self-

study. Emphasis is placed on the development of self-discipline. Courses in the social sciences and humanities are being expanded to lay a solid foundation for ethical principles.

2. Less strict systematization of programs in higher education institutions. Each student is offered a choice of subjects to study, depending on the chosen specialty, which makes it possible to choose interesting and necessary subjects for building a career in the future;

3. The teacher is always ready to listen to the student, to talk to him, without showing his superiority. The professorship try to be as simple and close to students as possible;

4. Grading is not based on the material that the student can reproduce after the lecture, but on the amount of what he can apply in real life. There are final and intermediate exams in theory, but the main emphasis is on grades for practice [2].

5. The PBL method (Project Based Learning and Problem Based Learning, that is, project-based and problem-based learning).

6. Some Russian universities use this technology, but there are differences between domestic problem-based learning and PBL. PBL consists in a special organization of the educational process, where the main thing is to develop the ability of independent learning and a creative approach to solving problems, while the solution of the problem itself is secondary. This method is the closest to the real working conditions of future specialists. Universities which practice this training do not refuse classical lectures and seminars. Without knowledge of theory, critical and creative thinking will not produce results [1].

Conclusions:

1. A profound and thorough analysis of the information about the methods of pre-university education in the two countries showed that in both cases there are advantages which can be adopted from each other, and disadvantages which can be eliminated.

2. Despite the value of Korean developments in the field of medical education, many of them are either not used at all, or are implemented in an insufficient volume at present.

3. A comprehensive study of Korean educational methods promotes finding principles that might help improve the system of pre-university education in Russia.

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MEASURES TO IMPROVE THE EFFICIENCY OF VEHICLES

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Abstract*. The article discusses the key requirements for the technical operation of a vehicle designed to ensure the transport process. The growth of traffic volumes will be ensured by measures taken in the field of technical operation of vehicles The factors influencing the system of maintenance and repair of auxiliary rolling stock are described.*

Keywords*: road transport, trucking company, transport sector, maintenance, repair.*

In the modern world, the importance of the transport industry in the economy of each state is increasing, since the level of transport development directly affects the competitiveness of the economy and the security of the country. Transport is an important sector of Kazakhstan's domestic economy. It largely determines the level of socio-economic development of the country, ensures the satisfaction of the transport needs of the economy and the population, creates the necessary conditions for communication to ensure its economic space and territorial integrity. Automobile transport is of great importance for ensuring the country's defense capability and national security. It also promotes the use of foreign economic relations and a favorable geographic location of the country, allowing the country to integrate into the world economic system, and also participates in solving various social problems [1].

A car designed for the transport of passengers allows you to establish transport links throughout the entire area of the space. Thanks to its

presence, a high travel speed, convenience and comfort of the trip are achieved. Automobile transport while driving allows you to work without the use of other types of transport, to serve passengers around the clock and deliver passengers from the point of departure to the destination, that is, "from door to door".

The operation of automobile passenger transport allows achieving sufficiently high operational, technical and economic indicators and good maneuvering while driving. The capital investment requirement is low for this mode of transport to operate satisfactorily, and new routes require low costs. In addition to all of the above, passenger transport allows the use of both high-speed and shortened, as well as express routes for the convenience of users [2].

The development and improvement of the work of transport enterprises is closely connected with the development of social production and the productive forces of the republic, as well as with the living conditions of people, changes in their well-being and culture.

In each republic, region there are motor transport departments or companies that manage the work of a motor transport enterprise. They transport bulk goods in cities and between cities for enterprises and organizations of all sectors of the national economy (such transport enterprises specialize in the types of goods transported), passengers (buses and taxis) and goods for the population [3].

The growth of the car park, the need to improve the efficiency of its operation, presuppose certain requirements for the technical operation of the car, designed to provide the transport process with a working auxiliary staff. Having a significant impact on the production and self-improvement of auxiliary personnel, it makes a significant contribution to the final result of the work of road transport. According to preliminary estimates, the growth in traffic volumes will be provided by measures taken in the field of technical operation of vehicles [4].

To improve the efficiency of vehicles, it is necessary to pay great attention to improving their technical condition; in solving this important task, a special role is assigned to the technical service of road transport enterprises, the main task of which is to ensure the operational reliability of the vehicle by implementing a set of measures to prevent and eliminate emergencies and failures.

In the conditions of intensification of production, the efficiency of the technical service is largely determined by the results of the activities of engineering and technical workers. The use of research and production reserves is possible only on his initiative and as a result of an engineering

survey and the provision of proposals received, no matter on what basis it is carried out.

Various theoretical and applied aspects of improving engineering activities in the technical activities of motor transport enterprises are reflected in the works of: Balgabekov t. K., Boyko N.E., Kalinina E.A., Evseeva A.A., Kobiashvili E.I., Ismailov R I. and etc. [5-9].

The analysis of the research and the socialization of practical experience makes it possible to identify a number of main problems associated with the activities of the engineering personnel of the technical service of motor transport enterprises. Among them, one can single out: the issues of assessing the results of the activities of engineering and technical workers have been little studied; an engineering-based assessment of vehicle maintenance is required.

In this regard, research aimed at improving the organization of forms and methods for solving production problems is relevant.

The purpose of the work is to increase the level of employment of auxiliary personnel by means of maintenance of vehicles based on engineering solutions.

To improve the efficiency of vehicles, much attention should be paid to improving their technical condition; in solving this important problem, a special role is assigned to the technical service of motor transport enterprises, whose main task is to ensure the reliability of vehicles by implementing a number of measures to prevent and eliminate faults and malfunctions.

The use of the developed methods for solving production problems at the level of maintenance of motor transport enterprises allows: to objectively assess the results of the work of production units; to identify specific reasons for the low efficiency of the use of material and labor resources, to identify the patterns of their occurrence; make informed decisions to ensure the operability of the vehicle fleet.

Object of research: the processes of vehicle operation at the enterprise.

Subject of research: the organization of passenger transportation by the fleet of the city of Karaganda.

The purpose of the study is to develop theoretical and practical methods to improve the efficiency of vehicles in the car fleet of the city of Karaganda and to ensure the development of the quality of the operation of the maintenance service. Work tasks:

- to study the organization of maintenance of the rolling stock of the automobile enterprise;
- a description of indicators of the efficiency of vehicle operation;
- to consider the options and features of the use of buses in passenger

transportation;

-development of a feasibility study and design of a rational organization of maintenance of a car company, in particular, a tire fitting shop.

Proposals were developed to improve the work of the tire fitting shop at the auto enterprises, the necessary equipment was selected.

In the economic part of the project, technical and economic indicators have been calculated, reflecting an increase in the technical readiness coefficient of a car company. For planning transportation, monitoring and analyzing the results of the activities of the ACO and their services, a system of technical and operational indicators has been established, which is subdivided into quantitative and qualitative. New technological equipment can significantly reduce the labor intensity in the maintenance of vehicles. Air suspension, moving along a horizontal plane, allows high-quality and fast maintenance of vehicles, as it provides a convenient approach to components, assemblies and parts.

This project proposes to abandon additional equipment (jacks, etc.), which accordingly affects the cost price, and also increases the technical readiness factor and the fleet operation factor, since fast and high-quality is the key to efficient bus operation on the line.

Activities to improve the functioning of a passenger motor transport enterprise should be aimed, first of all, at improving the organization of the transportation process and reducing the operating costs of vehicles.

The need for this service is explained by the desire of each trucking company to create competitive advantages that allow them to work successfully in the market and make a profit. The technological equipment of the enterprise is the driving force behind the activities to improve the operation of the enterprise. The time factor is of great importance: a timely and delayed decision on the application of innovations can lead to undesirable results and even losses.

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MICROSTRIP FERRITE DECOUPLING DEVICES WITH IMPROVED CHARACTERISTICS FOR MM-WAVE RANGE MICROWAVE EQUIPMENT

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Abstract. *The report discusses the design and technological features that arise before developer, when creating microstrip ferrite devices for microwave equipment millimeter wavelength range. The results of the development of microstrip ferrite circulators and isolators of millimeter wavelength range, which have improved characteristics in comparison with domestic and foreign analogues, are presented.*

Keywords: *mm-wavelength range, Ka-frequency range, microstrip ferrite isolator, microstrip ferrite circulator, electrodynamic modeling, nickel-zinc spinel*

Introduction

One of the most important tasks of modern microwave electronics is the development of radio electronic equipment (REE) operating in the millimeter wavelength range. Mastering millimeter wavelength range allows us to solve important issues in the field of navigation, communications, medicine and the country's defense. The transition to the millimeter wavelength range will make it possible to reduce the overall dimensions of modern radio equipment, increase the resolution of radio navigation systems and increase the data transmission density, which is especially important for 5th generation communications (5G). An important place in all radio systems is occupied by ferrite decoupling devices, which ensure uniformity of microwave power level of the generators, stability of amplifying circuits for variable loads, and allow power of microwave signal to be distributed in circuits of radar stations. Despite the fact that there are microstrip ferrite decoupling devices of mm-wavelength range on the world market, their electrical and size characteristics do not meet modern requirements of developers of promising electronic equipment. To create a new generation of electronic equipment, a microstrip ferrite decoupling devices (MFDD)

with an increased operating frequency band, with low direct losses and with reduced size characteristics is required. As part of research and development work carried out at the Research and production corporation «Istok», it was required to develop an MFDD with improved characteristics. Requirements for developed devices are shown in Table 1.

Table 1 - Requirements for developed devices

Device type	Operating frequency range Δf, GHz	VSWR	Insertion losses, α_{ins} dB	Inverse losses/ isolation, α_{inv}/α_{is}, dB	Input continuous power P_{in}, W
Ka-range circulator	36,5…38,5	< 1,4	< 0,8	> 20	0,1
Ka-range isolator	33…37	< 1,4	< 1	> 20	2
V-range isolator	45,8…48,9	< 1,4	< 0,9	> 18	0,1

Selection of ferrite material

The key element of any ferrite decoupling device is ferrite material, due to which it is possible to achieve nonreciprocal properties in device in a given frequency range. Existing ferrite materials introduce their own features in the development of millimeter wave range ferrite devices, defining the maximum achievable characteristics in them.

On basis of the studies carried out in [1, 2, 5], a ferrite material was chosen as a substrate for devices, developed at Research and production corporation «Istok» named after Shokin - nickel-zinc spinel (NZS). This material has a high value of saturation magnetization (Ms≈380 kA / m), which will provide a wide range of operating frequencies for developed devices. Low level of summary loss tangent of the NZS, in turn, will ensure low insertion losses of microwave signal passing through developed devices.

With the help of measuring techniques and stands developed at NPP "Istok" [3], the electromagnetic parameters of workpieces from NCV were measured for the subsequent calculation of the design of the developed mm-range devices (Table 2).

Table 2 - Electromagnetic characteristics of NCV blanks

Parameter name	Designation	Specification value	Measured value
Dielectric constant	ε	12,3÷13,7	13,0 ± 4 %
Summary loss tangent	tg(δ)Σ	$1,6 \cdot 10^{-3}$	$1,1 \cdot 10^{-3} \pm 3,7 \cdot 10^{-4}$
Magnetic saturation, kA/m	Ms	378±27	380 ± 4 %

Electrodynamic modeling of construction of MFDD mm-range

On basis of precisely measured electromagnetic characteristics of nickel-zinc spinel, an analytical calculation of topology of developed devices was carried out using formulas from the book written by M.V. Vambersky "Design of microwave ferrite decoupling devices" [4], then it was required to create electrodynamic models of devices for analysis of their S-parameters and subsequent optimization of their design.

When constructing electrodynamic models of microstrip ferrite decoupling devices by finite element method, the following boundary conditions are used:

1. Topology drawing and reverse side of ferrite board are considered ideal conductors (with exception of tantalum load at isolators), which excludes radiation losses to free space from the calculation.

2. External magnetic field is assumed to be uniform and is applied only to the area under the instrument circulation disk.

3. Devices are excited by lumped ports with a resistance of Z_0 = 50 Ohm.

4. Ferrite board is specified in the form of two materials - magnetized ferrite (circulation area) and non-magnetized ferrite (the rest of the board). In magnetized ferrite, the value of saturation magnetization of material is seted, while in non-magnetized ferrite it is not.

According to proposed by A.S. Semenov design algorithm [5], were created and optimized electrodynamic models of mm-wave range microstrip ferrite decoupling devices. Optimization of device models was carried out by varying radius of circulation disk, width of leading microstrip lines, and load resistance of ferrite isolators. The optimized models of MFDD mm-wavelength range and their S-parameters are shown in Figures 1 - 3.

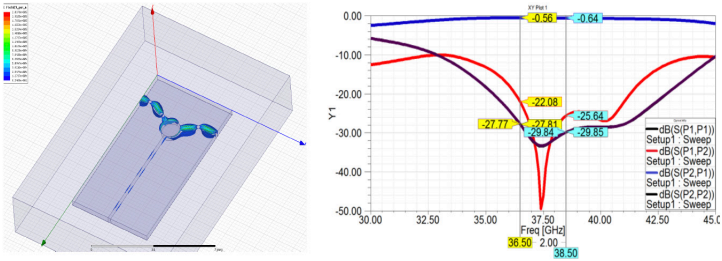

Fig. 1 - Electric field distribution and S-parameters of Ka-frequency range Y-circulator model

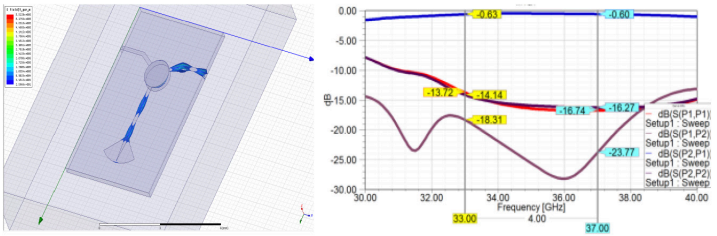

Fig. 2 - Electric field distribution and S-parameters of the Ka-frequency range isolator model

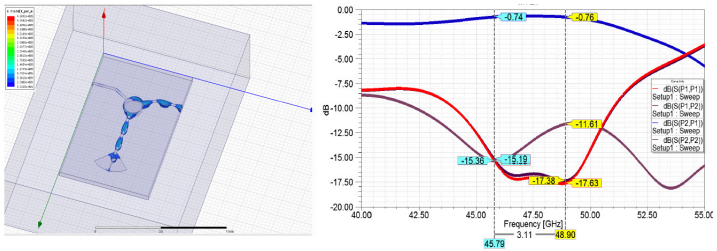

Fig. 3 - Electric field distribution and S-parameters of the V-frequency range isolator model

Thus, with help of electrodynamic modeling and subsequent optimization, it was possible to develop constructions of microstrip ferrite decoupling devices of millimeter range that meet specified requirements.

Manufacturing MFRP mm-range and measuring their electrical parameters

Performed calculations and simulations showed that construction of

developed isolators and Y-circulator should consist of an NZS board, 0.25 mm and 0.2 mm thick for Ka- and V-frequency range devices, respectively, and a magnetic system that provides required external field bias (not less than 0.53 T).

Therefore, to obtain required magnitude of magnetic bias field of devices, a base made of a soft magnetic material - technical iron GOST 19904-90 was added to their construction (Fig. 4).

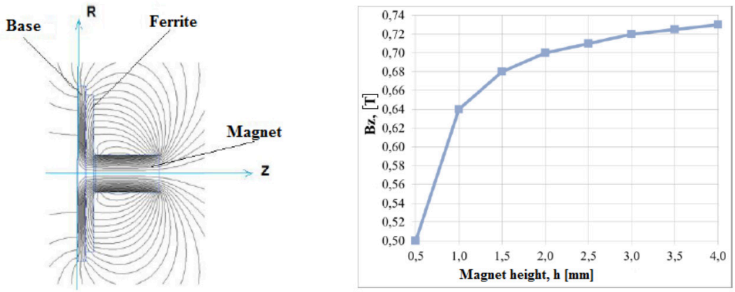

Fig. 4 - Distribution of lines of force in a Ka-range Y-circulator with a magnetic system consisting of a magnet and a base made of soft magnetic material and the dependence of the bias field on the height of a magnet with a diameter of 1.2 mm

According to the technology developed in Research and production corporation «Istok», microstrip ferrite decoupling devices of mm-wavelength range were manufactured and their electrical parameters were measured.

Figures 5-7 show the prototypes and electrical parameters of the Y-circulator and millimeter-wave isolators.

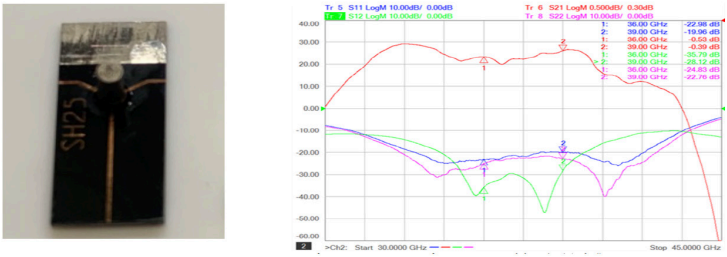

Fig. 5 - Prototype of Ka-range Y-circulator and its electrical parameters

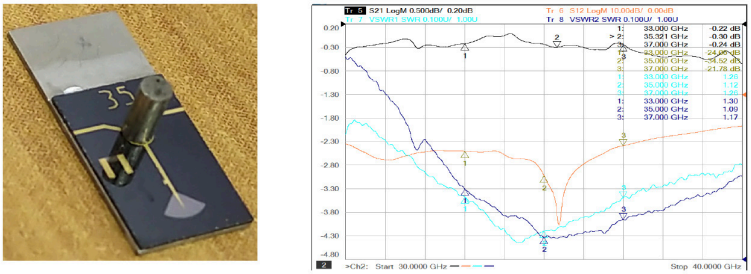

Fig. 6 - Prototype of a Ka-range ferrite isolator and its electrical parameters

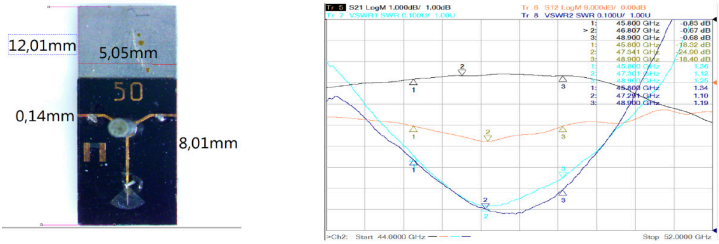

Fig. 7 - Prototype of a V-range ferrite isolator and its electrical parameters

As can be seen from figures 5-7, developed mm-wave range ferrite devices have electrical parameters close to those obtained in the course of modeling, which made it possible to significantly reduce the time to refine their design.

Conclusion

In the course of the work carried out, an isolator and a Y-circulator of Ka-frequency range, as well as an isolator of V-frequency range, were developed and manufactured. The electrical parameters of developed MFDD are shown in Table 3.

Table 3 - Electrical parameters of MFDD of millimeter wavelength range

Parameter name	Designation	Ka-range Y-circulator	Ka-range isolator	V-range isolator
Operating frequency range, GHz	Δf	36…39	33…37	45,8…48,9
Insertion losses, dB	α_{ins}	< 0,7	< 0,8	< 0,9
Inverse losses/isolation, dB	α_{inv}/α_{is}	> 22	> 20	> 18
VSWR	VSWR	< 1,3	< 1,4	< 1,4
Input continuous power, W	P_{in}	0,1	2	0,1

Comparison of developed isolators and Y-circulator with their domestic and world counterparts showed that they surpass them in terms of complex of electrical parameters.

Developed devices have an extended operating frequency band and reduced insertion losses, which makes it possible to effectively use them in development of 5th generation communication systems (5G) and other promising civil and military microwave technology.

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AUTOMATION OF THE FINISHED PRODUCT WAREHOUSE

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Abstract. *In today's highly competitive market, the speed of processing and sending the order to the client is one of the key factors in the efficiency of any manufacturing company. As the most important link between production and sales, the finished product warehouse performs one of the most important functions in the entire production chain of an enterprise. Automation of the finished goods warehouse allows you to speed up the process of performing operations and reduce labor costs even in a small production, and at a large-scale enterprise with hundreds of commodity items, automation of processes becomes simply necessary.*

Keywords*: warehouse automation; finished products warehouse; manufacturing enterprise.*

Regardless of what kind of goods the company produces, for its successful work it is necessary to correctly organize its warehouse space. Before being sent for sale, goods need to be stored somewhere, while constant accounting of their dynamics is required [1].

Equipping a finished goods warehouse with automated control and accounting systems is the most important task that managers of any manufacturing enterprise strive to solve in order to speed up and simplify the movement of goods before shipment to the buyer. As a rule, a large number of functions are assigned to the people who work in the warehouse: to organize the delivery of finished products; rational use of warehouse space; constantly monitor the volume of stored products; optimize and speed up loading operations; take into account the volume of shipped products, keep daily records. Despite the complexity of the tasks, with a small production it is quite possible to carry out such control (although difficulties arise here, when, for example, a warehouse employee leaves, and the entire "manual" accounting system built over the years collapses). But with the development of the enterprise and the increase in turnover, the

task of managing the warehouse of finished products becomes many times more complicated simply due to the fact that it is impossible for a person to keep track of all processes and a huge range of goods.

The limitations of the "manual" process of managing the finished goods warehouse are expressed in the following factors: orders are processed slowly; with the departure of staff, it takes a long time to restore all the data and establish the accounting process; human factor - people can make mistakes, especially in conditions of high workload, and also place products in a way that suits them; costs increase, and competitiveness decreases [2].

Automation of the finished product warehouse can significantly increase efficiency not only within the framework of the processes that occur in the warehouse itself, but also throughout the enterprise.

Slow order processing is eliminated due to the fact that the software allows not only to take into account all commodity items (the number of which can reach tens of thousands, and the goods differ from each other in color, barcode or minor details), but also to draw up tasks for employees. The compiled list of tasks is automatically sent to each warehouse specialist, and he performs it on time. In the "manual" control mode, it is extremely difficult to organize the entire assortment, as well as send new tasks to each employee.

When people monitor the accounting of finished products in the warehouse, this puts certain restrictions on the enterprise. If employees who have worked for a long time in the company and know shortcuts to the right products, who understand the placement and remember which shelf this or that product is on, suddenly leave or fall ill, chaos begins not only in the warehouse, but throughout the enterprise.

The schedule for loading and delivering goods to customers is disrupted, deadlines are missed, and customer dissatisfaction is growing. With automated warehouse management, all data is stored in programs. It is known in advance in which passage the necessary thing is located. It is enough for each new person to understand the functionality of the terminals, and he will be able to work on a par with more experienced employees.

In the context of the human factor, the absence of a management system leads to the fact that everything will be located in the way that is convenient for one particular employee. For example, there may be products of the same name, but different colors and volumes nearby, or it may turn out that the products are worth by name, taste or manufacturer, or maybe all together. Finding the right product in such a warehouse will not be easy

even for those employees who, by the nature of their activities, are associated with the warehouse. This state of affairs may lead to the fact that the buyer will not be shipped the products that he paid for. As a result, customer returns may arise, and then additional costs for a new delivery. All this can be avoided by automating the work of the warehouse [3].

Increasing costs with "manual" warehouse management is especially important for those goods that have a limited shelf life.

All products that can deteriorate due to improper storage are at risk. The practice of many manufacturing enterprises shows that during the inventory, dozens and even hundreds of items are identified that have expired simply because they were forgotten or put in the wrong place.

The automated warehouse practically does not know such a problem - for the goods placed in the warehouse, the production date will be hammered into the program, it will announce in advance that it is necessary to hurry up with the implementation.

In addition to the fact that it is possible to keep records of everything stored in the finished goods warehouse, automation of the process allows performing other actions:

- accepting finished goods from suppliers;
- to save storage space due to the competent organization of space;
- assemble complex orders;
- return from customers stating the reasons (excess quantity, quality discrepancy, error in the model or color of the product); - maintain a catalog with the necessary technical characteristics of each commodity item [1].

The warehouse management automation system at the enterprise allows you to improve the performance of almost any business process:

- loading on a pallet;
- packing/unpacking;
- checking the shelf life and quality of the goods;
- weighing;
- movement between zones.

These advantages of automated warehouse management can be seen on an example. The forklift driver is tasked with removing a specific quantity of goods of the specified model and delivering them to the loading area. The program contains all the necessary data: cell number, tier, rack and row. The driver, following the clear instructions of the program, delivers the necessary goods to the specified place, after which he confirms the execution of his action in the same program.

The packer, being at his workplace, sees a notification about the need to collect the order and begins to carry out his section of work.

Without the software, an additional employee would be required to go out and give instructions that the packer can begin work. In this case, this simple job would take much longer.

At the same time, the software allows you not only to give instructions, but also to monitor its implementation, and also to note how much time each employee spent on this action. This is important to optimize your workflow, reduce downtime and ultimately lower costs. The leader of the shift on the monitor installed for him observes everyone who works on the territory, if necessary, checks who is doing what.

Automation of the finished product warehouse also allows you to solve the following problems that often arise in any manufacturing enterprise:

- employee errors;
- fraud;
- mess on racks and shelves;
- high costs associated with unorganized work of warehouse employees;
- slow collection of orders, downtime;
- write-off of expired goods.

Significant time savings are achieved due to the fact that when automating processes, there is no need to go to the manager for each assignment sheet or intermediate solution - all information is in the program and available to employees. All items that need to be collected are marked on the display, no more paper media is required.

Another major advantage of automation of the finished goods warehouse is continuous inventory, which is simply an indispensable function for any warehouse. Thanks to this, it is possible to recount products without stopping the main activity. So, the program is constantly updating the balances - any warehouse employee who has a terminal with installed software at his disposal can enter data on how many units of each product are in the warehouse.

Balance data is always up-to-date, which allows you to plan further actions and form new orders.

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IN SILICO AND *IN VITRO* STUDIES OF UREA-DERIVED SUGARS THAT EXHIBIT POTENTIAL ANTITUMOR PROPERTIES

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Abstract. *Computer evaluation of the spectrum of biological activity makes it possible to determine the most promising areas for testing the pharmacological action of specific substances. We have studied sugar carbamide derivatives by a computer method (in silico) and experimentally (in vitro), for which a high probability of antitumor activity is predicted with a low probability of cytotoxic activity. Low cytotoxic activity was confirmed in the MTT test on 5 cell lines. Compounds that are promising for synthesis and experimental study have been identified with a high probability of antitumor activity, presumably not associated with cytotoxic action.*

Keywords: *computer prediction, spectra of biological activity, derivatives of sugar carbamides, synthesis, carbohydrate, heterocyclic compound, antitumor activity, cytotoxic activity.*

1. Introduction

The main tasks of modern pharmacology are the search and study of the new drugs mechanisms of action for their subsequent introduction into widespread medical practice. The process of creating medicinal products is quite complex and includes several interrelated stages. At the first stage of drug development, synthetic chemists start to work, synthesizing new chemical compounds with potential biological activity. Usually, synthetic chemists carry out a targeted synthesis of compounds or modify the chem-

ical structure of already known endogenous (produced in the body) biologically active substances.

Purposeful synthesis of medicinal substances implies the creation of biologically active substances with desired pharmacological properties. As a rule, such a synthesis is carried out in a series of related chemical compounds, in which substances with specific activity were previously identified.

The creation of new anticancer drugs in a series of urea derivatives remains as a promising direction in chemotherapy, including a comparative study of the analog drugs characteristics. These studies provide insight into how a change in chemical structure affects the spectrum of antitumor action.

The *relevance* of the scientific research is, despite the large number of synthesized anticancer drugs recently, the issue of relationship between structure and specific activity remains important, which has not been studied enough yet. Therefore, the search for new compounds with potential antitumor properties and their correlation with the structure is proceeding.

The *aim* of the study is to carry out computer prediction of biologically active compounds from the number of sugar carbamide derivatives and to identify compounds with antitumor activity.

Literature review. This research is of a practical miportance and based on data from scientific articles, the authors of the PASS computer program V.V. Poroikova, D.A. Filimonova, A.A. Lagunina, A.V. Zakharova and D.S. Druzhilovsky. The *methodological basis* of the research is based on *in silico* and *in vitro* methods.

Study results. We hypothesized that inclusion of a glycoside amide bond with an open hydroxyl group as an active metabolite in the molecule of heterocyclic compounds can change the pathway of drug promotion into the tumor and the effect on it. In addition, the presence of an open hydroxyl group in the molecule can lead to a significant improvement in the solubility of the compounds obtained.

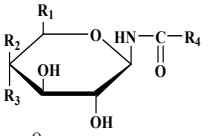
Molecules containing a heterocyclic nucleus of pyrazole and pyridine, along with antibacterial and antiparasitic activities, have other types of biological activity [1-3].

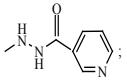
Compounds studied *in silico* were synthesized in the laboratory of organic synthesis at the Institute of Chemistry and Chemical Technology of the National Academy of Sciences of the Kyrgyz Republic and the laboratory of physicochemical analysis of the Jalal-Abad State University [4-6]. *In vitro* experiments of 5 selected out of 23 synthesized compounds were carried out at the Research Institute of EDiTO FSBI “N.I. NN Blokhin "of the

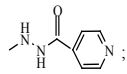
Ministry of Health of Russia.

Computer prediction of biological activity was carried out using the PASS system, developed and constantly improved by the employees of the N.N. Gorky Research Institute of Biomedical Chemistry. VN Orekhovich "[7-9]. The used version of PASS 12.06.22 predicts 6400 types of biological activity based on the analysis of a training array containing structural formulas and data on the biological activity of 313 345 chemical compounds. The structural formulas of the compounds under study are entered into the system in the form of files in the MOL or SDF format. The average forecast error is 4.9%. Predictions are calculated as the probability of a compound to exhibit a certain biological activity (Pa) and not to exhibit it (Pi). Usually, for new chemical compounds, the threshold for the selection of promising compounds is considered to be Pa> 0.5.

The objects of this study are 23 compounds containing heterocycles with glycosylamide bonds, the formulas of which are shown in Scheme 1:



1. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

2. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

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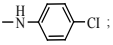
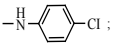
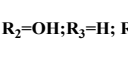
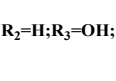
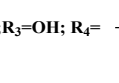
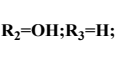
13. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

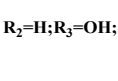
14. R_1=CH_2OH; R_2=H;R_3=OH; R_4=  ;

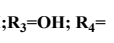
4. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

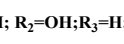
5. R_1=CH_2OH; R_2=H;R_3=OH; R_4=  ;

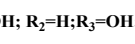
6. R_1=H; R_2=H;R_3=OH; R_4=  ;

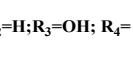
7. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

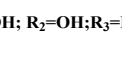
8. R_1=CH_2OH; R_2=H;R_3=OH; R_4=  ;

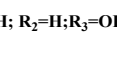
9. R_1=H; R_2=H;R_3=OH; R_4=  ;

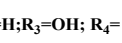
10. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

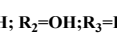
11. R_1=CH_2OH; R_2=H;R_3=OH; R_4=  ;

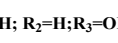
15. R_1=H; R_2=H;R_3=OH; R_4=  ;

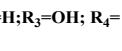
16. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

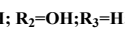
17. R_1=CH_2OH; R_2=H;R_3=OH; R_4=  ;

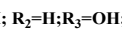
18. R_1=H; R_2=H;R_3=OH; R_4=  ;

19. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

20. R_1=CH_2OH; R_2=H;R_3=OH; R_4=  ;

21. R_1=H; R_2=H;R_3=OH; R_4=  ;

22. R_1=CH_2OH; R_2=OH;R_3=H; R_4=  ;

23. R_1=CH_2OH; R_2=H;R_3=OH; R_4=  .

Scheme 1. General formula of sugar carbamides.

Structural formulas generated in electronic form using the ISIS Draw program from the formulas for the 23 indicated sugar carbamides contained in their paper passports, which were saved in the ISISBASE format database [10]. Molecular weight values retrieved from the ISISBASE database, in which they were automatically calculated when entering the structural formulas of compounds.

Results before experimental (*in silico*) screening

After checking the correctness of the structure of the obtained compounds, the generated structural formulas of the compounds under study were entered into the ISISBASE database, from which they were exported to SDF files for input into the PASS system.

Compounds for which the probability of manifestation of antitumor activity Pa ≥0.5 were obtained during computer analysis qualified as promising for experimental study as potential antitumor substances.

Table 1 shows the results of predicting 9 types of biological activity (antitumor, cytotoxic, general toxicity, antimetastatic activity and a number of mechanisms of action of anticancer drugs) in the form of values of the probability of a compound having antitumor activity (**Pa**) and the probability of the absence of this activity (**Pi**) for 23 studied compounds.

Table 1. The results of predicting the biological activity of urea glycoside derivatives.

№	Compound names	Biological activity type								
		Antineo-plastic	Angioge-nesis inhibitor	Antimeta-static	Apoptosis agonist	Antileu-kemic	Cyto-static	Cyto-toxic	Toxic	Anti-mitotic
		Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi
1	N-(β-D-galactopyranosyl -1)-2-nicotinoyl-semicarbazide	0,799/ 0,012	0,657/ 0,007	0,407/ 0,044	0,285/ 0,136	0,179/ 0,088	0,216/ 0,117	0,100/ 0,176	0,081/ 0,375	0,019/ 0,621
2	N-(β-D-galactopyranosyl-1)-2-isonicotinoyle-semicarbazide	0,779/ 0,014	0,613/ 0,010	0,297/ 0,128	0,384/ 0,051	0,162/ 0,099	0,173/ 0,156	0,084/ 0,199	0,078/ 0,384	0,020/ 0,598
3	1-[(N-β–D-xylopyranosyl)-carbomoyl]-3,5-dimethylpyranosyl	0,565/ 0,053	0,457/ 0,026	0,402/ 0,046	0,107/ 0,390	0,010/ 0,743	0,132/ 0,198	0,093/ 0,185	0,190/ 0,213	0,042/ 0,390
4	1-[(N-β–D-galactopyranosyl)-carbomoyl]-3,5- dimethylpyranosyl	0,622/ 0,040	0,539/ 0,016	0,502/ 0,019	0,245/ 0,168	0,041/ 0,314	0,182/ 0,148	0,148/ 0,130	0,254/ 0,167	0,034/ 0,463
5	1-[(N-β–D-glucopyranosyl)-carbomoyl]-3,5-dimethylpyranosyl	0,599/ 0,045	0,266/ 0,088	0,479/ 0,024	0,122/ 0,351	0,025/ 0,447	0,113/ 0,227	0,172/ 0,112	0,278/ 0,155	0,152/ 0,086
6	1-[(N-β–D-xylopyranosyl)-carbomoyl]-]-3-methylpyrazolon-5	0,470/ 0,081	0,329/ 0,058	0,697/ 0,002	0,081/ 0,474	0,008/ 0,826	0,126/ 0,207	0,084/ 0,200	0,143/ 0,263	0,012/ 0,771
7	1-[(N-β–D-galactopyranosyl)-carbomoyl]-3- methylpyrazolon -5	0,536/ 0,061	0,417/ 0,034	0,702/ 0,002	0,207/ 0,209	0,030/ 0,405	0,175/ 0,155	0,137/ 0,140	0,196/ 0,207	0,011/ 0,800
8	1-[(N-β–D-glucopyranosyl)-carbomoyl]-3- methylpyrazolon -5	0,536/ 0,061	0,417/ 0,034	0,702/ 0,002	0,207/ 0,209	0,030/ 0,405	0,175/ 0,155	0,137/ 0,140	0,196/ 0,207	0,011/ 0,800
9	N-(β-D-xylopyranosyl)-p-bromphenylthiourea	0,770/ 0,016	0,699/ 0,005	0,231/ 0,124	0,206/ 0,209	0,040/ 0,324	0,193/ 0,138	0,142/ 0,136	0,152/ 0,251	0,036/ 0,452
10	N-(β-D-galactopyranosyl)-p bromphenylthiourea	0,784/ 0,014	0,750/ 0,005	0,422/ 0,040	0,344/ 0,101	0,149/ 0,108	0,241/ 0,100	0,198/ 0,096	0,208/ 0,198	0,027/ 0,524
11	N-(β-D-glucopyranosyl)-p-bromphenylthiourea	0,784/ 0,014	0,750/ 0,005	0,422/ 0,040	0,344/ 0,101	0,149/ 0,108	0,241/ 0,100	0,198/ 0,096	0,208/ 0,198	0,027/ 0,524
12	N-(β-D-xylopyranosyl)-p-chlorphenyl-thiourea	0,706/ 0,025	0,626/ 0,009	0,304/ 0,080	0,173/ 0,261	0,028/ 0,421	0,186/ 0,144	0,142/ 0,136	0,181/ 0,221	0,020/ 0,600
13	N-(β-D-galactopyranosyl)-p-chlorphenyl-thiourea	0,733/ 0,021	0,689/ 0,006	0,459/ 0,030	0,313/ 0,119	0,113/ 0,141	0,233/ 0,105	0,197/ 0,097	0,243/ 0,174	0,017/ 0,657

№	Compound names	Biological activity type								
		Antineo-plastic	Angioge-nesis inhibitor	Antimeta-static	Apoptosis agonist	Antileu-kemic	Cyto-static	Cyto-toxic	Toxic	Anti-mitotic
		Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi	Pa / Pi
14	N-(β-D-glucopyranosyl)-p-chlorphenyl-thiourea	0,733/ 0,021	0,689/ 0,006	0,459/ 0,030	0,313/ 0,119	0,113/ 0,141	0,233/ 0,105	0,197/ 0,097	0,243/ 0,174	0,017/ 0,657
15	N-(β-D-xylopyranosyl)-2,4-dichlorphenyl-thiourea	0,612/ 0,042	0,583/ 0,012	0,267/ 0,098	0,153/ 0,293	0,025/ 0,453	0,169/ 0,161	0,109/ 0,166	0,200/ 0,204	0,014/ 0,712
16	N-(β-D-galactopyranosyl)-2,4-dichlorphenyl-thiourea	0,658/ 0,033	0,651/ 0,008	0,436/ 0,036	0,286/ 0,135	0,097/ 0,161	0,215/ 0,118	0,164/ 0,117	0,267/ 0,160	0,013/ 0,750
17	N-(β-D-glucopyranosyl)-2,4-dichlorphenyl-thiourea	0,658/ 0,033	0,651/ 0,008	0,436/ 0,036	0,286/ 0,135	0,097/ 0,161	0,215/ 0,118	0,164/ 0,117	0,267/ 0,160	0,013/ 0,750
18	N-(β-D-xylopyranosyl)-phenylthiourea	0,782/ 0,014	0,626/ 0,009	0,244/ 0,114	0,148/ 0,300	0,155/ 0,104	0,383/ 0,047	0,084/ 0,199	0,152/ 0,251	0,017/ 0,661
19	N-(β-D-galactopyranosyl)-phenylthiourea	0,795/ 0,012	0,689/ 0,006	0,429/ 0,038	0,289/ 0,133	0,312/ 0,041	0,452/ 0,033	0,138/ 0,140	0,208/ 0,198	0,015/ 0,710
20	N-(β-D-glucopyranosyl)-phenylthiourea	0,795/ 0,012	0,689/ 0,006	0,429/ 0,038	0,289/ 0,133	0,312/ 0,041	0,452/ 0,033	0,138/ 0,140	0,208/ 0,198	0,015/ 0,710
21	N-(β-D-xylopyranosyl-carbomoyl)-diethylenediamine	0,569/ 0,052	0,562/ 0,013	0,347/ 0,063	0,226/ 0,188	0,014/ 0,634	0,206/ 0,126	0,152/ 0,128	0,137/ 0,271	0,024/ 0,556
22	N-(β-D-galactopyranosyl-carbomoyl)- diethylenediamine	0,632/ 0,038	0,643/ 0,008	0,488/ 0,022	0,370/ 0,087	0,073/ 0,207	0,257/ 0,090	0,209/ 0,090	0,189/ 0,214	0,019/ 0,624
23	N-(β-D-glucopyranosyl -carbomoyl)-diethylenediamine	0,632/ 0,038	0,643/ 0,008	0,488/ 0,022	0,370/ 0,087	0,073/ 0,207	0,257/ 0,090	0,209/ 0,090	0,189/ 0,214	0,019/ 0,624

Table 1 shows that for all studied derivatives of sugar carbamides, low cytostatic activity is predicted. Comparison of the results of predicting cytostatic and antitumor activity suggests that the introduction of glycosylureas into the structure of heterocyclic compounds into the molecule reduces the likelihood of cytostatic activity, does not prevent the high probability of these compounds having antitumor activity.

For most of the compounds from this group, antineoplastic activity prognosed with a high probability and cytotoxic / cytostatic activity with a low probability. For 5 compounds from Table 1 with the highest probability of manifestation of antitumor activity, a prognosis of the cytotoxic effect on tumor cells of 5 lines, used at the Research Institute of EDiTO in in vitro screening, was carried out. The results shown in Table 2.

These compounds recommended for experimental studies as potential anticancer drugs.

Table 2. The results of predicting the cytotoxic effect on tumor cells of 5 lines of 5 urea glycosides (from Table 1., keeping the numbering) with the highest probability of antitumor activity.

№	Compound name	Anti-tumor prognosis activity *Pa / Pi*	Cytostatistical activity prognosis *Pa / Pi*
1	N-(β-D-galacto-pyranosylcarbamoyl -1)-2-isonicotinsemicarbazide	0,779 0,014	0,766 0,005 PC-3 cells 0,577 0,029 MCF7 cells 0,502 0,050 A549 cells 0,169 0,190 HCT-116 cells 0,007 0,901 Jurkat cells
4	1-[(N-β-D-galactopyranosyl) carbamoyl-3,5-dimethylpirazol	0,622 0,040	0,585 0,035 A549 cells 0,361 0,087 MCF7 cells 0,213 0,135 PC-3 cells 0,021 0,717 HCT-116 cells 0,006 0,908 Jurkat cells
10	N-(β -D-galactopyranosyl)-p-bromphenylthiourea	0,784 0,014	0,561 0,038 A549 cells 0,534 0,018 PC-3 cells 0,249 0,164 MCF7 cells 0,012 0,802 HCT-116 cells 0,015 0,833 Jurkat cells
13	N-(β -D-galactopyranosyl)-p-chlorphenylthiourea	0,733 0,021	0,664 0,024 A549 cells 0,501 0,022 PC-3 cells 0,403 0,068 MCF7 cells 0,018 0,799 Jurkat cells 0,008 0,852 HCT-116 cells
14	N-(β -D-glucopyranosyl)-p-chlorphenylthiourea	0,733 0,021	0,561 0,038 A549 cells 0,534 0,018 PC-3 cells 0,249 0,164 MCF7 cells 0,012 0,802 HCT-116 cells 0,015 0,833 Jurkat cells

***In vitro* studies.** An experimental study of cytostatic activity of these 5 compounds carried out on the basis of the laboratory of experimental diagnostics and biotherapy of tumor cells in the Research Institute of EDiTO FSBI "N.I. N.N. Blokhin» Ministry of Health in Russia. Cytotoxic activity was investigated on 5 human tumor cell lines: PC-3 prostate adenocarcinoma; colon carcinoma HCT-116; Jurkat T cell lymphoblastic leukemia; breast adenocarcinoma MCF-7; lung carcinoma A549.

Cell lines were cultured in RPMI-1640 medium containing 10% fetal calf serum, 10 mM HEPES (Sigma, USA), 2 mM L-glutamine (Sigma, USA), 40 ng / ml gentamicin (ICN, USA), amino acids and vitamins (PanEko, Russia) at 37˚C in an atmosphere of 5% CO2. The cells were maintained in the logarithmic growth phase by continuous subculture of the culture after 3–4 days. To detach adherent cultures from plastic, Versene solution was used.

For the MTT test, cells were dispensed into 198 μl of complete RPMI-1640 medium into 96-well flat bottom plates (Costar, USA). One day later, the test compounds were added to each well at a concentration of 100 μM, and the cells were incubated for 72 h in 5% CO2 at 37 ° C. Each compound was put in a triplet. Compounds were dissolved in dimethyl sulfoxide so that the concentration of dimethyl sulfoxide in the well did not exceed 1%. Wells with cells with 1% dimethyl sulfoxide in complete growth medium were used as a control [11].

A compound was considered active if, at a concentration of 10 μM, at least on one of the lines, cell survival is ≤50% (IC50 ≤10 μM). The measurement error did not exceed 5%.

The study of cytotoxic activity on all cell lines listed above did not reveal activity in any of the 5 compounds studied (the IC50 value exceeded the specified activity criterion of 10 μM). The results of an experimental study of cytotoxic activity correlate with the results obtained using the PASS system for predicting cytostatic activity.

Conclusion

The investigated derivatives of carbamides of sugars according to the predicted physicochemical properties can be candidates for the development of drugs based on them. Compounds that are promising for synthesis and experimental study have been identified with a high probability of manifestation of antitumor activity, which, presumably, is not associated with cytotoxic action. It is advisable to continue the study of the antitumor activity of sugars containing residues of heterocyclic bases attached to carbohydrate fragments in animals with experimental tumors.

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